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Executive Summary

Years of underinvestment have led to an estimated USD 1.5 trillion infrastructure deficit in Indonesia, constraining growth and limiting the pace of poverty reduction. Despite robust GDP growth averaging 5.6 percent from 2005 to 2015, Indonesia's annual rate of growth in public capital stock per capita – a proxy for infrastructure stock – averaged only 2.8 percent over this period, well behind peer countries such as Vietnam (10.3 percent), China (6.7 percent) and Malaysia (3.7 percent). In response, the Government of Indonesia has set an ambitious infrastructure investment target in its National Medium Term Development Plan (Rencana Pembangunan Jangka Menengah Nasional, RPJMN). While less than the full USD 1.5 trillion infrastructure deficit, this is the amount the Government estimates to be needed over 2015-2019 to achieve universal access to clean water, adequate sanitation, and electricity, among other targets.

Indonesia's infrastructure investment needs, however, far exceed what public resources can provide, even in the most optimistic revenue scenarios. The Government estimates that about 37 percent of the USD 415 billion in investment targeted in the RPJMN will need to come from the private sector, with an additional 22 percent from state-owned enterprises (SOEs). In addition to being a source of funding and financing, private sector participation can help deliver infrastructure projects faster and with better value for money than traditional government procurement, with improved operational efficiency and higher quality of service to end-users. Closing the infrastructure gap would help to promote inclusive growth, as poorer households would be able to access a wider range of economic opportunities and improve their wellbeing through better access to basic services, such as clean water and sanitation, health, and education.

Yet, in recent years, private investment as a share of total infrastructure investment fell from 17 percent in 2010-2012 to nine percent in 2011-2015, despite macroeconomic conditions broadly favorable to investment. While data for 2016 does indicate an increase in private sector investment, largely reflecting the achievement of financial close in two long-delayed projects, the relative share of private investment still falls far short of the target in the RPJMN. Attracting more commercial finance and private expertise in infrastructure development is thus a critical challenge and opportunity for Indonesia's future. Meaningful increases in private investment will require removing key constraints on private sector participation in infrastructure.

To this end, upon the request of the Government of Indonesia, the World Bank Group has undertaken this Indonesia Infrastructure Assessment Program (InfraSAP) to systematically assess how infrastructure is planned, procured, delivered, funded, financed and governed, at the national, sector and subnational levels, to identify constraints to commercial and private investment.

The InfraSAP covers four cross-cutting themes: (i) project planning, preparation and procurement, (ii) the role of SOEs, (iii) the legal and regulatory framework, and (iv) financing, as well as four key sectors: (i) energy, (ii) transport (toll roads, ports, airports and urban transit), (iii) water and sanitation, and (iv) urban (municipal finance and housing). This Executive Summary is organized around nine key messages and recommendations embodied in the InfraSAP, which encompass the reforms most immediately necessary to maximize finance for infrastructure development in Indonesia.

1

The Government should systematically leverage private sector financing where feasible and maximize finance for development.

Currently, Government processes for deciding which projects should be implemented publicly, privately or through SOEs are not done in a systematic way. Instead, Government Contracting Authorities (GCAs) determine whether projects are public or private during the Five-Year-Plan budgeting cycle, at a very early stage of project development, with little preparatory work or screening. Only a provisional estimate of investment cost and alignment with the development targets in the Five-Year Plan is required to obtain funding for projects through the state budget.

Similarly, there is no clear criteria to determine which projects should be competitively tendered and which should be assigned to an SOE. In practice, many viable projects are assigned to SOEs, partly because SOEs are seen to deliver projects faster, and partly because SOEs have a dominant market position.

Detailed project preparation and competitive tender are generally required for prospective PPP projects, but this is done only after a decision has been made not to seek funding through the state budget. This creates an incentive for GCAs to prioritize delivery through the state budget or SOEs, irrespective of potential commercial viability, as those processes are seen as more straightforward.

Recommendation:

Apply a clear decision-making framework to prioritize private financing and conserve scarce public resources.

A first step is for GCAs to prepare appropriately detailed proposals for all projects, based on a model concept note, whether they are ultimately publicly or privately financed. These proposals must provide sufficient data to make a calculated, if preliminary, decision on delivery method, prior to the state budgeting process. GCAs should be required under the State Budget Law to demonstrate that a project is not able to mobilize private capital before seeking funding through the state budget. In the short-term, MoF should issue a Ministerial Decree requiring Government Contracting Authorities (GCAs) to prioritize leveraging private capital before SOE capital or public funds are allocated. In the medium to long-term, Government should:

- (i) conduct a public investment management (PIM) assessment; and
- (ii) issue a Presidential or Governmental Regulation to implement a robust PIM framework.

Furthermore, GCAs should avoid assigning projects to SOEs and instead subject projects to transparent, competitive procurement, particularly for projects that can attract private investment (while at the same time implementing SOE reforms to level the playing field, as detailed in Key Message 3). Finally, GCAs should only pursue government support to the extent it is absolutely required to make the project bankable. The MoF should play an active role at this early planning stage to ensure judicious use of government support (such as guarantees), including reviewing any contingent liabilities arising from such support.

2

Indonesia needs better quality PPP projects, with improved coordination and more strategic deployment of Government support instruments.

The Government has made significant progress in establishing institutions, instruments, and processes to facilitate the delivery of PPPs. The primary PPP regulation, Presidential Regulation No. 38/2015 (PR 38/2015), provides the basis for a consistent PPP project development process, overseen and facilitated by the Ministry of National Development Planning (Bappenas) and the Ministry of Finance (MoF). This process comprises completion of an outline business case (OBC) and a full business case (FBC), usually followed by a competitive tender. Aided by the creation of the PPP Joint Office and the MoF Project Development Facility (PDF), an improved pipeline of PPP projects is beginning to develop. In addition, the Government has introduced mechanisms for the provision of Viability Gap Funding (VGF), Availability Payments (AP) and guarantees, which can be used to improve the commercial viability of PPP projects. According to data from Bappenas, from 2015 through 2017, a total of 13 PPP projects reached financial close, with an overall investment value of approximately USD 8.94 billion. While this reflects progress in PPP delivery, investment will need to grow exponentially to meaningfully contribute to bridging Indonesia's large infrastructure gap.

A key constraint in this respect is the poor quality of the initial preparatory work being conducted for these projects. GCAs lack the willingness and capacity, in terms of funding and human resources, to adequately prepare PPP projects. At the same time, Bappenas is reluctant to reject GCA PPP proposals or return them for more information, but also lacks the capacity to compensate for the lack of preparatory work done by the GCAs. Bappenas and assorted donors have only limited funds to support OBC preparation by GCAs, resulting in poor quality OBCs overall. This creates a significant bottleneck, as the FBC and transaction support available through the MoF and its PDF are contingent on the completion of an adequate OBC.

In addition, while the various government support instruments have been used in select cases, the lack of coordinated management of these instruments raises concerns that they are not being used to maximum effect. In particular, VGF and AP instruments are regulated and administered by different directorate generals within MoF, as well as the Ministry of Home Affairs (MoHA) when the AP scheme is used by local governments, while the provision of guarantees is administered principally by PT. PII (IIGF). This fragmented approval process has engendered similarly disjointed application and review processes. This can make the application process daunting for GCAs and unpredictable for private investors, in addition to hindering the most efficient use of these instruments. Optimization is further restricted by the applicable regulations, which do not permit the blending of VGF and AP and thus prevent use of these instruments as a package to achieve maximum value. In addition, the VGF regulation imposes a cap of 49 percent on the eligible share of VGF to overall capital investment for each project, irrespective of circumstances or sector.

Finally, the resulting PPP project structures, including risk allocation provisions, often fail to meet international standards, limiting their appeal to private investors. In this respect, key issues include the allocation of land acquisition risk to the private party and the practice of substituting tariff increases or an extension of the concession term for financial compensation from the GCA, which exposes the private entity to short-term insolvency risk. There are also significant concerns over standard termination clauses that contain short cure periods, "hair trigger" default events without materiality thresholds, and provisions requiring termination compensation to be paid by the new operator, rather than the GCA.

Recommendation:***Revise regulations and institutional arrangements governing PPP project selection, preparation and government support processes to ensure that projects are well prepared, well structured, and supported in the most efficient and effective manner.***

First, GCAs should be required to meet clear project data requirements, to be included in a model concept note, for all PPP proposals submitted to Bappenas. Consistent with Presidential Regulation No. 38/2015, Bappenas should return deficient proposals to the responsible GCAs for more information.

Second, the MoF PDF regulations need to be amended to permit the funding of OBCs, allowing MoF to engage more proactively beginning from the OBC stage and ensure that projects are developed in line with international standards. In addition, MoF should convert the PDF into a revolving fund (BLU) overseen by the head of the MoF PPP Unit. This will allow the PDF to receive payments from successful projects to reimburse funding provided and make the PDF revolving, meaning partially self-sustaining. A BLU would permit amounts available in the PDF to roll over from one fiscal year to the next, without the need to engage in the annual budgetary process.

Third, MoF should better coordinate the different forms of government support to maximize efficient use of government fiscal resources and to ensure transparency and accountability. To this end, MoF should amend its current regulations to allow the use of VGF and AP together in the same project and to permit the Minister of Finance to authorize exceptions to the 49 percent cap on VGF for projects or programs that satisfy specific criteria. Furthermore, the mandate of the MoF PPP Unit should be amended to include assisting the GCAs in preparing a package of proposed government support based on a unified 'value for money' review of all potential sources of support for any given infrastructure project.

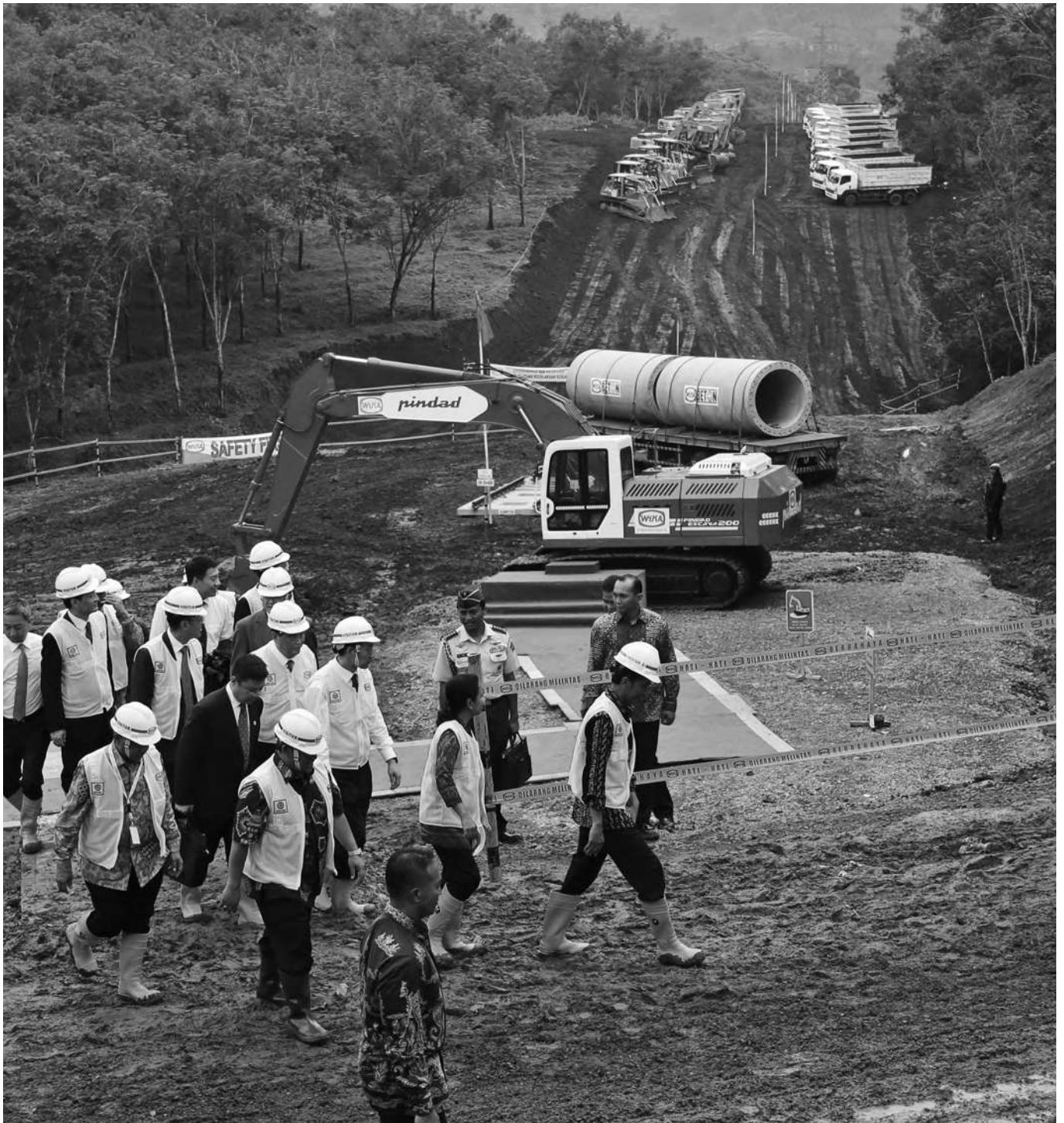
This 'one stop shop' approach would provide greater clarity to the GCAs as to which forms of government support will be available, how to blend forms of government support to achieve greatest impact and how to effectively process applications for such support. This centralized coordination of government support will also provide more certainty to the private sector when considering investments in PPP projects.

Fourth, the MoF PPP Unit should lead the effort to develop and implement standard concession agreements and tender documents that conform to global best practice, in coordination with relevant sector authorities and market-oriented partners in the PPP Joint Office. This process must also include consultation with potential investors.

Fifth, GCAs, supported by Bappenas and MoF, should look to develop deep sector programs aimed at generating a significant pipeline of bankable transactions in sectors with an enabling upstream regulatory environment. This InfraSAP has identified potential programs that would generate a considerable pipeline of bankable PPP and commercially financed projects, with the efficient use of government support, including those for: (i) the development of a further 1,700 kilometers of the national toll road network; (ii) a national urban transport program supporting mass transit investments in up to 20 cities; and, among others; (iii) a geothermal risk mitigation facility to unlock up to USD 3.5 billion of commercial and private finance for geothermal exploration. Through sector-oriented programs, the Government can bring more projects to market more quickly, by using a common structure, tendering process and financial support. These programs can

serve as a platform for sector policy reform, coordinated provision of technical assistance to GCAs, and financing.

Sixth, for MoF to adequately implement the recommendations above, it must build up its own capacity. This means staffing up relevant teams with experts and allocating funding needed to mobilize private investment in infrastructure.



3

The current SOE-driven infrastructure delivery model is not sustainable and is crowding out private investment.

SOEs have historically played a prominent role in infrastructure and, in recent years, the Government has relied even more heavily on SOEs to deliver its infrastructure agenda, including actively assigning key projects to SOEs, often accompanied by Government capital injections or guarantees. In 2015, for example, 36 SOEs received equity injections for a total amount of IDR 41.4 trillion (USD 3.1 billion), of which half was for infrastructure SOEs. In 2016, equity injections increased to IDR 53.98 trillion (USD 4.06 billion), of which 83 percent was for infrastructure. During this time, total SOE assets increased to IDR 6,469 trillion (USD 486.4 billion), or slightly more than 50 percent of GDP, up significantly from slightly more than 40 percent in 2013. SOE capital expenditures consistently exceed those of the state budget, with projected expenditures of IDR 468 trillion (USD 36.5 billion) in 2017, up from IDR 293 trillion (USD 22 billion) in 2016.

In addition to state equity injections, SOEs may receive direct subsidies through Public Service Obligations (PSO) payments and soft loans. SOEs also benefit from soft budget constraints, including preferential access to financing and guarantees, foregone dividend payments and presumed protection from insolvency. For example, SOEs have received easier access to financing from state-owned banks without appropriate due diligence and at low interest rates. As a result of these direct and indirect subsidies, SOEs can accept risk allocations and rates of return that private investors cannot.

This both incentivizes direct assignment to SOEs and gives SOEs a competitive advantage when bidding on publicly tendered projects, thereby limiting opportunities to crowd in private capital. Examples of commercially viable projects being directly assigned to SOEs include the concession assigned to a state-owned port operator, Pelindo IV, to develop one of five Phase I hub ports in 2015. There have also been several instances where projects that were initially to be privately financed and implemented were subsequently assigned to SOEs, including the Soekarno-Hatta International Airport rail link, the Makassar New Port in South Sulawesi, and the management of small airports.

The above practices have bolstered legacy market domination by SOEs in many sectors. For instance, the two state-owned airport companies, Angkasa Pura I and II, are the only commercial entities operating airports in Indonesia. Similarly, four state-owned port operators, Pelindo I through IV, operate all commercial ports, with each Pelindo covering a designated region. Even the toll road sector, which has some of the highest rates of private participation, remains largely controlled by SOEs. State-owned Jasa Marga operates approximately 61 percent of the country's toll roads, and other state-owned construction firms often receive the contracts to build them.

As subsidies and capital injections have fallen due to fiscal limits, and with the Ministry of SOEs (MSOE) announcing on December 5, 2017 that SOEs must stop relying on state capital injections and instead raise financing through the capital markets, SOEs which are unable to fund investments from operating cash flows have sought to fund expansion through borrowing. This has resulted in SOEs with highly leveraged balance sheets and significant financial stress. Continued borrowing is also constrained, as SOEs approach the single-borrower limits of local lenders and operate in many instances with high debt-to-equity ratios.

Moreover, SOEs often take actions to protect their commercial interests that are adverse to the interests of the country, such as PLN's suspension of the construction of the Sumatra-Java high-voltage cable in 2016, which would have lowered the cost of electricity in Java but would have threatened competing PLN projects. Furthermore, Indonesian SOEs are underperforming as compared to regional competitors and global benchmarks. The Pelindos, for instance, control most aspects of port operations despite weak operational performance relative to global benchmarks in terms of berth occupancy rate, vessel turnaround time and working time. Lack of competition in the airport sector has likewise resulted in poor operational performance by Angkasa Pura I and II. Although cooperation with the private sector has been proven to increase operational efficiency and quality, such partnerships are

limited by the current incentive and performance indicator regime, which drives SOEs to maximize sector growth and gross profits, rather than efficiency and net profits. PSO payments to PLN, for example, are based on a cost-plus 7 percent margin, which does not provide any incentive for PLN to improve efficiency, as the company is compensated for its costs irrespective of whether they are efficiently incurred. SOEs are assessed on profitability indicators and other financial and operational indicators, but insufficient weight is given to efficiency measures, such as return

on invested capital and economic value added (EVA), which measure how well a firm uses the resources at its disposal. Neither MoF nor MSOE requires SOEs to achieve a minimum rate of return on state equity, as per good practice, and the concept of profit margin to incentivize efficiency is also not included as a key performance indicator (KPI).

Recommendation:

The Government should reform SOE incentives and performance indicators to promote efficiency gains, further harden SOE budget constraints and ensure open, competitive tender of all new, commercially viable projects.

SOEs will continue to play a critical role in meeting the government's ambitious infrastructure targets, on their own or in partnership with the private sector to bring in fresh equity, capital, and better efficiency.

First, MSOE, through regulation, should reform SOE incentives to encourage SOEs to mobilize private capital and focus on efficiency gains, including through PPPs and agreements that turn operational control of assets over to private operators. This entails adopting KPIs, backed by meaningful enforcement mechanisms, that are benchmarked to industry and global standards. SOE KPIs should explicitly cover return on state equity capital and the amount of additional private sector finance leveraged or attracted by SOEs, as well as sector-specific operational KPIs linked to SOE mandates and service delivery. KPIs should further be linked to management remuneration, such as bonuses, in a predictable manner, with a view to motivating performance and curbing reliance on state equity capital. SOEs should be motivated to engage with private investors to the extent private investment can improve efficiency.

Second, PSO and related operating subsidy formulas in different sectors should be revised to include efficiency benchmarks that incentivize efficient cost of service delivery, as opposed to the current cost-plus methodology used in many sectors.

Third, joint venture agreements should also be reviewed to include some form of revenue sharing, to bring SOEs in line with their private sector JV partners in terms of operational and financial efficiencies. This should be part of a larger effort to require SOEs to earn the majority of their income from profits, rather than fixed payments such as leases and other rents.

Fourth, steps must be taken to harden SOE budget constraints. Easier access to debt along with all other implicit subsidies, such as access to guarantees without fees, must be phased out.

Fifth, open, competitive bidding should be the default for all new and financially viable projects, with direct assignment limited to non-viable projects and subject to robust and clear screening criteria, to ensure that only exceptional projects that are important, urgent,

and cannot be awarded through a competitive process are assigned to SOEs. Where SOEs are assigned a financially non-viable project or program, it should be fully and transparently funded; that is, the Government must identify sufficient revenues and/or budget to enable the SOE to deliver that project or program.

Lastly, improvements in SOE governance should include the appointment of commissioners with direct experience and competencies in key areas, such as risk management. At least a third to one half of the supervisory board should be independent of the government and the SOE. Information available on the SOEs should be made available to the public through a single, open data-compliant portal.



4

Existing infrastructure assets held by SOEs can be recycled to provide an additional source of financing for new projects and benefit from private efficiencies.

Operational, revenue-generating infrastructure assets held and operated by SOEs can be leveraged to raise more private financing and capitalize on private sector efficiencies through a variety of asset recycling options. Recognizing this, MSOE as well as some individual SOEs have evidenced growing interest in asset recycling. In 2017, MSOE issued a circular presenting a USD 70 billion portfolio of SOE investment opportunities to attract private participation through the full spectrum of bonds, public offerings, securitizations, limited concession schemes and equity stakes in SOE projects. Likewise, some SOEs have undertaken efforts to securitize future revenues or receipts from operational assets, with both Jasa Marga and PLN, through a subsidiary, having issued debt securities backed by cashflows from some of their assets. While this is a promising start, significant challenges remain, both in terms of facilitating such transactions and in implementing asset recycling in a strategic and fiscally prudent

manner that maximizes value and supports the Government's infrastructure agenda. Many of the offerings in MSOE portfolio do not appear to be targeted towards private sector efficiencies, but rather are focused on capital raising. Where there are opportunities for joint ownership of an asset, equity stakes are offered on a 51/49 public/private basis, which may not be sufficiently attractive for private investors.

Furthermore, initial efforts at asset recycling have been impeded by the lack of an enabling environment, namely issues related to taxation, accounting, and legal ownership. Although August 2017 securitization of a Jasa Marga-operated toll road was able to overcome some of these issues through the use of ad-hoc measures, it remains to be seen whether the successful securitizations of 2017 are sustainable or replicable.

Recommendation:

The Government needs to encourage and better enable SOEs to pursue asset recycling, but only within an overarching framework that maximizes value and ensures fiscally prudent decision-making.

Asset recycling offers significant potential, as brownfield assets are particularly amenable to private sector investment. These opportunities are considered less risky to private investors and where the investment involves a new operator, the project can quickly benefit from private sector efficiency gains. Brownfield assets can be leveraged in one of several ways, including: (i) securitizing future revenues at the project level; (ii) issuing bonds at the project or SOE level; (iii) selling partial or full equity stakes to private investors, including operators; (iv) limited concession schemes; (v) creating infrastructure funds targeting institutional investors; and (vi) issuing public equity on the capital markets.

Each of these methods might involve different types of investors, accounting methods, and operational set-ups, such that each option has different advantages and disadvantages. There

are also many levels at which financing can be raised, for instance at the holding company or Special Purpose Vehicle (SPV) level. In addition, there are ways to take a graduated approach that, in certain cases, can maximize government revenue. For example, rather than divesting 100 percent of a poorly performing asset, which would not generate much value, an SOE might consider first bringing in a private partner to rehabilitate and improve the operations of the asset, which would increase the value before the asset is divested, while retaining some of the revenues in the interim. The best option for each asset or SOE can only be determined on a case-by-case basis.

Consequently, it is recommended that the Government develop a comprehensive SOE Asset Recycling Framework for assessing how to maximize the value of existing SOE assets.

The Government might consider a presidential regulation to mandate the development of the Framework, entrusting the same to a Task Force jointly led by MoF and MSOE. The Framework would take into account key considerations, including: (i) current management of the asset and whether there is room for efficiency gains; (ii) the capacity of the SOE to manage the asset going forward, given plans for expansion; and (iii) the debt needs and capacity of the SOE, including plans to replace the asset's revenue stream in the event of divestiture. This framework should be established and applied to systematically assess an SOEs' pool of assets to determine how best to leverage value and efficiency through a recycling program. Value creation should be the goal, not just fundraising. To this end, the structures and approaches to asset recycling need to be coordinated, to ensure a market is created and that the process is well-managed.

Accordingly, the Task Force on Asset Recycling would be entrusted to assist SOEs in achieving optimal results from asset recycling. This team, in coordination with the Otoritas Jasa Keuangan (OJK—Financial Services Authority), should also oversee improvements in the enabling environment, including providing definitive resolutions to the tax, accounting and ownership issues that have hindered the use of securitizations, bonds and funds to date (as discussed in Key Message 7). At the same time, revised SOE incentives and KPIs (as discussed in Key Message 3) will also help ensure that SOEs approach asset recycling in a value-driven manner.



5

Business-to-business transactions between SOEs and commercial actors are prevalent in the market and can be enhanced to further mobilize private capital and efficiencies.

Despite the considerable effort and attention that the Government has devoted to the PPP program, most infrastructure projects involving private sector occur through business-to-business (B2B) transactions, where the GCA is an SOE. These B2B transactions vastly outnumber PPPs – given the legacy of project or service assignments to SOEs in many sectors. In the water sector, for example, there are more than 70 identified B2B arrangements, while only 1 water sector PPP projects have reached financial close in the last 10 years. B2B also dominates the electrical power sector, comprising most of the Power Purchase Agreements (PPAs) executed between PT. PLN and Independent Power Producers (IPPs), which account for 11.7 GW of generating capacity as of the end of 2015. The state-owned airport operator, Angkasa Pura I, has also used B2B to outsource some of the operations of its largest airport in Bali, with positive results. Specifically, since 2013, the non-aeronautical operations of Bali airport have been under a management services agreement to a private company, significantly increasing Angkasa Pura I non-aeronautical revenues and improving the quality of service at the airport. There is ample room for similar agreements in the ports and toll roads sectors.

B2B projects thus present a significant opportunity to mobilize private capital and efficiencies, but they need to be centrally regulated and managed to ensure strategic implementation that maximizes value and impact. Historically, B2B transactions have been permitted to occur free from central oversight, on the theory that they do not place any burden on state funds. This is not accurate, however, as B2B agreements can create significant potential liabilities for the Government, as in the case of PPAs executed by the heavily subsidized PLN.

Although B2Bs are arguably within the definition of Cooperation Projects as defined under Presidential Regulation No. 38/2015, there is no consensus on this, and the Presidential Regulation No. 38/2015 review and approval processes are not enforced except for PPP projects. As there are also competing requirements under applicable sector laws and procurement regulations, this results in non-competitive tendering, through direct negotiation, as well as inconsistent preparation and structuring of B2B projects across sectors. Further complicating this issue, SOEs are also subject to a host of sector-specific regulations and regulations issued by their shareholder, MSOE, some of which are inconsistent with Presidential Regulation No. 38/2015. For example, a recent MSOE regulation regarding SOE cooperation with business entities, emphasizes the importance of prioritizing synergies between SOEs and SOE affiliates, while also permitting direct negotiation of deals between SOEs, in accordance with their internal SOPs.



Recommendation:

Subject all B2B transactions to clear and consistent procedures designed to ensure value and delivery of the Government's infrastructure agenda and develop targeted acceleration plans in key sectors to maximize the impact of B2Bs.

B2B transactions have tremendous potential, but the Government needs to ensure that these projects are well prepared, represent value for money, and include a properly balanced allocation of risks. At the moment, little information is available on B2B projects, due to the lack of any centralized review, monitoring, or evaluation of these transactions. The Government should thus prioritize the collection of data on B2B projects, in order to better understand this procurement modality.

In any case, where projects follow a common form and structure, the private sector will find it easier to invest and attract more finance, including from foreign financiers. Accordingly, line ministries and MSOE should enforce Presidential Regulation No. 38/2015 for B2Bs as well as PPPs, including B2Bs executed between SOEs. This will provide a vital first step towards creating continuity for all projects across sectors in Indonesia.

A central entity such as the MoF PPP unit should also be mandated with supporting GCAs in preparing and implementing B2Bs. This would facilitate consistency of practice, sharing of lessons learned, and enforcement of Presidential Regulation No. 38/2015, thereby ensuring that the government is obtaining optimal value from these projects across sectors and regions. Project development funding, model contracts and tender documents, and similar instruments should be made available for B2B as well as PPP, to achieve B2B value propositions.

In addition, Presidential Regulation No. 38/2015 should be elevated to the level of a government regulation, while making it clearly applicable to all private sector participation in public infrastructure delivery, including B2B (as discussed in Key Message 9). Revising SOE incentives and KPIs (as discussed in Key Message 3) as well as

implementing an overarching framework for SOE asset recycling (as discussed in Key Message 4) would also help ensure that these transactions leverage private investment and efficiencies.

Finally, the Government should consider establishing programs, led by a dedicated team, for the identification, preparation and delivery of B2B projects in key sectors, including airports, ports, and toll roads. This type of programmatic approach offers the same benefits and opportunities discussed with respect to the sector-oriented PPP programs above. In addition, the asset recycling program recommended above will provide a primary source of new B2B project proposals, as SOEs seek to bring in private partners to increase efficiencies and raise new capital. Accordingly, the sector B2B teams should coordinate with the Task Force on Asset Recycling recommended above, to identify proposals in each sector suitable for execution as B2B and to accelerate their implementation.

6

Tariffs are too low in most sectors to provide a sustainable foundation for investment, public or private.

Revenues generated from tariffs charged to end users are the foundation of sustainable infrastructure investment. In Indonesia, however, the revenues provided by tariffs often do not permit even operating cost recovery, let alone sufficient income to finance new investments. As a result, capital expenditures and the cost of service delivery often depend on direct or indirect government subsidies.

In the energy sector, for example, a 2017 Electricity Cost of Service and Tariff Review found that the average electricity tariff is below cost-recovery level and that tariffs for many customers are below the cost of serving them. Similarly, water tariffs must be approved by local parliaments and are often kept low for political reasons, to the point where average water tariffs are lower than unit costs. In ports, the excessive gap between the service fees charged to domestic and international users results in the same services being provided at a loss to domestic ships. Examples include pilotage, tugging, and wharfage fees, which are 15, 6, and 21 times higher for international than domestic ships, respectively.

This makes service delivery dependent on subsidies and prevents sectors from sustainably financing new investments from operational cash flows. For instance, PLN is highly reliant on the Government's PSO payments, a direct subsidy aimed at compensating PLN for retail tariffs set by the Government below the cost of supplying electricity. Yet, even with this subsidy, PLN earns a return on equity (ROE) of only 2 percent, well below the 7.6 percent ROE that would equal the opportunity cost to the Government arising from treasury bonds, and even further below a commercially viable ROE of 12 percent. As a result, PLN is increasingly unable to generate the cash needed to inject equity into new investments and meet its obligations under PPAs. Given the ambitious investment program targeted in the electricity sector, under a no-reform scenario it is

anticipated that total government support to PLN will need to double over the next five years, from IDR 60.91 trillion in 2018 to IDR 117.07 trillion 2022.

Similarly, nearly 75 percent of local PDAMs in the water sector run at a loss, with some 50 percent classified by the Government as financially unhealthy or sick. Low revenues, coupled with the difficulty in obtaining public funds to close the gap between costs and tariffs, has resulted in decapitalization of many water companies, leaving them without the financial basis needed to prevent deterioration of existing service or expand service delivery. Likewise, the low tariffs charged to domestic port users negatively affects the concession fee and, therefore, the ability to invest in new projects.

Low tariffs are also a fundamental impediment to the ability to develop financially viable projects that would attract private investors. In a survey of IPP stakeholders conducted in January 2017, more than half of the respondents (57 percent) identified cost-reflective tariffs as a big challenge, with 63 percent viewing the fact that tariffs to end-users typically do not reflect the actual cost of generation and supply as a big challenge in the next five years. This same problem is present in the water sector, due to concerns over PDAM credit risk. Even where an availability payment (AP) scheme or a take-or-pay agreement could provide a private partner with a commercially viable rate of return, these payments rely on SOE cash flows (including both tariffs and subsidies) and many of those SOEs are not creditworthy due to inadequate revenue from tariffs. Port development also suffers from an absence of commercially attractive investment opportunities, as investors are forced to uphold the distorted cross-subsidy tariff regime that renders the Pelindo firms reluctant to deprive themselves of the profitable cargo handling activities in their main ports.

Furthermore, efforts at tariff reform are constrained by inadequate regulatory authority in many sectors. This is due in part to weak regulators at the line ministry level, as well as the dominance of the SOE operators, which can resist efforts by the regulator to control them. The port authorities, for instance, have struggled to implement the landlord port management model mandated in Law No. 17/2008 on Shipping, due to the dominant position of the Pelindo firms. In the power sector, some recent policy changes have seemed to support increased private sector participation, while others

seem to be aimed at protecting or increasing PLN's market share and inhibiting the execution of new PPAs and the development of new IPPs. The weakness of the regulatory framework in the water sector, where local governments control the operating PDAM's board of directors, has contributed to the sector's inability to provide investors with sufficient returns, including the national government.

Recommendation:

Tariffs need to be increased on aggregate, with tariff levels that reflect operating cost recovery, new financing objectives, and what end-users can afford to pay.

Implementing tariff reform will better leverage public funds by reducing or eliminating the need for subsidies and increasing the private sector's ability and desire to invest in infrastructure projects. This requires careful assessment of each sector and its market segments, with a view to balancing operating cost recovery for service providers, financing new developments, ensuring affordability for end-users, and achieving equity for the poor. The government should then determine which sectors are most suitable for tariff reform and prioritize those sectors for reform first, while at the same time ensuring support for the segments of the population who would not be able to absorb a higher tariff for basic goods and services.

Such an assessment is already underway for the electricity sector. The recent Electricity Cost of Service and Tariff Review report provides a number of key recommendations for enhancing revenues in this sector. These include: (i) consolidating the customer tariff categories; (ii) progressively introducing average tariffs that reflect costs of service, subject to adjustments for affordability and other objectives; (iii) setting a return on equity of 7.6 percent, as a minimum, for PLN; and (iv) introducing

efficiency benchmarks as part of a multi-year, incentive-based regulatory framework. Similar assessments need to be commissioned in other sectors, including water, toll roads, ports, airports, and urban transit.

Once the sector context is assessed, an independent and capable regulator, with a clear mandate and adequate resources, is needed to progressively phase in tariff adjustments over time. While the overriding principles are the same across sectors, the means will vary, with some able to immediately undertake an adjustment period, some first requiring regulatory reforms, and still others requiring review and adjustment of existing concession agreements. For all sectors, however, the regulator must be willing and able to resist undue influence to distort the tariff regime to serve narrow political or financial interests.

With respect to ports, for instance, Ministry of Transport (MoT) and port authorities should take a more proactive role in progressively increasing the fees charged to domestic users, with a view to bringing them more in line with international standards. This is a prerequisite to sustainable port infrastructure financing. While

the applicable regulations require consultation with associations of port users, the Government should not view these associations' objections or lack of consent as an absolute impediment to tariff changes, as these entities all have a natural incentive to oppose any increase.

By comparison, in the water sector, more must be done to enforce existing guidelines and directives on tariffs. These include MoHA Regulation No. 71/2016, which provides directions on how to ensure affordability, set cost-recovery tariffs and utilize cross-subsidies to balance the two objectives, as well as MoHA regulation No. 70/2016 requiring local governments that set tariffs below cost recovery to allocate funding from their local budgets to cover the deficit. To this end, the Government must continue to pursue new mechanisms to incentivize or compel politically unpopular tariff increases at the local level.

Finally, while direct user tariffs are the cornerstone of sustainable financing, the Government must give more consideration to

indirect or secondary revenue options that can increase project and sector viability. These may take the form of an effective tariff or fee charged to indirect beneficiaries of infrastructure and creators of negative externalities, such as a fuel tax that is ring-fenced to support the VGF or AP obligations for potential urban mass transit or toll road projects. At the same time, the Government can better leverage positive externalities by using secondary revenue streams to improve the bankability of projects. In the transportation sector, for instance, secondary revenues can be captured through transit-oriented development (TOD) and land value capture (LVC) schemes. TOD schemes look at transit corridors, coordinating different transit modes and the services provided in and around transit facilities. LVC acknowledges that the land associated with an infrastructure project becomes more valuable and that the extra value should be captured to offset the cost of the project. Equally, commercial and other developments on that land can provide additional public services and revenues for the project.



7

There is not enough capacity in the financial system to meet Indonesia's infrastructure financing needs.

The amount of capital available in the domestic market, in terms of both local banking assets and institutional investors, is not sufficient to keep pace with the demand for infrastructure financing. It is estimated that local banks have at most USD 10 to 20 billion of cumulative room for infrastructure loan portfolio growth before reaching an appropriate allocation limit, as compared to the private financing need of USD 49 billion per annum.

Furthermore, domestic lending practices are not conducive to infrastructure financing, as most bank loans have relatively short-term (3-5 year) tenure. Lending for infrastructure occurs on a corporate, on-balance sheet basis to relationship (mostly SOE) clients. Limited recourse financing has only occurred when lending is led by a foreign bank. Local banks do not yet have the necessary technical skills, experience, or motivation to lend on a limited recourse basis. Instead, considerable importance is still attached to the name of the borrower or the sponsor, crowding out less well-established private sector sponsors. This is compounded by the fact that three of the four local banks that dominate the local market for IDR infrastructure loans are SOEs and predominantly lend to other SOEs. This limits the future ability to borrow because the borrowers will soon reach a prohibitive level of financial leverage and/or banks' single borrower limits.

However, the domestic institutional investor base, such as pension funds, social security funds, and insurance companies, is also small, totaling approximately USD 119 billion or 12 percent of GDP, with negligible growth in recent years. Out of this, a reasonable portfolio reallocation to infrastructure investments would add only, optimistically, USD 10 billion in the medium term. Yet, even this amount is not being realized, due to the conservative allocation of institutional investors, which focus disproportionately on short-

term returns. Employees are also not motivated to put their savings into the pension or social security funds, due to the lack of clear incentives, such as penalties for early withdrawal. Institutional investors are further limited in their ability to invest in infrastructure-specific products such as project bonds or funds, due to regulatory restrictions and tax differentials over the medium term.

Considering the limitations of the domestic market for infrastructure financing, government must target more foreign investment, including through the capital markets. While there seems to be significant interest from foreign investors in an exposure to Indonesia, so far it has been limited to the most liquid assets, such as public equity and government bonds. Foreign participation has otherwise been extremely limited, due to segmented markets for foreign and domestic investors and the lack of a market for risk-mitigation products or mechanisms to unbundle risks, such as currency and interest rate hedging instruments.

In late 2017, aided by a recent upgrade of Indonesia's credit rating, a promising option for mobilizing foreign investors through international capital markets emerged, in the form of IDR-denominated bonds known as Komodo bonds. In December 2017, Jasa Marga issued IDR 4 trillion (approx. USD 295 million) in global bonds, followed by Wijaya Karya, a state-owned construction company, which issued IDR 5.4 trillion (approx. USD 400 million) in January 2018. These issuances attracted strong interest and both were oversubscribed, thus showing promise as a means to bring in more funding for domestic infrastructure development. At the same time, however, both bonds were issued with a 3-year tenor, relatively short for funding in the sector, suggesting that there is room for improvement.



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Recommendation:

Introduce new capital market solutions and products coupled with enabling regulatory reforms to maximize the mobilization of capital from both domestic and foreign investors.

Overall, improved fund mobilization through the financial sector and increased efficiency in financial intermediation will in turn provide more funding for the infrastructure sector. Reforms in the financial sector should continue in parallel to the above measures. See, in particular, the analysis and recommendations provided in the recently completed IMF-World Bank Financial Sector Assessment Program (FSAP) on Indonesia.

First, reforms should be initiated to increase the pool of long-term savings through institutional investors. The Financial Services Authority (OJK), along with MoF and the National Social Security Council, should address the early withdrawal and short-term behavior of domestic institutional investors, while the retirement system should be reformed to ensure compatibility of the pension and social security systems, which in turn will accumulate savings.

In order to attract foreign investors, OJK and Bank Indonesia should explore the development of foreign exchange and interest rate hedging tools, such as a swap market. However, as derivatives markets take a long time to develop, authorities could pursue practical solutions for implementation in the shorter term, such as a foreign exchange facility for specific projects. Foreign capital will also be attracted to open competition, a stable legal regime, and well-prepared projects with appropriate risk allocation, as discussed throughout this report.

The recent introduction of a framework for infrastructure fund structures could help transition to project finance rather than relying on corporate financing of transactions, but it must be tested. A pilot infrastructure fund

should be set up as a demonstration project. The tax differential between funds and bonds should be addressed to encourage institutional investors to invest in this fund.

The OJK needs to reform the regulatory regime to facilitate the use of innovative products such as securitization and project bonds, including by (i) addressing the issues around taxation, the sale and transfer of assets, and the recognition of the unique, ring-fencing function of special purpose vehicles (SPVs), (ii) removing limitations of institutional investors to invest in private placement of non-listed project bonds, and (iii) allowing non-public offering of bonds to be listed, perhaps in a special category. Key institutions, such as PT. SMI, PT. IIF and PT. PII, should be tasked with assisting in tailoring credit-enhancement products used internationally or developing new products that fit Indonesia's context to stimulate financing via capital markets, such as a liquidity facility at the project level aimed at providing relief in the event of a temporary loss of liquidity caused by cost overruns.

Finally, MoF should leverage the current momentum on Komodo bonds and further develop the market by extending the bond tenors beyond the current 3 years, possibly with a credit-enhancement from a reputable international entity.

8

More commercial financing for infrastructure could be mobilized at the subnational level.

Subnational governments (SNGs) are responsible for a growing share of spending on infrastructure, yet remain primarily dependent on transfer payments from the central government to meet this burden. Most SNGs do not use debt financing for infrastructure investment, relying instead on budgetary appropriations on a pay-as-you-go basis. Many SNGs are creditworthy, however, even by the conservative standards established in current regulation. In 2016, for example, 513 out of 539 SNGs audited by the State Auditor (BPK) obtained audit opinions of qualified or better.

Regulations limiting subnational borrowing at the level of individual cities are prudent, but very conservative. Cities must maintain a debt-service coverage ratio of 2.5 and even the most creditworthy municipalities cannot borrow more than 5 percent of total revenues in a single year. However, a far more restrictive, aggregate limit is set by ministerial regulation each year. For 2018, total municipal borrowing is limited to 0.3 percent of projected GDP, or about USD 3.1 billion. By comparison, SNGs spent USD 12.6 billion on capital investments in 2016. Nonetheless, even under this stringent limit, total SNG debt stands at a tiny fraction of allowable borrowing capacity, indicating the presence of other constraining factors such as difficulty attracting private lenders and a lack of appetite among SNGs to borrow to finance capital investment.

There are also a number of other regulatory constraints on SNG borrowing for infrastructure, in addition to the general limits of the local debt market discussed in Key Message 7. For instance, SNGs are prohibited from pledging their future revenues as collateral and must

receive a recommendation from MOHA for each new debt obligation. However, the criteria applied by MoHA to assess whether to provide a recommendation is unclear.

The sub-national bond market is in its infancy, with no bonds currently issued. While not appropriate for all SNGs, bonds are a promising option for a subset of the larger cities. However, even this subset of large creditworthy SNGs faces difficulties in procuring the services of technical advisors and agencies in relation to bond issuances (i.e., underwriters, auditors, legal counsel, appraisers, notaries, rating agencies, and trustees), due to limited information on the relevant unit costs of these services. Government Regulation No. 30/2011 also prohibits general obligation bonds, specifying that SNG bonds may only be issued to finance projects that generate revenue. This restricts the options for SNGs looking to finance badly needed infrastructure projects that are economically viable but non-revenue-generating.

Direct transfers from the central government to SNGs could also be better used to enable increased private sector participation in local projects. The Water Hibah Program, for example, was successfully piloted as an output-based incentive to reimburse local governments for investments made in PDAMs, but its impact was constrained by its narrow scope. With the program's recent expansion to include reimbursements against an expanded set of outcomes, it may, consistent with experience in other countries, enable commercial financing for a project by reducing counterparty risk, effectively bringing down the cost of capital and rendering the project bankable.



Recommendation:

A number of targeted regulatory reforms are necessary to facilitate the mobilization of private financing by sub-national governments.

With respect to borrowing by SNGs, the Government should clarify the approval process for SNG loan and bond issuance applications in Government Regulation No. 30/2011 and Ministry of Finance Regulation No. 147/PMK.07/2006, while also removing the prohibition on SNGs from pledging future revenues as collateral via the upcoming revision of Law No. 33/2004. The bond options for SNGs should further be expanded to include general obligation and Syariah bonds. In addition, LKPP should strengthen its support for SNGs in procuring professional services for bond issuance. The central government should also expand the use and scope of contingent grants like the output-based Water Hibah Program to other sectors such as urban transport and solid

waste management. Similarly, where projects would not otherwise be bankable from revenue flows due to demand risk, the government could consider the use of availability payments to nonetheless reap the benefits from private sector capital and efficiencies. Capture mechanisms that permit the national government to backstop and recoup SNG defaults by intercepting funds from future direct transfers, such as the intercept provisions included in the RIDF, should also be used more often. These mechanisms can enhance the credit of SNGs and their SOEs and thereby enable increased private sector participation in local projects.

9

The complexity, inconsistency, and uncertainty of the legal framework is a deterrent to private investment.

The current legal framework for infrastructure comprises a complex, fragmented assortment of laws, regulations, and decrees, including the main regulations on Cooperation Agreements, sector-specific laws and regulations, and a variety of other infrastructure regulations covering discrete topics. This engenders confusion over the application of these laws, some of which overlap or contradict one another.

For example, although drinking water infrastructure is a permitted sector for a Cooperation Project under Presidential Regulation No. 38/2015, Government Regulation No. 122/2015 on the Drinking Water Supply Systems states that the private sector is not permitted to operate the distribution network. Similarly, the power sector has its own parallel set of regulations for IPPs, including its own procurement rules and procedure for obtaining a “business viability letter”, a form of government guarantee, even though in theory, IPPs would also fall under Presidential Regulation No. 38/2015 (and indeed have in the past, where certain government support was desired).

Other sector laws are simply inconsistent with the basic premises of Cooperation Projects, for example the 2017 Construction Law requires a project company to select and appoint its Engineering, Procurement, and Construction (EPC) contractor using an independent tender process, which effectively means that project sponsors cannot bid on tenders in consortium with an EPC contractor. This requirement is not consistent with either internationally recognized good practice or the principles set out in the regulation on Cooperation Projects.

A number of laws and regulations explicitly restrict foreign or private participation, such as the negative investment list that restricts the maximum shareholding of foreign investors in certain infrastructure sectors, while others implicitly limit private participation by directly or indirectly favoring SOEs. For example, Presidential Regulation No. 38/2015 and its implementing procurement regulation permit direct appointment of the project company, which includes SOEs, where the entity owns the land or previously built or operated the asset. In either

case, it is likely to be an SOE that is eligible for direct negotiation, precluding competition from private investors. The 2015 Ports Regulation also permits direct negotiation for projects, in lieu of competitive tender, where the entity already owns the land. This effectively gives the Pelindo a right of first refusal, as a result of their legacy land ownership. Similarly, 2017 regulations governing IPPs have permitted two PLN subsidiaries to be 51 percent joint owners in new IPPs, which PLN has interpreted liberally: 9 out of 12 tenders issued since the regulation passed involved the 51/49 shareholding structure, which limits the attractiveness of these projects.

The complexity of this framework is compounded by frequent changes to the legal and regulatory regime, further dissuading private investment. The energy sector provides a prime example in this respect. In 2016 and 2017, this sector saw at least six key regulatory changes affecting PPAs and IPPs. Of these, five were replaced or amended by new regulations, and in some cases multiple new regulations, within a year of issuance. This includes Minister of Energy and Mineral Resources (MEMR) Regulation 12/2017, which sets out how the tariff for purchasing electricity generated by renewable projects should be determined. This regulation, which effectively discouraged investment in renewables, was revoked only a few months after it was issued, possibly due to negative feedback. In the January 2017 survey of IPP stakeholders, 83 percent of respondents cited regulatory uncertainty as a major barrier to investing in new large-scale power generation, making this the most pervasive concern identified in this survey.

A number of issues also exist in the regulations on Cooperation Projects, in addition to those discussed in Key Message 2, above. First, the authority and approvals by local government to enter into multi-year contracts with yearly availability payments is unclear. Second, there is a “right to match” provision for unsolicited proposals, which international experience has shown to deter competition.

Recommendation:

The Government should amend and elevate the provisions of Presidential Regulation No. 38/2015 to a Government Regulation, improving it in the process, while also enacting limited, targeted reforms to remove key constraints in other areas.

The Government should elevate the primary regulation on Cooperation Projects, Presidential Regulation No. 38/2015, to the level of a Government Regulation. This Government Regulation should consolidate and standardize the rules that govern the project cycle, provide a comprehensive system for project identification by GCAs and mandate a competitive and transparent procurement process (thus amending the current rules on direct negotiation and unsolicited proposals). It would bring together the various regulations on VGF, AP, and guarantees, allowing them to be harmonized and coordinated. The Government Regulation should also explicitly encompass all public infrastructure development that involves the private sector, including PPP, B2B, SOE appointment, and limited concession schemes, addressing any conflicts with sector-specific regulations where possible. Elevating Presidential Regulation No. 38/2015 to a Government Regulation, and making the improvements discussed above in the process, would simplify and strengthen the legal framework governing private participation in infrastructure development, while also signaling

an increased level of stability in the legal regime. Further, a set of limited, targeted reforms should be implemented to address other prominent constraints and bottlenecks. These include: (1) clarifying the process for multi-year budgeting for AP schemes and the authority of local government heads to execute multi-year contracts; (2) amending the Construction Law (Law No. 2/2017) to allow EPC contractors to participate in PPP projects as part of a consortium without additional tendering requirements; (3) amending Bappenas Regulation No. 4/2015 to simplify the requirements for OBCs, such that the OBC functions as a preliminary assessment as per international practice; and (4) clarifying any inconsistencies in sector-specific or general regulations.

To avoid frequent and unnecessary changes, a rigorous consultation process should be followed for any changes to regulations affecting Cooperation Projects, including gathering private sector inputs.

Part I

***Cross-
Sectoral
Challenges
to Delivering
Infrastructure
Investment***

Macroeconomic Context

Adequate, well-planned, and well-maintained infrastructure is critical to Indonesia's future.

Infrastructure can boost growth by lowering transport and telecommunications costs, generating economies of scale and scope in production, and by promoting improvements in human capital. In Indonesia, infrastructure can help accelerate GDP growth beyond the 5 percent mark where it has hovered since 2014, and also help to reduce inequality by enabling the poor to access more and better jobs. Although the effects of infrastructure investment vary across countries, depending on their efficiency and effectiveness, increasing infrastructure can boost growth by up to 3 percentage points and reduce the Gini index by 1-2 percentage points.¹

Investments in infrastructure, if well-designed and well-executed, can also help Indonesia to reduce poverty.

First, as mentioned, infrastructure can boost economic growth and raise the consumption of the poor, thereby reducing poverty. In Indonesia, it is estimated that higher growth rates in infrastructure stock over 2001-2012 would have generated higher GDP growth and hence faster poverty reduction by 2 percentage points over the period. Second, infrastructure can generate employment and lift incomes of the poor by improving their access to markets and jobs. In Lao, about 13 percent of the decline in rural poverty incidence between 1997-1998 and 2002-2003 can be attributed to improved road access alone. Moreover, investments in irrigation have contributed to farm productivity and farmer income in several settings, helping to alleviate chronic poverty. Finally, better access to basic infrastructure services such as clean water and safe sanitation enable people to become healthier, more educated, and more able to cope with income shocks, providing pathways out of poverty.

Yet Indonesia has underinvested in public infrastructure for years, leading to a growing infrastructure deficit estimated at USD 1.5 trillion.³

Indonesia's rate of growth in public capital stock per capita – a proxy for infrastructure stock – has generally fallen behind

that of Vietnam, China, India, and Malaysia, even accounting for initial differences (Figure M.1). Public investments have not kept pace with economic growth: despite robust GDP growth of 5.6 percent on average from 2005-2015, Indonesia's public capital stock per capita grew 2.8 percent annually on average over the decade, compared to Vietnam (10.3 percent), China (6.7 percent) and Malaysia (3.7 percent). Not only is the quantity of infrastructure in Indonesia among the lowest in the region, but the quality of infrastructure also lags ASEAN and other emerging markets (Figure M.2). These averages mask wide disparities in infrastructure services across Indonesia – less than a fifth of the population has access to clean water in some districts, especially in Papua, whereas there is nearly universal access in most of Kalimantan and Java.

The Government recognizes the need to ramp up infrastructure investment and envisions that the private sector will play a more significant role going forward.

The National Medium Term Development Strategy (Rencana Pembangunan Jangka Menengah Nasional, RPJMN) estimates that IDR 5,519 trillion (USD415 billion, or about half of Indonesia's GDP)⁵ of additional infrastructure investments will be needed over 2015-2019 to achieve universal access to clean water, adequate sanitation, and electricity, among other targets. About 42 percent of this spending is expected to occur in transportation (mainly on roads and ports), followed by electricity/energy (27 percent) and water & sanitation (16 percent). The Government targets 37 percent of the needed investment to come from the private sector, with the remainder divided between the public budget (41 percent from Central and subnational government budgets) and state-owned enterprises (22 percent). This is four times the share of total investment by the private sector in core infrastructure over 2011-2015.

¹ Seneviratne, Dulani and Yan Sun. 2013. Infrastructure and Income Distribution in ASEAN-5: What are the Links?. IMF Working Paper. <https://www.imf.org/external/pubs/ft/wp/2013/wp1341.pdf>

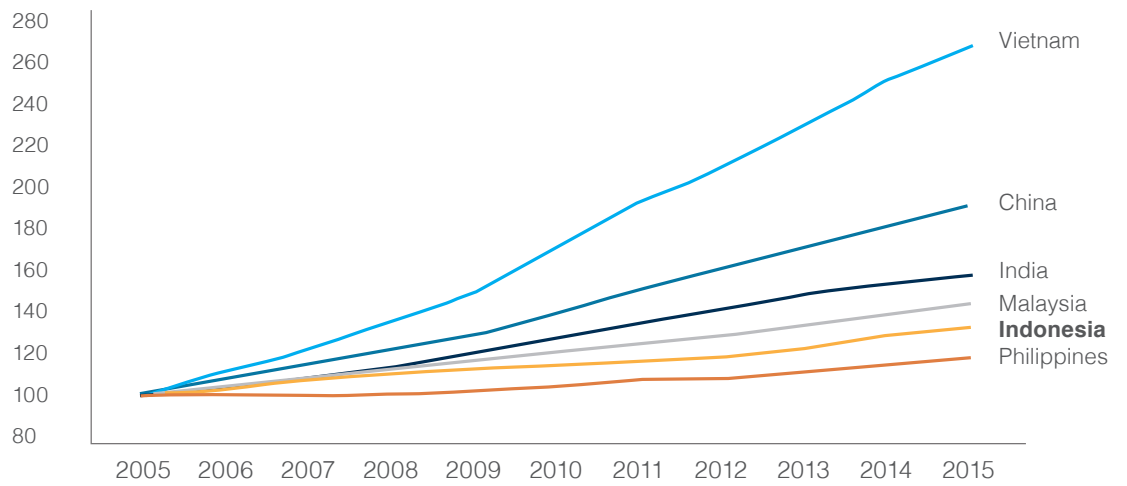
² For further details on the methodology, please see Part B of World Bank. 2017. Indonesia Economic Quarterly: Closing the Gap. October 2017. Jakarta: World Bank.

³ Calculated from the IMF Investment and Capital Stock dataset (January 2017). Infrastructure capital is a significant component of public capital in most countries. Public capital stocks also include non-infrastructure components (e.g. machinery and equipment, inventories, valuables and land), but this data is used as a proxy in the absence of comparable cross-country estimates.

⁴ Seneviratne and Sun, 2013.

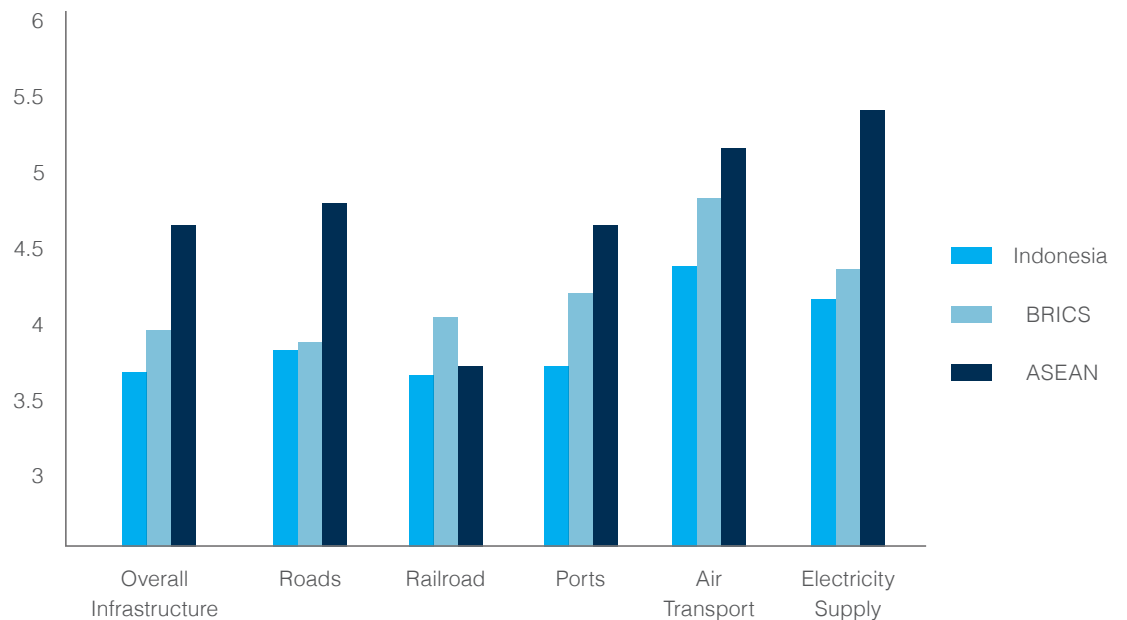
⁵ Exchange rate assumption: 1 USD = IDR 13,300.

Figure M.1: Index of public capital stocks per capita since 2005



Source: World Bank staff calculations using IMF (2017) data.
 Note: Each country's public stock per capita shown as growth vs. its own base-year value (2005=100).

Figure M.2: Indices of infrastructure quality; 1(worst) to 7(best) points



Source: World Economic Forum Global Competitiveness Report (2016-2017) data; World Bank staff calculations.
 Note: ASEAN is the unweighted average of Malaysia, Singapore, Thailand and Philippines; BRICS is the unweighted average of Brazil, Russia, India, China, and South Africa.

Box M.1: Infrastructure needs by sector

Transport: Massive infrastructure gaps exist in the national road network, airports, ports, and urban transport. The current backlog of network capacity is estimated at about 20 percent or 16,000 lane km of road space. To cater to an estimated growth of 5 percent per annum in traffic demand, an estimated 3,000-4,000 lane km of road space needs to be added annually. The Expressway Development Program, targeting over 6,220 km of expressways by 2025, is estimated to cost IDR 720 trillion (USD 54 billion). In the ports sector, an estimated USD 47 billion is needed up to 2030 for port development. A further USD 7-13 billion is needed for mass transit investments, as RPJMN aims to increase the percentage of trips occurring on public transport in large cities from 5-20 percent to at least 32 percent.

Electricity: Demand has grown at 7.1 percent annually on average since late 2000s. GoI estimates that electricity demand will grow about 8.8 percent per annum on average between 2015-24, i.e. an increase in power production from 219.1 to 464.2 terawatt hours (TWh) is required to meet the expected demand. GoI estimates that investment expenditures for power infrastructure (generation, transmission, and distribution) will total USD 95 billion between now and 2025.

Water and sanitation: The medium-term development plan (RPJMN) calls for an investment of around IDR 253 trillion (USD 20 billion) over five years. The Ministry of Public Works projects that the largest share (47 percent) of the investment will come from local governments, and the remainder from private sector and bank financing.

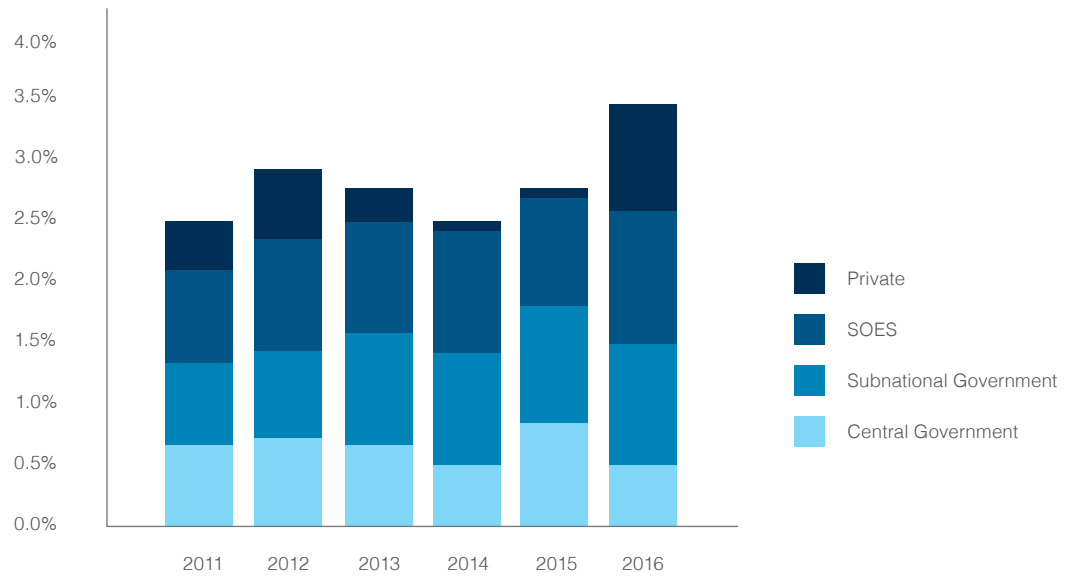
Housing: The Ministry of Public Works and Housing (MPWH) projections of new household formation require 820,000 to 920,000 new housing units annually. The annual housing supply leaves a gap of 220,000 to 270,000 for new household formation, in addition to the existing overcrowding backlog of 7.5 million housing units (MPWH, 2017). The current housing deficit alone requires an estimated IDR 1,140 trillion (USD 84 billion) of private and public financing. This estimate is based on the quantitative deficit of 7.6 million units, at an approximate cost of IDR 150 million (USD 11,200) per unit.

Despite continued macroeconomic stability and credible fiscal management, private sector investment in infrastructure has not picked up significantly. Real GDP growth averaged 5.0 percent over 2015-2017, driven by private consumption and fixed investment. Inflation has fallen from 6.4 to 3.5 percent over the period, and borrowing costs have decreased following eight rounds of interest rate cuts in 2016-2017. The current account deficit has also remained narrow at 1.9 percent of GDP on average over 2015-2017, and the fiscal deficit has remained well below the legal limit, averaging 2.5 percent of GDP. In recognition of the Government's fiscal credibility, Standard and Poor's (S&P) upgraded Indonesia's sovereign bond rating from BB+ to BBB- in May 2017,

marking the first time in nearly 20 years since the Asian Financial Crisis that all three major credit rating agencies have given Indonesia's bonds an investment grade. Despite these favorable conditions, the share of infrastructure investment financed by the private sector has continued to fall from 17 percent of total investment (0.5 percent of GDP in 2010-2012) to 9 percent in 2011-2015, or 0.2 percent of GDP (Figure M.4). Data for 2016 appear to indicate a pick-up in private sector investment, but, in reality reflects lagged progress on previously tendered projects.⁶

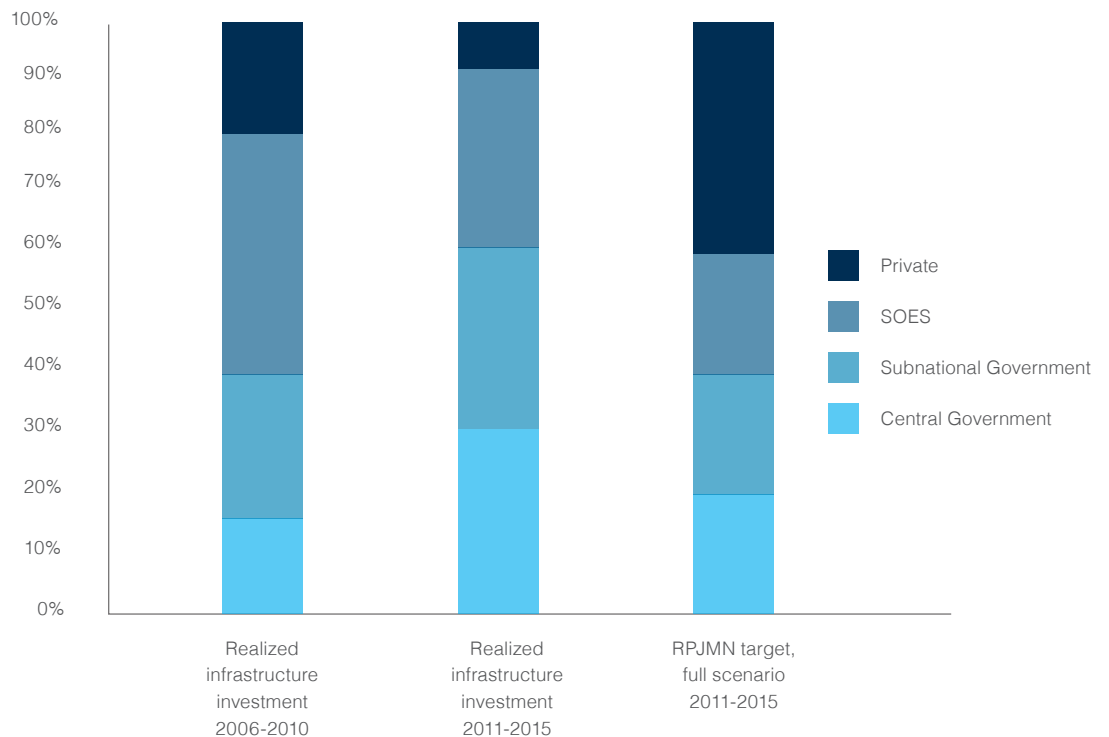
⁶ The Central Java Coal-Fired Power Plant and the Umbulan Springs Bulk water project reached financial close in 2016, but were tendered in 2009 and 2011 respectively.

Figure M.3: Total investment in core infrastructure as a share of GDP, percent



Source: Audited accounts of Central and Subnational Governments, SOE balance sheets, World Bank PPI database.
 Note: 2015-2016 for subnational government refers to budgeted amounts. Core investment does not include housing.

Figure M.4: Share of total investment in core infrastructure, percent



Source: Audited accounts of Central and Subnational Governments, SOE balance sheets, World Bank PPI database.
 Note: 2015-2016 for subnational government refers to budgeted amounts. Core investment does not include housing.

Leveraging private sector investment for infrastructure is important as opportunities to create more fiscal space for this purpose are limited.

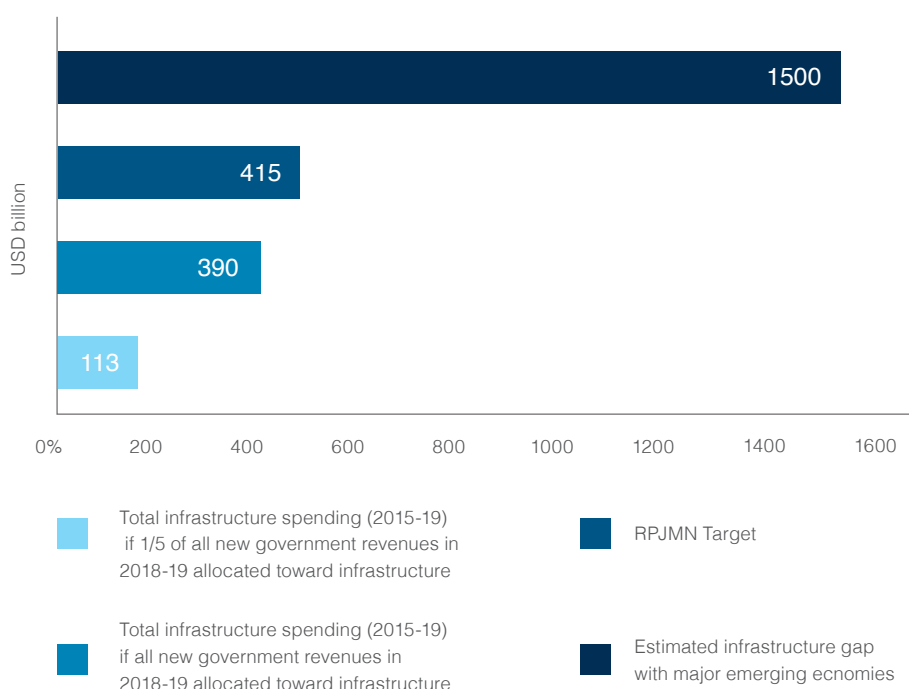
The Government has boosted infrastructure spending in recent years by eliminating fuel subsidies from the budget, raising revenues and injecting substantial capital into state-owned enterprises (SOEs) to undertake priority infrastructure projects. In 2016, such injections amounted to IDR 50.5 trillion (USD 3.8 billion). Going forward, however, the Government may not have similar opportunities to further increase its budget allocations to infrastructure. Further savings from subsidy rationalization are unlikely to happen in the near term as regional and national elections draw near, and Government revenues remain constrained with the tax-to-GDP ratio at 9.9 percent in 2017.⁷ The legal fiscal deficit limit of 3 percent of GDP, in place since 2005, also prevents the Government from further increasing its budgetary expenditures on infrastructure. Despite the low public sector debt to GDP ratio of 28.3 percent in 2016, the Government is similarly constrained in below-the-line financing of infrastructure, and has also reduced its capital injections to SOEs in 2017.

Even in the most optimistic of scenarios, public finances are insufficient to meet infrastructure needs. Collecting more revenues would help the Government spend more on infrastructure, but even then, public resources would not be sufficient to meet infrastructure needs. Even in the hypothetical scenario where the Government manages to raise the tax-to-GDP ratio⁸ and all new Government receipts in 2018-19 are allocated to infrastructure, total capital expenditures over 2015-19 would only amount to USD 390 billion. This is far from the USD 1.5 trillion needed to catch up with other emerging market peers. In a more realistic, but still optimistic scenario where a fifth of all new revenues in 2018-19 are spent on infrastructure, total capital expenditures from 2015-2019 would still fall short of the RPJMN target, let alone close the gap of USD 1.5 trillion with other emerging economies.

⁷ Preliminary realization data from the Ministry of Finance, February 2018.

⁸ The Government aims to raise the tax ratio by 1 percentage point of GDP per year until 2020.

Figure M.5: The infrastructure investment gap



Source: RPJMN 2015-2019; Indonesia Economic Quarterly, October 2017.

Bringing in more private sector investment into infrastructure is not only beneficial from a fiscal perspective, but also in terms of making these investments more efficient and effective. Efficiently allocating risks between

the public and private sectors can significantly enlarge the size of the pie of infrastructure that can be built for a given level of fiscal commitments and risks, potentially leading to a faster expansion of infrastructure services. In addition, the private sector can help to deliver infrastructure services at better value for money than traditional government procurements. In Australia and other OECD countries, infrastructure projects involving public-private partnerships (PPPs)⁹ are more likely to conclude on budget and on time.¹⁰ Studies from developing countries also show that private sector participation in telecommunications, electricity, and water distribution tend to elevate labor productivity and operational efficiency.¹¹ However, continued vigilance of the macroeconomic, fiscal and other risks associated with PPPs are warranted. More private sector involvement will warrant more, not less attention to monitoring and measuring fiscal risks.

⁹ Defined as a long-term contract between a private party and a government entity for providing a public asset or service, in which the private party bears significant risk and management responsibility.

¹⁰ See, for example: Allen Consulting Group and the University of Melbourne. 2007. "Performance of PPPs and Traditional Procurement in Australia." Report to Infrastructure Partnerships Australia. The Allen Consulting Group, Melbourne.; and Burger, Philippe, and Ian Hawkesworth. 2011. "How to attain value for money: comparing PPP and traditional infrastructure public procurement." OECD Journal on Budgeting 11, no. 1: 91.

¹¹ Andres, Luis, Vivien Foster, and J. Luis Guasch. 2006. "The impact of privatization on the performance of the infrastructure sector: the case of electricity distribution in Latin American countries." Policy Research Working Paper; No. 3936. World Bank Group, Washington, DC.; Gassner, K., A. Popov, and N. Pushak. 2008. "An Assessment of Private Sector Participation in Electricity and Water and Sanitation Services in Developing and Transition Countries." Policy Research Working Paper. World Bank, Washington DC.



A black and white photograph of a construction site. In the foreground, there is a large, rough-textured area of gravel or crushed stone. In the middle ground, three construction workers wearing hard hats and safety vests are walking across the site. One worker on the left is carrying a large sheet of material. In the background, there is a long, low building with a flat roof, possibly a warehouse or a temporary office. The sky is overcast. Two large, semi-transparent blue circles are overlaid on the right side of the image, containing white text.

Chapter 1

Bringing Projects to Market

I.

Introduction

A leading impediment to mobilizing more commercial finance for infrastructure projects in Indonesia is the limited availability of well-selected and prepared projects being offered for private investment. The responsibility for selecting and preparing infrastructure projects rests primarily with the relevant government contracting authority (GCA). This term refers to any government entity with legal authority to contract for the delivery of an infrastructure project, including central government agencies, departments and ministries, as well as local governments and their agencies.

The government has made considerable progress in recent years to address multiple constraints to bringing projects to market. Specifically, the government has provided more clarity about the roles of the National Development Planning Agency (Bappenas) and the Ministry of Finance (MoF). It has established viability gap funding (VGF) and availability payments (AP) mechanisms to help GCAs to deliver projects, and has created the State Asset Management Agency (LMAN) to help finance land acquisition. Additionally, it has established and funded the MoF project development facility (PDF) and created the PPP Joint Office, an informal platform designed to facilitate coordination between Bappenas, MoF, the National Public Procurement Agency (LKPP), the Investment Coordinating Board (BKPM), the Ministry of Home Affairs (MoHA), the Coordinating Ministry for Economic Affairs (Menko), and the Indonesia Infrastructure Guarantee Fund (PT PII).

Equally, Indonesia has achieved progress on commercial financing for infrastructure in the last two years. Government efforts have resulted in 13 PPP projects reaching financial close from 2015 through 2017, including 5 that reached financial close in 2017 alone. These 13

projects are currently under construction or in operation and represent a total investment value of USD 8,94 billion. Another seven projects are in the transaction phase and should reach financial close in 2018. Nonetheless, much more needs to be done to achieve the levels of infrastructure finance needed.

Projects in Indonesia have a reputation for being of low quality, poorly planned, and inadequately prepared. Despite recent improvements, the different Government stakeholders are not well coordinated, and as such create confusion in the market as investors are not sure with whom they should communicate and who will ensure that the Government is committed to mobilizing commercial finance for infrastructure. Projects are not selected based on clear criteria or screening, and the decision as to procurement method (e.g. public financing or PPP) is made too early, before much analysis has been done. Government support mechanisms, e.g. guarantees, VGF, AP, and PDF, are slow and not well coordinated. Land acquisition remains a critical challenge, despite the new land acquisition regime. Government relies excessively on SOE delivery of infrastructure, in the belief that SOEs deliver better and faster. But SOEs alone cannot achieve government investment targets. This approach is creating debt and risk issues for SOEs and is squeezing out private investment by reinforcing SOE monopolies.

This chapter is structured in four sections: (I) current processes related to the identification, selection, preparation, and implementation of infrastructure projects; (II) government entities and instruments created to support project development and preparation, including PPPs; (III) financial institutions designed to mobilize commercial finance; and (IV) contingent liability management.

II. Project Preparation

Proposals for new infrastructure projects originate from the GCA responsible for the sector or region in which a project is located.

GCAs have considerable latitude in identifying and selecting new projects, provided that their selections are consistent with the national government's medium-term development plan (RPJMN). The RPJMN embodies the policy commitments of the President of Indonesia during his or her five-year term. It also sets out the nation's objectives for infrastructure investment and development during this period. Each iteration of the RPJMN represents one phase in the implementation of the twenty-year, long-term development plan (RPJPN), which broadly states the nation's development vision, mission, and strategy. In parallel, subnational governments develop their own medium-term development plans (RPJMD), which must conform to the development targets in the RPJMN.

The guidance given in the RPJMN concerning infrastructure primarily takes the form of high-level policy guidance and output-based objectives.

The RPJMN provides high-level policy guidance on priority strategies, sectors and regions. For example, the 2015–19 RPJMN prioritizes fulfilling basic needs (such as access to drinking water) and infrastructure that increases inter-regional and global connectivity (such as transportation and broadband communication networks). The RPJMN also sets output-based objectives for sectors and regions, generally defined in terms of accessibility and production. Accessibility targets include, for example, the percentage of the population that is expected to have access to electricity, drinking water, and sanitation services at the end of the five-year period. In the same way, production targets are set in terms of kilometers of roadways to be built or amounts of electrical power or clean water to be produced by the end of the period.

Guided by the priorities and targets in the RPJMN and RPJMD (RPJMN/D), sector-specific agencies develop their own five-year strategic plans (Renstra) containing medium-term investment projects.

While the amount of detail about individual projects included in the Renstra varies across GCAs, the Renstra generally as a minimum identifies specific projects by name, grouping them into programs aimed at achieving or making progress towards the development objectives in the RPJMN/D. The RPJMN/D and Renstra then inform the development of the GCAs' annual work plans (Renja), which are developed in conjunction with the central and local governments' annual work plans (RKP and RKP-Daerah, respectively). These work plans in turn form the basis for the preparation of the annual state budget (APBN/D), as well as the detailed work plans and budgets for each GCA (RKA).

Bappenas is responsible for the centralized review and coordination of these work plans, with input from MoF on budgetary matters.

Ultimately, this process determines which projects will be funded through the APBN. However, little, if any, information about specific projects is submitted to, or reviewed at, the central level. Overall, the planning process is largely output driven, based on the targets set by the RPJMN. In short, each GCA prepares a program of projects designed to increase infrastructure availability or service delivery by an amount consistent with RPJMN, and then estimates the cost of the overall program. While information about the underlying, individual projects may be known to the GCA, this is not the focus of the RKA or APBN process, the main function of which is largely to reconcile targets and outcomes with the available budget.

¹ World Bank. Improving the Quality of Infrastructure Spending in Indonesia. Unpublished. 2017 interviews.

² The World Bank estimates that on average one percent of the infrastructure budget is spent on procuring feasibility studies, compared to an international average of three to five percent.

³ Indonesia's Infrastructure and Planning and Budgeting Process. Internal World Bank Report 2014. 12-13.

⁴ The term "Cooperation Project" is used here with reference to Presidential Regulation No. 38/2015. This Presidential Regulation is consistently applied to PPP projects, but is only rarely applied to other projects under its scope. This InfraSAP argues that the Presidential Regulation No. 38/2015 can be interpreted to apply to all private sector investments in public infrastructure, and its application should be clarified accordingly.

⁵ Presidential Regulation No. 38/2015 uses the term "KPBU" which stands for "cooperation of the government with business entity", which is referred to here as a Cooperation Project. Equally, "PPP" in local parlance is a Cooperation Project that requires "Government Support" under Presidential Regulation No. 38/2015. Cooperation Projects involve infrastructure and public service.

⁶ In Indonesia, the term "B2B" is colloquial, used generally to mean projects that are not PPP, but with little consistency of use. It is used in this chapter to mean projects where an SOE is the GCA, but the project is not a PPP.

GCA's have broad autonomy to decide what projects they will execute with public funds to achieve development targets, provided that their proposals are in line with the RPJMN/D. Trilateral consultations involving the GCA, Bappenas, and MoF then focus on reconciling programs, outputs, and targets with the budget ceiling set by MoF. It is unclear how investment ceilings are set, but it is understood to be incremental, based on last year's budget and dependent on the government's priorities for that year. This suggests that little strategic prioritization takes place as part of the budget process. MoF plays a minor role in this process, one more concerned with the issue of administrative compliance than strategic oversight.¹

With the exception of MoF regulations governing project costings, there is no general standard for how projects submitted for public financing should be prepared and documented. Due to a lack of capacity at the GCA level, this means that projects may be allocated for public financing based on little data or analysis. Feasibility studies for public finance projects are reportedly of uneven or low quality.² For example, despite extensive regulation on this issue for projects under the Ministry of Public Works and Housing (MPWH), quality assurance is lagging and project planning is poor.³

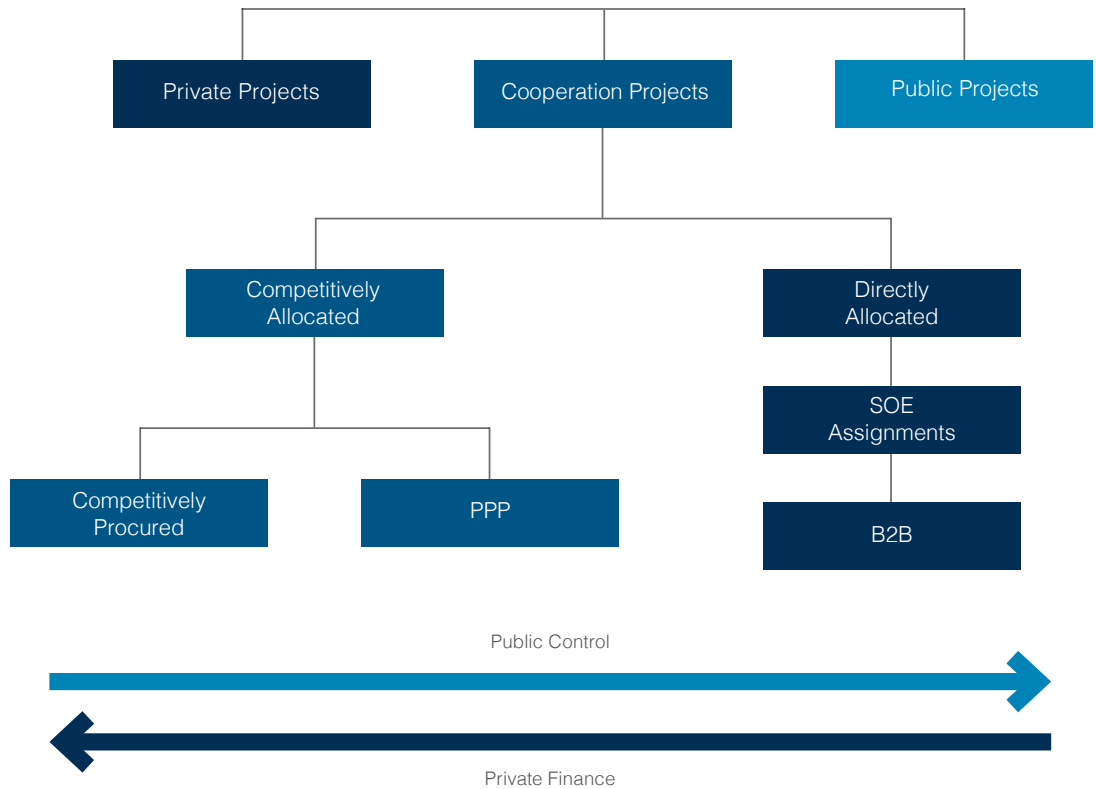
There is little pressure on GCA's to develop their business cases further prior to submitting them, as this has no bearing on funding availability. Funds for new projects are allocated based on estimated project costs without a rigorous assessment of the project's economic fundamentals. In terms of investment project costing, each year MoF issues a regulation establishing the guidelines for the line ministries' budgets (RKA-KL), for example MoF Reg. No. 49/2017. The standard template of the RKA-KL document requires GCA's to submit a detailed breakdown of expenditures for the next budget year and for the three subsequent years. No information is available on achievement of budget or cost deviations for the major investment projects at GCA level.

Little real screening takes place for the projects proposed. A robust screening process would result in some investment projects being dropped and others re-prioritized. In the current process, this is rarely the case. Projects are not dropped during this preliminary phase, but, depending on the size of the fiscal envelope available for the upcoming budget year, they may not be funded. In summary, the exercise is a public financing process that never appraises or screens a GCA's decision to publicly fund a project rather than pursuing a private financing option. This would not be a concern if GCA's were self-screening based on preliminary studies and appropriate assessment criteria such as value for money. As discussed below, however, this is not the case.

The Indonesian legal framework provides a regime for different methods for procuring "infrastructure and public services." A project can be implemented in one of three ways (see diagram below): (i) public financing appropriated via the annual budget process; (ii) private finance, where the private sector implements the project with no involvement of public entities (except possibly through regulatory oversight); and (iii) a Cooperation Project,⁴ where a GCA enters into an arrangement with a private entity or SOE to deliver infrastructure.

Among Cooperation Projects, some are assigned to SOEs. Projects are assigned to SOEs through a number of avenues including historic allocation to the SOE, the issue of a Presidential Regulation, sector regulations, the ownership by the SOE of land needed for the project, and through competitive processes.⁵ Where Cooperation Projects are assigned to SOEs, the SOE may choose to act as a GCA and issue a limited concession scheme or other Cooperation Project, which is referred to here as a "B2B" project.⁶

Figure 1.1: Typology of projects



All projects, whether they are eventually publicly or privately financed, should be subject to a feasibility study, against clear criteria. Currently, only projects identified as PPP (those requiring government support in the form of VGF, AP or guarantees) are consistently subject to review through outline business case (OBC) and full business case (FBC) analyses as MoF requires GCAs to comply with their obligations under Presidential Regulation No. 38/2015. The planning process should include a feasibility study for every project, to allow a sensible basis for screening, prioritization and the decision as to the best method for procurement (e.g. whether the project will be implemented through national budget, or a Cooperation Project). The sector line ministries, local governments, and Ministry of SOEs should enforce the provisions of Presidential Regulation No. 38/2015 for B2B Projects to ensure complete due diligence and assessment of projects, improve the quality of projects developed, and achieve consistency across all Cooperation Projects.

The current project preparation regime requires selection of a delivery mode too early—before any assessment of a project’s technical, economic, or commercial viability has been made. GCAs are effectively required to select an indicative delivery modality, or at least to decide what projects to submit for funding through the APBN/D, in preparing their annual work plan and budget submissions. Under best practice as adopted in countries like the UK and Australia, the selection of delivery method would depend on a careful preliminary assessment of a project’s viability, including technical, economic, and commercial aspects. Such a study would allow a comparison to be made of the relative merits of the available delivery methods, such as value for money, and thus guide the allocation decision. This decision would then be reevaluated at each subsequent stage of project preparation as more details about the project’s feasibility become known. Instead, the current regime in Indonesia requires the mode of delivery to be selected before such further analysis is carried out.

A. B2B projects

Presidential Regulation No. 38/2015 regulates “infrastructure and public services” projects issued by a GCA (a sector ministry or agency, a local government, or an SOE) that is the legal “implementing agency” of the infrastructure. The business entity that is the counter-party to the Cooperation Project can be a private company or an SOE. PPP Projects in Indonesia are Cooperation projects that require government support in the form of VGF, AP, or guarantees. B2B Projects are Cooperation Projects where an SOE is the GCA.

The number of B2B projects undertaken in Indonesia is large, including various sectors and levels of government, from the PLN IPP program to local government service providers. The water sector alone has more than 70 identified B2B arrangements (see Table 1.1). The PLN IPP program had already mobilized 11.7 GW of generating capacity through end 2015.

Table 1.1: B2B projects in the water sector

No	Contract modalities	Number of contracts	Contract volume (in liters per second - lps)
01	Full concession contract (water treatment plant — WTP — up to end-users)	10	14,620
02	BOT (WTP + transmission & main distribution)	20	9,530
03	RUOT (Refurbish-Upgrade-Operate-Transfer)	14	14,220
04	O&M for intake and WTP	2	3,040
05	BOO/BOT for housing & industrial estates	25	6,495
Total		71	47,905

Source: World Bank estimates based on interviews with ASPASINDO members, BPPSPAM, GWI.

B2B projects are a significant opportunity to mobilize private capital and efficiencies, and should therefore be managed centrally to obtain best value and impact. B2B projects are not subject to centralized government review, under Presidential Regulation No. 38/2015, they are subject to GCA approval only. This results in a plethora of different approaches and models of B2B, with competition used inconsistently and no central repositories to capture lessons learned and ensure that B2Bs are constantly improving. This is a missed opportunity, to have a consistent approach to market engagement and to bring certainty to the manner in which the government seeks to attract commercial capital to Cooperation Projects. GCAs and the Ministry of SOEs should enforce the Presidential Regulation No. 38/2015 rules and processes on all Cooperation Projects.

B2B risk allocation and management should be subject to central oversight to ensure compliance with Presidential Regulation No. 38/2015 and avoid significant liabilities for government. B2B projects operate largely free from central coordination and oversight. However, B2B by nature create significant potential liabilities for government, albeit in a less obvious way than the explicit allocations of VGF, AP and guarantees to PPPs. The PLN IPP program is a good example. The government’s PSO obligation means that any liabilities incurred by PLN will have a direct financial impact on MoF.

B2B projects should be subject to the procedures and practices designed to maximize value and impact as set out in Presidential Regulation No. 38/2015. Because they involve the same types of fiscal risks as PPPs, the government needs to ensure that B2B projects are well prepared and represent value for money in the same way as PPPs. Indonesia already struggles with a reputation for projects that are not well prepared. B2B projects present an important opportunity to show to the market the quality of projects available in Indonesia. This regime should involve a central unit responsible for monitoring B2B projects and for providing support to GCAs looking to implement B2B in the form of project development funding, model contracts, and other similar instruments. The most efficient way to achieve this Cooperation regime is to empower the existing Joint Office, Bappenas PPP Directorate, and MoF PPP Unit to take advantage of the mechanisms already created for PPP and adapt them for all Cooperation Projects (not just PPP).

Many Cooperation Projects are already managed by SOEs. Existing SOE projects include legacy projects, those directly negotiated with SOEs, those assigned to

SOEs under a regulation or Presidential Regulation, and those awarded to SOEs through a competitive process. These existing SOE projects provide an opportunity for SOEs to mobilize private partners and commercial capital. For example, an SOE might use a limited concession to delegate functions to private investors, or create joint ventures that provide private investors with control over specific activities (see Box 1.1).

Future SOE assignments need to be managed carefully. SOE assignments have been effective and bold, but have not involved sufficient due diligence to ensure that funding is in place (e.g. budget allocation), that the SOE has access to finance (whether from government or banks, or government guaranteed), and that the SOE is the best solution for the project in question. SOE assignments should not be made unless due diligence is completed to assess the viability of a project, funding needs, financing needs, and the best entity to implement the project (e.g. to assess whether a competitive process would be more effective than assignment, and if an assignment is the most effective then which entity should be the assignee).

B. PPP

Progress on PPPs has accelerated in the past few years, but there is still much room for improvement. PPPs are viewed in Indonesia as a subset of Cooperation Projects that require some combination of VGF, AP, and guarantees from MoF. The PPP program has accelerated in the last few years. Between 2015 and December 2017, 13 projects reached financial close. Another 8 are expected to reach financial close by the end of 2018. Yet major constraints remain.

The decision to use PPP is made far too early in the screening process, without adequate technical and financial analysis to determine the appropriateness of PPP. Countries with developed PPP programs undertake a process of studies and analysis that gradually moves toward a decision as to the best procurement and financing method for a project. Something equivalent to an FBC would be completed to give the government a full understanding of the project before a decision on public finance, PPP, or B2B would be made. In Indonesia, the decision to use PPP is made before the OBC is completed.

The preliminary analysis provided by GCAs is frequently incomplete or of questionable reliability. Although GCAs are technically required to prepare preliminary studies that assess, among other things, the legal, technical, economic, commercial, environmental, and social aspects of proposed PPP projects before submitting them to Bappenas, in practice they rarely do so. This is partly explained by the limited instructions given to GCAs concerning the nature and format of these preliminary studies, as well as by GCA funding constraints. There is also little pressure on GCAs to improve the information they do provide, as weak or underdeveloped project proposals are rarely questioned or rejected. Some GCAs also lack the human resources required, in terms of both numbers of staff and the relevant skill-sets. Given cost constraints, applicable procurement regulations, and remuneration caps, GCAs often rely on less expensive domestic external advisers, leading to sub-optimal advice and poor decision making.

Screening at this early stage is very limited.

GCA do not provide the information needed for proper screening. Bappenas currently lacks adequate human resources and budget, nor does it compel GCAs to submit more or better analysis for individual projects. Bappenas needs to establish clear criteria for submissions by GCAs, provide guidance to GCAs to help them submit projects, and reject those projects that do not comply with requirements for information, or where the underlying project does not meet the established criteria.

Bappenas alone cannot achieve improved project selection; GCAs need better capacity and more ownership.

GCAs need to develop pools of skilled staff to support project identification and submission of project proposals. This could include the creation of dedicated PPP teams for GCAs that implement PPP projects frequently, with such teams providing specialist know-how for project preparation and gathering lessons learned to improve future projects.

Funding for OBCs is hard to access and those OBCs that are produced are generally of poor quality.

GCAs do not prioritize PPP and therefore do not allocate funds for OBCs. Bappenas has a limited budget to support the GCAs in preparing their OBCs, and can provide assistance of this type for only a few projects. In other cases,

Bappenas mobilizes support from donors (for example, in 2017 it planned to use ADB funds to help it assess nine projects). In addition, GCAs may receive support in OBC preparation from LKPP, KPPIP, and business entities (in the case of unsolicited proposals). This assistance is limited, however, and the remaining projects must manage with OBCs prepared by the GCA or consultants with limited skills and experience in PPPs. Donors have funded project preparation in select cases for several GCAs, but such an ad hoc engagement of donors across a number of GCAs does little to promote uniform standards of project preparation. Moreover, there is no systematic approach to pooling donor resources. Government needs to coordinate donor support; insist on model processes, agreements, and approaches to project support; and ensure that all project preparation efforts benefit from lessons learned and a coordinated approach.

MoF's PDF does not currently fund OBCs; it should.

PDF regulations do not permit funding of OBCs. Conversely, the PDF cannot provide support for a project until there is an approved OBC. While this approach respects the division of responsibilities between Bappenas and MoF, it exacerbates the challenge posed by the lack of funding available for OBCs. The PDF decree should be amended to allow the PDF to support OBCs.

C. SOE assignment

Government has the right to assign projects to SOEs.

Such assignments may be achieved through issuance of a Presidential Regulation (like the assignment of Trans-Sumatra to Hutama Karya), or under sector regulations that allow direct negotiation of projects. The terms of such assignments are often unclear, and may straddle the classifications of project procurement methodologies. Such assignments are fundamentally public financing structures, with government choosing to use SOEs as the implementation instrument. However, the GCA assigning to an SOE may not have budget funds sufficient to deliver the assigned projects, and may look to the SOE to mobilize financing. This may then involve government guarantees to support SOE debt issuances.

SOE assignments play a key role in the delivery of infrastructure,

but SOEs are unable by themselves to deliver infrastructure in the amounts required, and the dominance of SOEs is squeezing out potential commercial capital. This has resulted in SOEs bearing heavy debt burdens in an effort to meet infrastructure demand - approaching debt ceilings and single borrower limits. While SOE assignment is a useful mechanism in the short term, it cannot meet Indonesia's infrastructure needs, does not deliver efficiency of service, and is approaching a critical point in the liabilities and risk created through SOE implementation. The role of SOEs is further discussed in Chapter 2.

The preparation of projects assigned to SOEs often fails to focus on efficiency or maximizing the value that government will achieve through government capital or support. SOEs are willing to undertake a project, or accept a mandate, based on far less due diligence and preparatory work from a GCA than private investors. This is not because SOEs undertake projects that are less risky, but rather reflects a belief that GCAs will be accommodating with SOEs when risks arise (i.e. they will allow price increases, tariff increases or extensions of time for completion). This creates additional risk for the GCA and SOE alike; if risks are not managed early and proactively, they can have a large impact and create more significant liabilities for GCAs and SOEs. An example would be the assignment of the Trans-Sumatra road network to Hutama Karya (HK). HK received this assignment without a clear funding or financing plan. An initial allocation of public budget was soon exhausted, leaving HK to mobilize its own capital. Among other sources, HK issued bonds to finance Trans-Sumatra construction, with a full government guarantee for bond-holders issued by MoF. Despite these different efforts, HK is still short of capital to complete this assignment.

Placing risks on SOEs does not diversify risk management, since SOEs are simply another instrument of the government. These risks remain public risks and where those risks create liabilities, those liabilities will remain with government. It is worth the time and cost to perform early due diligence on projects, whether implemented through public funding, by SOEs or through PPP.

Government guarantees provided to SOEs need to be more carefully designed and sized to maximize commercial capital and use the government balance sheet more efficiently. Government credit guarantees have been provided extensively to SOEs to help them raise financing for priority infrastructure programs. Guarantees provided to SOEs should be subject to the same criteria and screening as PPP guarantees, in order to use government support efficiently and maximize the commercial capital mobilized. PT PII would be well placed to advise MoF on such guarantees and their use to achieve greatest financial efficiency, but this would represent a departure from PT PII's current mandate and would require amendment of Presidential Regulation No. 78/2010.⁷

⁷ Presidential Regulation No. 78/2010 on Infrastructure Guarantees in Public Private Partnerships Provided Through the Infrastructure Guarantee Fund; Finance Minister Regulation No. 260/2010 on the Implementing Guidelines for Infrastructure Guarantees in Public Private Partnerships.

Box 1.1: Limited concessions and joint ventures

As SOEs look to engage more with private investors (whether through PPP or B2B), two complimentary models should be considered.

The limited concession involves a GCA (in this case an SOE) awarding a concession contract to a private investor to manage and maintain a particular service or an existing asset (the term "limited" is associated with the limited scope of responsibility, not including design or construction). This structure was used for the Denpasar airport, when AP1 awarded GVK a concession over commercial facilities at the airport, resulting in significant improvements in revenues and profitability for AP1.

Another approach is a joint venture, where the SOE and private entity are joint owners of the project company. This model has been used in the port sector in Jakarta, resulting in a significant increase in performance and access to additional financing.

For both of these models, challenges arise:

- SOEs are often active in the sector, and therefore may compete with the private partner. This conflict of interest can create challenges in governance of project decisions and ensuring that the SOE is incentivized to promote the success of the project and of the private partner.
- The SOE and private investor need to be engaged in a partnership. Any arrangement that enables the SOE as a free-rider will not be effective. For example, some SOEs seek to obtain shares in a joint venture at no cost, i.e. the SOE does not contribute to project capital or investments.
- Private investors will need to have control over areas where performance improvements or risk management are important to the success of the project. Investors will not want to provide capital if they do not have enough position to protect that investment. Even where the SOE wants to retain 51 percent of the shareholding in a joint venture, a control structure can be achieved, including minority shareholder protections, to achieve this balance of control and empower the private investor to make the improvements sought.
- Current SOE regulations create a bias toward concession and joint ventures with other SOEs, rather than private investors. This bias needs to be avoided, in favor of a bias toward the best strategic and financial partner for the SOE.

II.

Special Entities and Instruments to Facilitate PPP Projects

A. MoF PPP Unit

MoF established a Public Private Partnership (PPP) Unit called the Directorate of Government Support and Infrastructure Financing Management (DGFRM) in 2015 to support infrastructure development through private participation. The core mandate of the PPP Unit is to: (i) improve quality of project selection under KPPIP; (ii) support project preparation through the project development facility (PDF) using a high-quality Transaction Advisor; (iii) act on behalf of the Minister of Finance in providing Government support approvals for projects in particular stages of the bidding process; and (iv) coordinate all public finance instruments so projects have a single financing and guarantee support package.

Once an OBC for a PPP project has been completed, the MoF PPP unit is responsible for helping the GCA complete the project preparation and move toward financial close.

At this point, a number of mechanisms for MoF support and assistance become available. These are described in more detail below. The MoF PPP Unit staff oversee assessment of project proposals, OBCs, FBCs, and transaction documentation. In order to fulfill this function well, MoF PPP Unit staff need specific project experience, having been deeply involved in project development processes. This can be achieved by hiring experts from the private sector, secondment of staff for entities closely engaged in project preparation (for example from PT SMI, PT PII, SOE banks, and infrastructure SOEs) and by ensuring that MoF PPP Unit staff are directly involved in project preparation (possibly selecting PDF engagements that will be implemented directly by the MoF PPP Unit).

B. Bappenas Directorate for PPP and Financial Engineering

The Bappenas Directorate for PPP plays a key role in supporting GCAs in project selection through to development of OBCs.

The Bappenas Directorate focuses its efforts on the early project identification, receiving submissions from GCAs for individual PPP project proposals. Bappenas maintains the PPP Book, issued annually. The PPP Book identifies two categories of projects, those that are “under preparation” and those that are ready for market. In the most recent PPP Book 2017 there were 21 projects under preparation, 1 project ready for market, and 17 projects already having reached financial close. Bappenas also supports GCAs through development of OBCs. It provides some funding from its own budget, and helps GCAs mobilize funding for OBCs from other sources, in particular donors.

Bappenas should focus farther upstream on GCA project selection and due diligence, using its influence to encourage consistent good practice identification and selection.

The early identification process lacks rigor, with little analysis of early stage project identification and selection. Bappenas has influence through its budget planning function and its involvement in the Joint Office. This position should be used to encourage GCAs to do more due diligence during early identification and selection stages, to establish criteria and processes designed to help GCAs select projects, to improve the pipeline of potential PPP projects.

C. The Committee for Acceleration of Priority Infrastructure Delivery (KPIIP)

Formed in 2014,⁸ KPIIP leads coordination among national infrastructure agencies to accelerate priority infrastructure and promote project quality improvement for “priority” projects. KPIIP members include ministries and institutions that play significant roles in infrastructure project preparation, namely the Coordinating Ministry of Economic Affairs, the Ministry of Agrarian and Spatial Planning (BPN), the Ministry of Finance, and Bappenas. It is intended to act as a single contact point for all government agencies, potential funders, and private sector investors for coordinating and delivering the National Strategic Projects (PSN) and to help accelerate infrastructure projects by removing bottlenecks in the system.

For projects on the PSN list, GCAs are required to prepare thorough pre-feasibility studies/outline business cases (OBCs)⁹ in accordance with standard criteria developed by KPIIP. In practice, however, it is rare for GCAs to complete adequate OBCs for PSN projects. While KPIIP is tasked with revising or, if necessary, redrafting OBCs for these projects, in practical terms the agency lacks the human resources and budget to complete this work for most of the projects on the PSN list. In the absence of rigorous technical and financial screening, the selection of priority projects has been guided mainly by political priorities. This makes mobilizing commercial finance to implement PSN projects more challenging.

The PSN list includes a broad spectrum of projects, but is heavily biased towards airports, roads, and power sector investments. Projects in these sectors have the potential to be commercially viable with or without government support.

However, upon closer look, it appears that projects on the PSN list are not likely to attract significant commercial financing. Of the 245 projects on the PSN list, some 50 percent are already under construction – suggesting that these projects are disproportionately seeking a debottlenecking or public financing gap solution. Approximately 20 percent of all projects (over 60 percent by investment value) are under assignment to SOEs. These projects will only attract commercial financing in the context of asset recycling, divestment, and other B2B arrangements with the private sector. There is no indication that SOEs with projects on the PSN list are open to such arrangements. Nonetheless, KPIIP has identified 61 projects from the PSN list as candidates to be structured as PPPs.

Applying a separate set of criteria, KPIIP further designates a subset of the PSN list as priority projects to receive debottlenecking and other forms of assistance available under KPIIP’s mandate. The list of the KPIIP priority projects is endorsed by Bappenas and MoF, while the respective GCAs remain the project owners. KPIIP has identified 37 priority projects, of which 11 have been identified with potential to be implemented through PPP.

KPIIP provides important services for PSN and priority projects, but is short of funding and capacity to deliver OBCs and other advisory functions. KPIIP is intended to support GCAs in delivering OBC, FBCs, and transaction advice, but does not have the necessary resources (including budget) to do so. It works closely with donors like ADB and JICA to mobilize funding for OBCs, but this is not a consistent nor sustainable solution.

D. PPP Joint Office

The PPP Joint Office is an informal coordinating forum for the planning and development of PPP infrastructure projects.

Currently, this forum includes Bappenas, MoF, Menko, BKPM, LKPP, MoHA, and PT PII. The position of Joint Office coordinator is expected to rotate among the members every two years. The main activities of the PPP Joint Office include: (i)

preparing a robust project pipeline, (ii) supporting GCAs in developing OBCs, (iii) coordinating information and communication with government and investors (iv) debottlenecking project preparation, (v) building capacity, and (vi) serving as the central office for resources supporting PPP infrastructure development.

⁸ KPIIP was created by Presidential Regulation No. 75/2014.

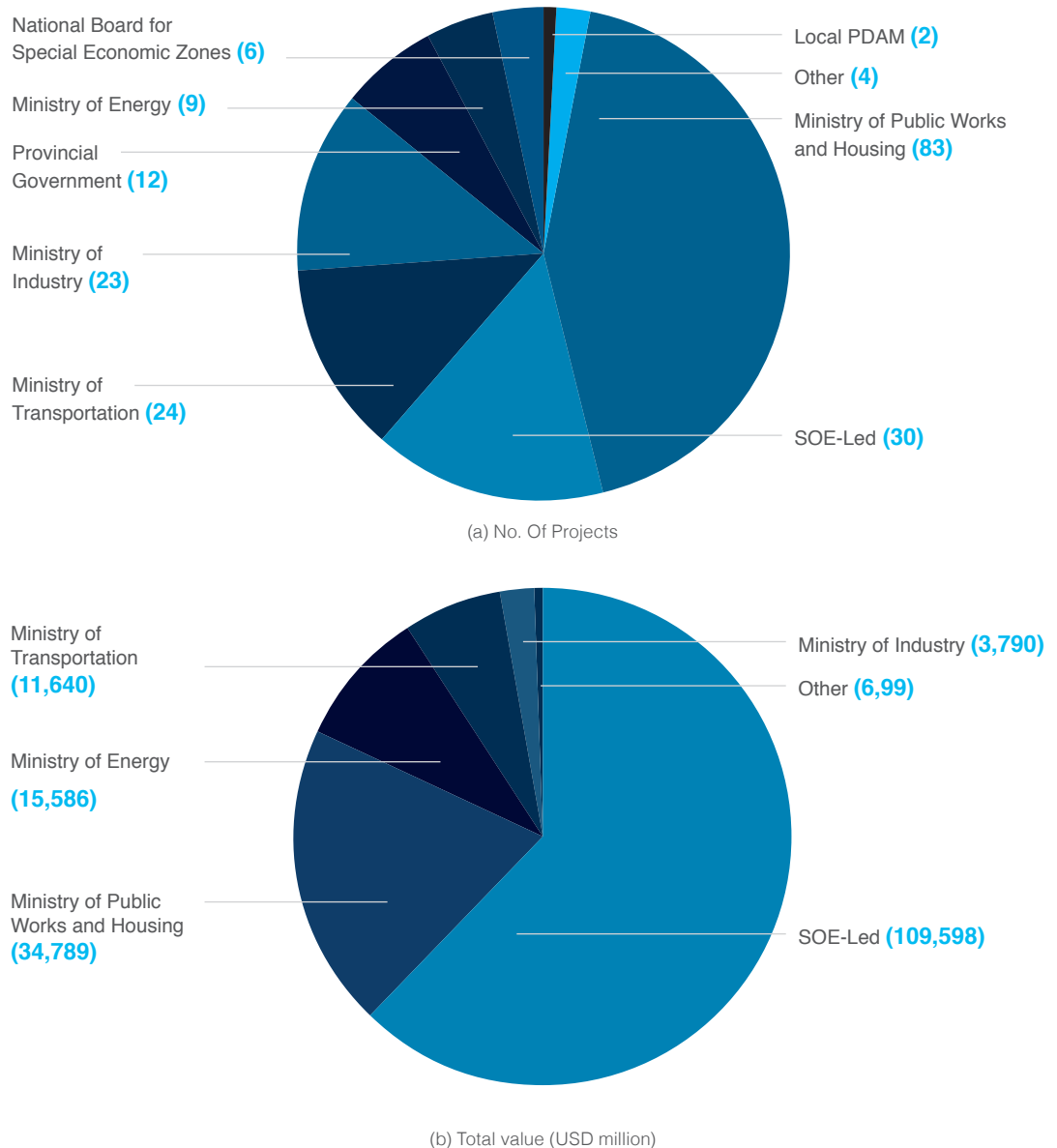
⁹ These terms are often used interchangeably, as KPIIP defines the OBC as the output of the pre-feasibility study.

The Joint Office provides an important coordination function, in particular between MoF and Bappenas, but needs to mobilize staff and funding to deliver on its functions. The members of the Joint Office meet weekly, giving them an opportunity to share information and ensure that their respective efforts to deliver PPP are shared with the other members. However little has been achieved in other aspects of the Joint Office functions, for example the proposed capacity building function has yet to become operational.

Government issues multiple uncoordinated and inconsistent lists of potential investments in infrastructure, creating confusion and undermining credibility; the Joint Office should issue one coordinated list of B2B and PPP

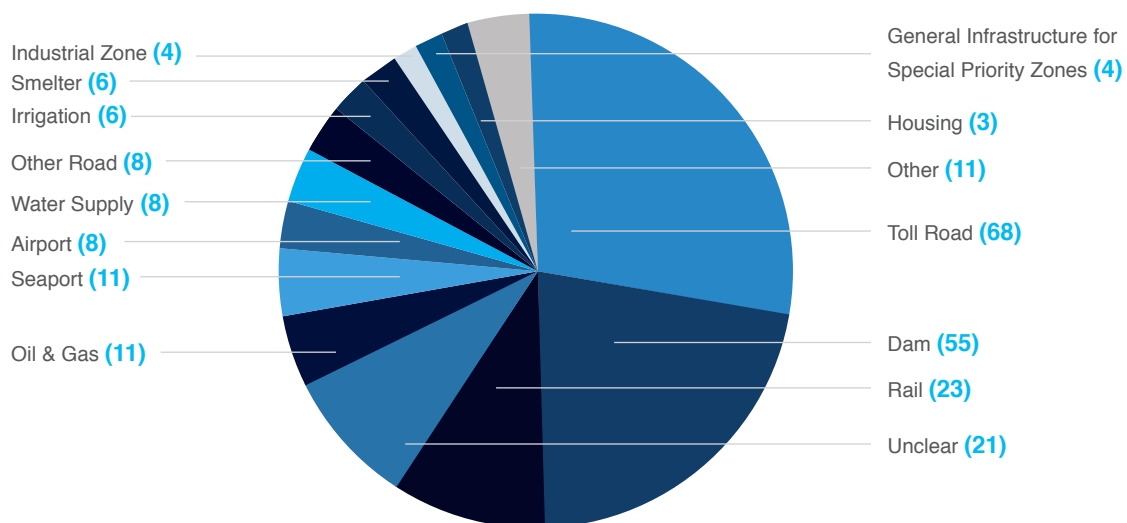
projects. To illustrate the complexity of the current system, the existing lists include the PSN list 245 projects and 2 programs - see Figure 1.2 and 1.3), the PSN PPP list (61 projects), the priority projects list (30 projects - which is a subset of the PSN list), the priority projects PPP list (11 projects), the Bappenas annual PPP Book, the Bappenas "List of 10 Quick Win Projects," the Ministry of Transportation Investment Opportunities Project Brief 2017" (14 projects), the Ministry of SOEs prospectus of SOE projects open to private sector investment (value USD 70 billion), the MoF PDF list of PPP projects. This lack of strategic coordination contributes to a perceived lack of clarity, transparency, and predictability. The Joint Office should work with its members to agree on a single location to publish lists of projects, coordinated through the Joint Office.

Figure 1.2: PSN Projects by responsible agency

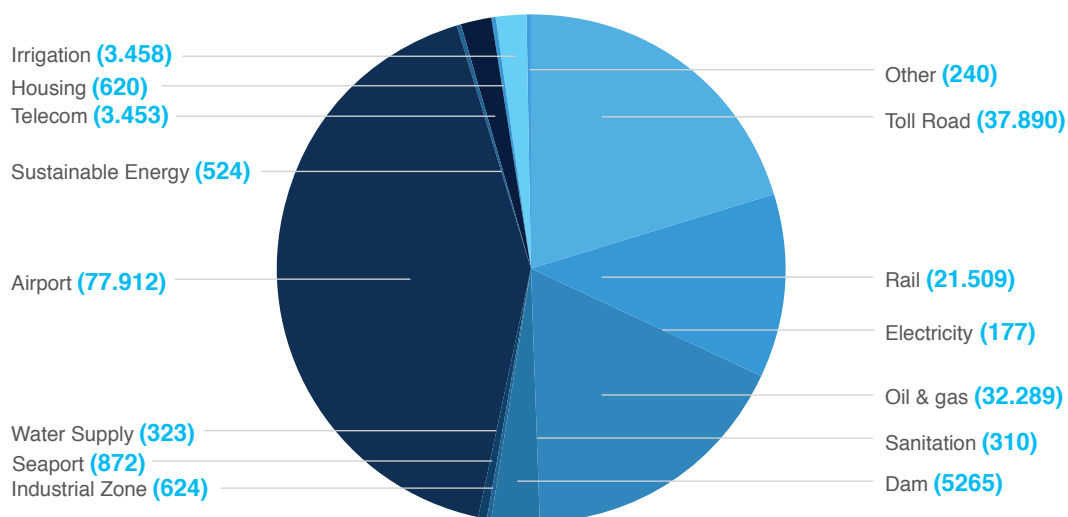


Source: PSN list, Bappenas.
Note: 1 USD = IDR 13,296.

Figure 1.3: PSN projects by type



(a) No. of Projects



(b) Total value (USD million)

Source: PSN list, Bappenas.
Note: 1 USD = IDR 13,296.

E. MoF Project Development Facility

Once the OBC is completed, a GCA may apply for project development funding from the MoF's Project Development Facility (PDF), including assistance with the preparation of a FBC, bidding documents, and project transaction up until financial close.¹⁰ The PDF was implemented in 2016. Once MoF has approved an application for support from the PDF, an agent is assigned by the MoF to help implement the PDF funding, including finding high quality advisers.

Projects that have not been designated as national priority projects (or placed in

Bappenas' PPP Book) may join the pipeline as Non-Priority Projects. These projects are also eligible to receive PDF assistance from the MoF for completing the FBC and procurement stages of the project. However, the PDF may only fund projects that have approval for their OBCs. Given the issues of quality and limited information in current OBCs, this is a material constraint. Furthermore, the PDF is dependent on budget allocations by the MoF, inhibiting its sustainability as a means of improving project preparation standards.

¹⁰ The PDF was created further to Presidential Regulation No. 75/2014 on Acceleration of Prioritized Infrastructure Provision, Minister of Finance Regulation No. 265/PMK.08/2015 on Facilities for the Project Preparation and Transaction Advisory of PPP Projects, and Minister of Finance Regulation No. 129/PMK.011/2016 on Amendment of Minister of Finance Regulation No. 265/PMK.08/2015.

The PDF was used to support several transactions in 2017, including a light rail project in Medan, a water supply project for the City of Pekanbaru, a sports center in Papua, and a university hospital in Manado.¹¹

The PDF needs the mandate to fund project development farther upstream, including OBCs. The major constraint of project preparation in Indonesia is the lack of early project preparation, in particular OBCs. The current arrangements are not delivering consistently good quality OBCs, in particular due to lack of funding. PDF funding of OBCs could also be used to develop standard form OBCs. The PDF regulation needs to be amended to allow for funding of OBCs.

The PDF should be formed as a BLU. The PDF needs to roll over from one budget year to the next. It should also be able to revolve, i.e. to accept payments of fees from successful bidders or otherwise allow the PDF to accept funding from sources other than government budget. By creating a BLU, the PDF would be able to receive funds and manage them accordingly, allowing the PDF to become more sustainable. The BLU would also allow MoF PPP Unit to hire high-cost consultants, with fees in excess of government procurement limits.

F. Viability Gap Funding

MoF oversees the provision of viability gap funding (VGF),¹² through which government contributes up to 49 percent of the construction costs of PPP projects that are economically viable but are not classified as financially feasible. In addition to the VGF, a GCA can also contribute to this type of support after it has obtained the relevant approvals. VGF has not yet been used extensively, having been approved for the Umbulan Water Project and under consideration for several more projects, but not at all with international investors.

The VGF is designed to reduce the project cost to be borne by private parties, thereby: (i) increasing the commercial feasibility of PPP projects, (ii) increasing the interest and participation of the private sector, (iii) attracting more quality bidders and reducing the cost of private financing, (iv) increasing the likelihood of a successful procurement process within the planned timeline, and (v) delivering public services at an affordable cost to the community.

To qualify for VGF, a PPP project must:

- Be economically viable but not financially feasible;
- Be based on the 'user pays' principle (i.e. not utilize AP);
- Have a total investment cost of not less than IDR 100 billion;
- Be held by a project company that obtained the project through an open and competitive bidding process;

- Include asset transfer and/or transfer of assets management from the project company to the GCA at the end of the project period;
- Be based on a comprehensive feasibility study/FBC.

VGF regulations should be amended to allow the Minister of Finance to issue an exception to the VGF 49 percent cap for projects or programs that satisfy economic and developmental criteria. The regulations impose a cap of 49 percent on the eligible share of VGF to overall construction cost for a particular project, irrespective of the sector. Sectors such as water and social infrastructure may require a larger proportion of public support for certain projects. The Minister should be permitted to issue an exception to this cap for a project or a program of projects, based on a set of objective criteria linked to economic benefit and developmental impact.

¹¹ Ministry of Finance Directorate General of Risk and Financial Management, www.djppr.kemenkeu.go.id.

¹² The legal basis for Viability Gap Funding in Indonesia is based on: Presidential Regulation No. 38/2015 on Public-Private Partnership in Infrastructure Provision, Minister of Finance Regulation No. 223/PMK.011/2012 on Provision of Viability Gap Fund, Minister of Finance Regulation No. 143/PMK.011/2013 on Guidance of Provision of Viability Gap Fund, Minister of Finance Regulation No. 170/PMK.08/2015 on the Amendment of Minister of Finance Regulation 143/PMK.011/2013, Minister of Finance Decree No. 340/KMK.011/2013 on Establishment of the VGF Committee, and Minister of Finance Decree No. 782/KMK.08/2015 on the Amendment of Minister of Finance Decree No. 340/KMK.011/2013.

G. Availability Payments

An Availability Payment (AP) is a periodic payment by a GCA to a private entity for providing infrastructure services that conform to the quality and criteria specified in the PPP agreement.¹³ These payments are

made during operation and therefore create a long-term obligation on the GCA. MoF must endorse the use of AP by a GCA. AP has been used on the Palapa Ring projects, and is currently under preparation for a number of toll roads and LRT projects. The benefits of using the AP instrument include: giving the GCA greater influence over the project through performance indicators tied to AP issuances; providing the project company (and lenders) with greater certainty of payment; protecting the private investor from demand risk, collection risk or user fee risk; and allowing the GCA to benefit from project revenues that are higher than anticipated, e.g. due to better than expected demand and toll collection.

Current regulations need to be amended to allow local government heads and parliaments to commit to multi-year obligations, without the need for annual

budget allocations to fund AP commitments.

The complexity of approving an AP at local government level creates specific constraints for AP. Local mayors and parliaments may not be able to approve commitments longer than the tenure of their mandate, and budgeting requirements may necessitate annual budget allocations to fulfill AP obligations. As discussed above, where a single window for engaging on AP issues is identified at central government level, this same entity may be made available for regional government AP design and approval to assist with the expertise, processes, and assessment models developed for these purposes.

The AP and VGF regulations should be amended to allow blending of these two government support instruments for a project. The regulations currently do not allow blending of AP and VGF, which means that using VGF to subsidize a portion of the AP for a PPP project is not allowed. This undermines the ability of investors to combine different types of government support as a package to achieve the greatest value for money.

¹³ The legal basis for APs is MoF Regulation No. 190/2015 on the use of availability payments for infrastructure finance and the Minister of Home Affairs Regulation No. 96/2016 on availability payments for regional infrastructure PPP.

¹⁴ World Bank. 2007. "The Macroeconomic Costs of Indonesia's Land Acquisition Delays," chapter in Compiled Reports of World Bank Land Acquisition Research in Indonesia. Internal Working Paper #69279 (Publicly available).

¹⁵ Presidential Regulation No. 40/2014, Presidential Regulation No. 99/2014, Presidential Regulation No. 30/2015, and Presidential Regulation No. 148/2015.

¹⁶ The use of independent, licensed appraisers to carry out land valuation and appraisal as established in Law No. 2/2012 is new to Indonesia. The gatekeeper of this profession is MAPPI (Masyarakat Profesi Penilai Indonesia) or the Indonesian Society of Appraisers, a self-regulating professional society. It is the only government-approved appraisal organization and is therefore responsible for supervising the education of appraisers in Indonesia, as well as for keeping the country's valuation standards in line with international standards.

¹⁷ Standar Penilaian Indonesia (SPI) 306.

¹⁸ There are three approaches to valuation. The market or sales comparison approach relies on market data to analyze information on comparable properties to arrive at an estimated value. The income approach is applied to income-producing sites,

H. Guarantees

The provision of guarantees to PPPs is administered by PT Penjaminan Infrastruktur Indonesia (the Indonesia Infrastructure Guarantee Fund, PT PII) in conjunction with the MoF. PPP guarantees aim to improve the creditworthiness of PPP projects. This could result in lowering the cost of financing, thereby encouraging the use of private financing for infrastructure projects. To date, PT PII has issued 16 guarantees for toll road, power, water, and telecoms projects.

MoF should provide guarantees for PPP projects, facilitated and structured by PT PII. The role and function of PT PII are discussed further in the Government Financing Institutions section below. PT PII's significant value added is its mix of skills, processes, and assessment models for reviewing projects, designing government support packages, and negotiating with investors on project terms. The cost of capitalizing PT PII outweighs the value of PT PII guarantees. PT PII should focus not on issuing guarantees, but rather on coordination of government support to PPP, including VGF, AP,

and MoF guarantees; helping GCAs design their support packages appropriately; and advising MoF on the best use of government support. PT PII should also help MoF assess and design guarantee packages for SOE projects, to ensure that MoF support is efficient and minimizes exposure of the MoF balance sheet.

Different government support instruments should be used together in a coordinated manner to achieve best value for money. Each government support instrument is designed to address different risks and constraints in PPP. Each has its advantages and disadvantages, and each has a different cost profile from government, SOE, and private perspectives. Government support instruments should be used together to ensure efficiency and the best combination to achieve desired results. Each instrument also has a different application and approval dynamic. This can be difficult to manage for GCAs; a mechanism should be provided to help manage the approval process and assist GCA and MoF alike in the proper assessment of application and design of approvals.

where income is divided by a market capitalization rate to arrive at a present value; this method is easily applied to rental property, where the net operating income is used to calculate annual income streams. The cost approach calculates land value by determining its residual cost once the land has been developed. The total site development costs include labor, construction materials, and infrastructure provision.

¹⁹ Interview with Okky Danuza, Board Member, MAPPI, 25th July, 2017.

²⁰ Presidential Decree 56/2017, reported in World Bank. 2007. Compiled Reports of World Bank Land Acquisition Research in Indonesia. Internal Working Paper #69279 (Publically available).

²¹ LMAN was created under Presidential Regulation No. 102/2016 on the Land Fund for National Strategic Projects.

²² Building the External Resilience of Indonesia. Presentation to the Investor Relations Unit, Bank of Indonesia, May 2017. <http://www.bi.go.id/en/iru/presentation/red/Documents/Presentation%20Book%20IRU%20-%20May%202017.pdf>.

²³ Prabowo, Dani. 34 Pengembang Tol Dapat Kucuran Dana Talangan. Kompas.com. 18 December, 2017. <http://properti.kompas.com/read/2017/12/18/200000521/34-pengembang-tol-dapat-kucuran-dana-talangan>.

²⁴ MoF Decree No.21/2017 on Land Acquisition for Strategic National Projects. Kompas, ADB Membiayai Proyek Bendungan: Jalan Tol Trans-Jawa Selesai Pertengahan 2018. Kompas, 7 October 2017. <http://www.pressreader.com/indonesia/kompas/20171007/281938838127179>.

I. State Asset Management Agency

Delays in acquiring land for infrastructure costs Indonesia an estimated USD 5–10 billion annually.¹⁴ The cost of land and the social cost of acquiring it can amount to up to 20–40 percent of project cost, but is often not accounted for in overall project costs. Delays in access to land is consistently ranked as one of the principle constraints to private investment in infrastructure in Indonesia.

Indonesia's Law No. 2 / 2012 on Land Acquisition for Public Purpose Development offers a strong legal grounding to acquire land in the public interest. Implementing regulations¹⁵ have since provided a formalized framework for proof of land ownership, reducing the time needed for processing appeals from landowners. The Indonesian Society of Appraisers (MAPPI)¹⁶ issued a new set of standards for Assessment and Valuation,¹⁷ which give assessors the flexibility to follow a variety of approaches when calculating compensation.¹⁸

Despite this progress, there remain significant obstacles to timely implementation of land acquisition. For example, the independent valuation process continues to be fraught with challenges. Higher levels of compensation for acquired land led to more scrutiny by auditors.¹⁹ Whether warranted or not, this increased scrutiny delays the land acquisition process. Further, valuation standards do not yet differentiate between project-affected persons in terms of vulnerability—those below the poverty line, the landless, the elderly, women and children, indigenous people, and ethnic minorities are offered the same compensation without any special provisions.²⁰

The new State Asset Management Agency (LMAN) has yet to make a significant impact.

MoF set up a new public service agency in late 2016²¹, partly to facilitate land acquisition funding. LMAN (or Lembaga Manajemen Aset Negara) is expected to expedite the financing process for land acquisition.²² The initial fund injection in 2017 was close to IDR 16 trillion (USD 1.2 billion), of which toll roads received the largest allocation of IDR 13.3 trillion, followed by railway infrastructure projects (IDR 3.8 trillion), dams (IDR 2.4 trillion), and port infrastructure (IDR 500 billion). The amount allocated for toll roads has since been augmented to IDR 25.3 trillion.²³ However, the funds are already insufficient. The government has therefore eased rules on who can buy land for infrastructure projects, now allowing SOEs and the private sector to pay for land designated

for PSN initiatives initially, with the government eventually repaying them through LMAN funds. However, information about the procedure and timing for repayment is neither clearly defined nor readily available. Also, should this funding method be chosen, the business entity is not entitled to receive the repayment of funding until after the land acquisition has been completed, thus placing the acquiring business entity at risk in cases where acquisition cannot be completed. In recent tenders the government continues to rely on the private sector to provide bridging finance for land acquisition.²⁴

LMAN funding needs to be sufficient to land requirements, and LMAN approval processes need to be fast-tracked.

Government should acquire all project land before financial close. This means allocating sufficient funds; the LMAN budget needs to match the speed of project development, as evidenced by the insufficiency of the budget allocated for the road sector. The process of approval of funding allocation from LMAN can be burdensome and slow.

An infrastructure SOE with good results acquiring land should be nominated as land acquisition champion. Despite the Law 2/2012 and its implementing regulations, more focus needs to be given to the process of land acquisition. In particular, a land acquisition champion should be identified, for example one of the infrastructure SOEs with a good record of land acquisition. This SOE would acquire land for the government for projects as and when needed for a fee.

Box 1.2: Land value capture

The increase in land value around an infrastructure asset can be captured to help offset the costs of that infrastructure asset. There are many mechanisms for land value capture. For example, the Provincial government of Jakarta allows companies to build in excess of the regulated Floor-Area to Land Ratio (KLB) in specific locations in Jakarta by levying compensation. The compensation is furnished “in-kind” by the company to the Jakarta provincial government in the form of assets, including but not limited to:

- Green space
- Public high-rise housing
- Water reservoirs
- Public infrastructure such as transport, road, drinking water, solid waste, electricity, urban facilities, education, health, park, sport facilities, etc.

As of August 2016, DKI Jakarta had negotiated “in-kind” compensation from 15 developers for a total asset value of nearly IDR 4.5 Trillion, or approximately USD 338 Million over the 8-month period from August 2015 to March 2016.

Municipal infrastructure provides extensive opportunities for land value capture, using public land as efficiently as possible, in particular for urban transport projects.

Source: Nailufar, Nibras Nada. “Keistimewaan Proyek Jalan Layang Semanggi yang Dirancang oleh Pengembang,” Kompas.com, 8 April 2016. DKI Jakarta Gubernatorial Regulation No. 119/2016; Lubabah, Raynaldo Ghiffari. “DKI setuju izin 15 perusahaan soal kelebihan bangunan,” Merdeka.com, 24 May 2016. Yudis. “DKI Dapat Rp3.8 Triliun Dari Kenaikan KLB,” HousingEstate.com, 8 August 2016. Jakarta Asset and Financial Management Agency. World Bank analysis.

J. PINA

Bappenas has launched an Investment Financing Non-Government Budget (PINA) initiative.²⁵ The purpose of PINA is to act as an intermediary, bringing investors such as pension funds together with B2B projects (that do not require government support). A PINA unit was recently established under Bappenas and staffed with personnel from the private sector to provide support to GCAs and help facilitate projects. To date, the unit has focused primarily on bringing private investors into brownfield projects by arranging sales of shares in SOE-held assets. The PINA unit is also exploring the development of new financing instruments that might appeal more to private investors, including a new fixed mutual fund (RDPT).

The role of intermediary between the market and viable projects must be undertaken responsibly, to ensure best practice to protect pension funds and other institutional investors from inappropriate pressure to finance projects. There have been troubling

suggestions around the current PINA initiative that pension funds and other public investors are pressured to finance B2B projects. Pension funds in Indonesia do not have the skills or expertise needed to make such investment decisions on infrastructure projects. It has also been suggested that PINA makes use of a high equity-to-debt ratio (i.e. 70 percent equity and 30 percent debt), in order to make projects bankable in the face of cautious banks. Such projects effectively deleverage the already very limited supply of equity available in Indonesia’s domestic capital markets, and place far too much risk on pension funds vulnerable to political influence. In addition, despite the requirement that projects proceed without any state support, some of these GCAs have been seeking to obtain downside PT PII guarantees, thereby creating a significant potential loophole in the governance structure created around PPP guarantees.

²⁵ PINA was first defined in Government Regulation No. 17/2017.



III. Government Financing Institutions

In recent years, government has developed a series of financing institutions and vehicles to support infrastructure development, including: (i) Indonesia Infrastructure Guarantee Fund (IIGF / PT PII), which provides government guarantees to promote infrastructure development, (ii) PT. SMI, with both preparation and investment functions, and (iii) Indonesia Infrastructure Facility (IIF), which invests in infrastructure through the private sector. This section provides a brief assessment of each institution.

A. Indonesia Infrastructure Guarantee Fund

Penjamin Infrastruktur Indonesia / Indonesia Infrastructure Guarantee Fund (PT PII) is mandated to provide guarantees to the private sector to cover the non-financial and certain financial obligations of central and local government counterparties for financially viable PPP projects. The Government through the Ministry of Finance established the PT PII on December 30, 2009 as an SOE, 100 percent owned by the Government.²⁶ It may only guarantee PPP projects which comply with Presidential Regulation No. 38/2015. PT PII is also mandated to work with international and multilateral institutions to guarantee large scale infrastructure projects.

PT PII was developed to improve the bankability of projects, provide transparent guarantees, ring-fence government contingent liabilities, and reduce the risk of sudden shocks to the state budget. This is reflected in the structured underwriting process implemented by PT PII, including consultation, screening, appraisal, and structuring to ensure the project is viable and represents value for money. PT PII is run as a commercial entity. It endeavors to work as a 'single window' for appraisal and structuring of guarantees for the Government. A list of current PT PII guarantees and those currently under preparation include projects in the transport, water supply, and energy sectors.

Private companies that receive the benefit of PT PII's infrastructure guarantee pay a guarantee fee. The detailed process for applying for a guarantee is stipulated in Presidential Regulation No. 78/2010 and Ministry of Finance Regulation No. 260/2010. The fees consist of an upfront fee based on the

project value and a recurring fee based on maximum exposure. Fee levels are determined by PT PII, reflecting project risk profile, guarantee coverage, and guarantee period.

PT PII is constrained by its capitalization, currently in the amount of around USD 450 million equivalent. It has used this capital to issue 16 guarantees for projects as diverse as toll road, power, water, and telecom projects. The value of guarantees needed for the PPP project program is significant. To the extent the Government seeks to attract more foreign investment, the amounts of guarantees will increase, and the capacity of PT PII will pale. MoF does not guarantee PT PII liabilities. Therefore, PT PII must hold reserves of capital against the value for outstanding guarantees, to give beneficiaries confidence that calls on those guarantees will be paid. Beneficiaries of PT PII guarantees must look to PT PII's own capital to assign a value to those guarantees. Foreign investors in particular will not attribute a very high value to PT PII guarantees as they will be less influenced by the PT PII relationship with MoF and will instead want to see financial substance supporting the guarantee obligations.

PT PII should place less emphasis on issuing guarantees, and should focus on the critical role it plays in supporting MoF by reviewing projects. The value of PT PII is not in its guarantees, but in its expertise, its review processes, and assessment models. PT PII should focus on assessing requests for Government support and designing the kind of guarantee, VGF, AP, and other support to be provided for a given transaction.

²⁶ The legal basis for PT PII is Presidential Regulation No. 78/2010 on Infrastructure Guarantee Facility of PPP Projects Conducted Through Infrastructure Guarantee Fund; Minister of Finance Regulation No.260/PMK.011/2010 on Implementation Guidelines for Infrastructure Guarantees in Public-Private Partnerships and Minister of Finance Regulation No. 8/PMK.08/2016 Amending Regulation No. 260/PMK.011/2010.

PT PII should advise MoF during project preparation, but should not be responsible for project preparation. The PT PII role in advising MoF during project preparation is critical to ensure engagement of MoF and coordination of Government support. If PT PII is responsible for funding or delivering project preparation, then it risks conflict of interest when reviewing projects that it has prepared to assess whether those projects represent value for money and should be allocated Government support.

PT PII should help assess and structure guarantees for other infrastructure projects, for example Government guarantees for SOE projects. PT PII has specific and important skills in assessing and designing guarantees for infrastructure. MoF does not have significant expertise dedicated to assessing and structuring SOE guarantees. PT PII could provide such support.

B. PT SMI

PT. Sarana Multi Infrastruktur (PT SMI) (BBB-Fitch) is an infrastructure financing company that provides development and advisory services; debt, mezzanine, and subordinated capital; and equity to infrastructure projects.

PT SMI is 100 percent owned by the Ministry of Finance, with total assets of IDR 33 trillion (USD 2.4 billion) and recent lending commitments of IDR 23 trillion (USD 1.7 billion). PT SMI investments include Tenayan Coal-Fired Power Plant; Tanjung Uncang Gas-Fired Power Plant; Molotabu Coal-Fired Steam Power Plant; Karangasem Public Hospital; Palembang-Indralaya Toll Road; Container Terminal Palaran; Umbulan Water Supply Project; and Cikopo-Palimanan Toll Road and have delivered 1,504 Mw of power generation, 10,140 liters/sec of water treatment, 1,413 km of road, 37.5 million passenger/annum capacity of airports, 2.26 million TEU/annum, 43 new hospital rooms, and 2,700 km of fiber optic cables.

In addition to being a key PDF implementer, it also plays an active role in facilitating infrastructure financing. PT SMI is organized into three units: the Financing & Investment unit as a complement of banking services, provides alternative funding options for infrastructure development; the Advisory Services unit

helps clients to develop strong and impactful investments in infrastructure through professional consultancy and advisory; and the Project Development unit helps to develop infrastructure through comprehensive and rigorous preparation. PT SMI also has a Sharia unit that provides financing, investment, and advisory services.

PT SMI needs to scale up significantly to respond to demand and deliver its strategic role in infrastructure. PT SMI is being asked to take on an increasingly large portfolio of activities for the government, including managing PDF support, the Regional Infrastructure Development Fund, key programs in urban transport, and other infrastructure programs. Looking forward, PT SMI will need increased human capital, with greater numbers of staff and specialized knowledge in PPP development, finance, and project management, to perform these critical tasks effectively. PT SMI's role is likely to evolve as new gaps are identified, for example stand-by capital facilities to stretch financing tenors. These new instruments will require new skills and capacity from PT SMI staff.

C. Indonesia Infrastructure Finance

PT. Indonesia Infrastructure Finance (PT IIF) is a private entity established in January 2010 owned 30 percent by PT SMI and 70 percent by a consortium, comprising Asian Development Bank (ADB), International Finance Corporation (IFC), Deutsche Investitions-und Entwicklungsgesellschaft mbH (DEG) and

Sumitomo Mitsui Banking Corporation (SMBC) in varying amounts. Both the World Bank and the Asian Development Bank (ADB) provided loans of USD 100 million each through PT SMI for the setting up and capitalization of PT IIF.

PT IIF provides lending to viable infrastructure projects in domestic currency.

It raises loans in the domestic market using its good credit rating and by providing financial products for PPP and private projects. PT IIF provides debt, mezzanine and subordinated capital, and equity to infrastructure projects. PT IIF has total assets of IDR 5.5 trillion (USD 0.4 billion) and recent lending commitments of IDR 3.3 trillion (USD 0.25 billion) split between IDR and USD commitments. PT IIF investments include 1900 Mw of power generation, 116.75 km of roads, 1676 km of fiber-optic cable, 4,000 liters/second water treatment capacity, 5 airports increasing capacity by 46 million passengers/annum, and increasing port capacity of over 2 million TEU/annum. PT IIF also acts as a strategic advisor to the Government, as well as a transaction manager and lead arranger for infrastructure projects.

PT IIF's critical role is to complement existing players in the infrastructure finance market, to mobilize different sources of capital and fill any gap in the market.

PT IIF is expected to operate as a commercial enterprise with rates and fees charged in accordance with market practices. But its business is not that of most financiers in the market. It is tasked to identify gaps in the market and unexploited sources of capital. PT IIF then develops new instruments to address those gaps. For example, PT IIF is currently considering a stand-by capital facility intended to mitigate foreign exchange risk.

Box 1.3: Environmental and social risk management at PT IIF

Commercial financing takes a long-term perspective on investment value, so sound management of E&S performance is of key importance to attracting high-end financiers from international markets. For example, the Equator Principles are a set of social and environmental benchmarks that have been adopted by most international banks for managing E&S risks in project financing transactions. International financiers, like the IFC, require projects to comply with E&S requirements. Failure to design projects with E&S considered may undermine future efforts to refinance projects, or to finance project extensions.

To achieve sound management of E&S risk, Indonesia needs to:

- Promote sustainability principles (e.g. Equator Principles) to subnational banks and institutions; and
- Enforce environmental and social regulation in an enabling way, especially in peripheral/remote areas of Indonesia.

As an example of the kind of E&S framework that Indonesia should implement, PT IIF has a SEMS (Social and Environmental Management System) in place to screen and evaluate proposed sub-projects and to monitor E&S implementation for active sub-projects. This system has been expanded also to screen potential future projects in terms of E&S risks and overall sustainability. The SEMS is tailored to manage and safeguard risk for the full range of financial products offered by PT IIF, including fund-based and non-fund-based products, as well as guarantees. A range of investors (including, for example, pension funds from Hong Kong) are interested in PT IIF's commitment to E&S assessment and management, perceiving this to be a contribution to a more sustainable, lower-risk investment portfolio, providing higher security to their investors. PT IIF's commitment to a quality E&S framework will open opportunities to attract investment from foreign and institutional investors.

IV. Contingent Liabilities

A. Contingent liability management

Provision of government guarantees is centralized at MoF and a Presidential decree is required for any credit guarantees issued by MoF; these are only granted to State Owned Enterprises (SOEs). Line ministries are not authorized to provide guarantees or other forms of government commitments that may create additional contingent liabilities.²⁷ Thus, there should be no unaccounted explicit contingent liabilities.²⁸

MoF has little discretion to reject applications for SOE credit guarantees, which are issued by request of the President. Requests for credit guarantees are received by the State Risk Management Directorate (Direktorat Pengelolaan Risiko Keuangan Negara - DPRKN) in the Ministry of Finance's Directorate General of Budget Financing and Risk Management (DGFRM). DPRKN verifies the legal basis for issuing the credit guarantee (and if there is no legal basis, proposes a change in regulations to create it) and conducts a financial analysis of the beneficiary. MoF issues the credit guarantee on the advice from DPRKN. Given the managerial structure whereby guarantees are issued subject to an explicit request from the President, credit guarantee applications are generally approved by MoF if they meet the program criteria.

Risk management activities at MoF currently focus on measuring, reporting and provisioning for risks, and less so on selecting the appropriate risks for the government to underwrite in the first place. For PPP-related guarantees, MoF may be involved in determining the risk coverage through the Government Support and Infrastructure Financing Management Directorate (Direktorat Pengelolaan Dukungan Pemerintah dan Pembiayaan Infrastruktur - DPDPPI) within the DGFRM, but it is expected that MoF would provide the guarantees that PT PII deems are required for specific projects.

Quantification of portfolio risks remains a challenge, with current practice favoring SOEs. Once issued, credit guarantees are monitored and managed by the Directorate of Financing Strategy and Portfolio (Direktorat Strategi dan Portofolio Pembiayaan - DSPB), also within the DGFRM. MoF presently uses an internal credit rating (ICR) model that assigns an internal corporate credit rating to each SOE based on qualitative as well as quantitative inputs.²⁹ Previously, it relied on external credit rating agency scores. The ICR is used to assess the level of credit risk to which the government is exposed; analyze credit risk factors including regulatory, business, operational, and financial risks; and inform the development of a risk mitigation plan.

The government charges guarantee fees only for PPP-related guarantees. No fee is charged for guarantees under other infrastructure programs. The government's rationale for this practice is that projects under PPP schemes should be financially viable and therefore able to pay the guarantee fees. Under other guarantee schemes, MoF considers such guarantees as one of the facilities provided to SOEs to deliver the projects that the Government assigns to deliver and does not charge any guarantee fee. This practice, however, may create the unintended consequence of further increasing the SOEs' role in provision of infrastructure investments. In the case of credit guarantees, in lieu of charging a guarantee fee to the beneficiary SOE, DPDPPI proposes budget allocations for contingent liabilities from government guarantees to be set based on an estimation of expected losses. If not used for the undertaking of guarantees in a given budget year, allocated resources are then transferred to a contingency reserve fund. This reserve account acts as a buffer for future government payments under guarantee agreements ensuring timely payment and minimizing significant adverse impacts on the budget in a given year.

²⁷ For example, side letters provided by line ministries may create such unaccounted contingent liabilities. However, there should be no such cases during the past decade since MoF strengthened its institutional capacity and the framework for public debt management.

²⁸ We distinguish explicit contingent liabilities as those defined by a law or contract, versus implicit liabilities where governments are compelled to act not in a legal sense, but based on public expectations or political pressures.

²⁹ Using the scoring model, MoF first assigns an internal numerical score based on quantitative and qualitative inputs. The numerical rating is converted to letter ratings that correspond to those of the international rating agencies. Then the default probability is obtained using the international rating agencies' default probability tables.

B. Disclosure and current exposure from existing guarantees

MoF has a good record of outstanding guarantee obligations. The scope of contingent liability management is limited to explicit government credit and PPP-investment guarantees.³⁰ MoF is also responsible for managing these contingent liabilities. Contingent liabilities from the government's guarantees are disclosed as a part of the fiscal risk statement.

The amount of committed government guarantees is relatively modest at current levels, but it has been increasing. The Government sets a Maximum Guarantee Limit (BMP) for managing government guarantees, regulated by MoF decree No. 222/

KMK.08/2016. The BMP for the period 2014-2016 was set at 2.57 percent of GDP (approximately IDR 352 trillion). For 2017-2020, the limit has been revised upward to 6 percent of GDP. In 2014-2016, BMP realization amounted to IDR 132 trillion or 1.06 percent of GDP in 2016, while the realization of the project guarantee of FTP1, FTP2, taps, Direct Lending, Toll Sumatra and PPP from 2008 to 2016 amounted to 2.52 percent of GDP or total nominal IDR 314 trillion.

C. Growth trajectory of contingent liabilities

The volume of government guarantees is projected to continue to grow. First, the government has started allowing direct lending by bilateral and multilateral development financial institutions (DFIs) to the SOEs with sovereign guarantees in lieu of on-lending DFI loans. Given the DFI loans currently amount to over

USD 50 billion (slightly over 20 percent of the total outstanding central government debts in 2016), this shift of the DFI financing mechanism will gradually increase the balance of the government guarantees. Table 1.2 summarizes the current firm pipeline of government guarantees for DFI lending to PLN.

³⁰ However, there is a tacit understanding that the Government will provide necessary financial support to prevent any default by SOEs on their obligations which were guaranteed by the Government.

Table 1.2: Government guarantees on direct DFI loans to PLN

Outstanding					
No.	Project Name	Project Cost (USD million)	Lender	SOE	Status
1	Sumatera Power Transmission and Distribution	600	ADB	PT. PLN	Guarantee is effective
2	Sumatera Power Distribution	500	World Bank	PT. PLN	Guarantee is effective
Pipeline					
No.	Project Name	Lender	Loan Amount (USD million)		
1	West-Central Java Transmission Line	JICA	500		
2	Enhancement of the Electricity Grid	IDB	300		
3	Gas-Fired Power Plant	ADB	500		
4	Strengthening of Transmission in East Indonesia (RBL Scheme)	ADB	600		
5	1,000 Islands Renewable Energy for Electrification Program	KFW	300		
6	Strengthening of Transmission in Sumatera 2 (RBL Scheme)	ADB	500		
Total				2,700	

V.

Recommendations

A. Institutions

(i) Short term

Bappenas should develop model project proposals, establish criteria used to assess those proposals, and send PPP project proposals back to GCAs and ask for more information if they are incomplete or not of good enough quality.

Establish a revolving fund (under a BLU) for the PDF under the MoF PPP Unit, headed by the PPP Unit head. The PDF is currently dependent on MoF budget allocations for funding. To facilitate the recycling of development funds from closed projects to future projects, to allow funding to roll over from one budget cycle to the next, and to ensure that experienced advisers can be hired through the PDF without fee caps, it is recommended that MoF create a separate fund (a BLU) to manage the PDF.

Increase capacity of MoF PPP Unit staff through secondments and engagement in PPP transaction preparation, and elevate the Unit head of the MoF PPP unit to an Echelon One position. To ensure that only good projects are brought to FBC stage, and to ensure that GCAs and other authorities support the project preparation stage to their fullest ability, the head of the MoF PPP Unit must be a strong political figure.

Develop standard operating procedures (SOPs) for the Joint Office, agreed among its members, to coordinate the SOPs adopted by Bappenas and MoF and to maximize the benefits of the Joint Office.

Modify processes and coordinate among responsible agencies to clear funding for land acquisition quickly and early, identify an infrastructure SOE to act as champion for acquiring land needed for infrastructure projects, for a fee.

Ensure that good practice risk allocation is adopted for projects, to be attractive to private investors, and develop model concession agreements for key sectors.

These should pass through a consultation process with potential domestic and foreign investors. Appoint additional entities that can act as agents for the PDF (in addition to SMI), to diversify the skill sets and staffing available to deliver PDF assignments.

Allow the Minister of Finance to permit the 49 percent cap on VGF to be exceeded for certain exceptional projects or programs, and allow VGF and AP to be used in the same project.

Strengthen project preparation capacity in the GCAs, possibly by setting up internal project preparation units for those GCAs that plan to carry out multiple projects.

Adjust the role of PT PII so that it no longer prepares projects and does not focus on issuing guarantees, but is responsible for coordinating, assessing, and designing packages of government support (including guarantees, VGF, and AP) for PPP projects for MoF and advising MoF on SOE guarantees to ensure that MoF gets best value for the public support provided and uses its balance sheet efficiently. PT PII's capital is insufficient for the fund to act as the sole source of guarantees. Given the level of guarantees required, its capital resources will probably never be sufficient.

Strengthen the role of Bappenas in supporting project selection. Bappenas should focus more on helping GCAs identify suitable projects, providing capacity and training in project development, and assisting the GCAs to prepare PDF funding submissions, including by creating model project concept notes for submission to Bappenas for screening.

(ii) Medium term

Review the complexity of regulations and accounting standards for VGF and AP to ensure that VGF and AP application processes are efficient and have the desired financial impact.

(iii) Long term

Consolidate government support instruments within MoF (e.g. VGF and AP funding, guarantees) under a single entity responsible for approval and disbursements (including a BLU to enable such funds to roll from one budget year to the next).

B. Project preparation

Create a model concept note to define expectations for the very early preliminary information required from GCAs, before an OBC is undertaken.

Consolidate the different lists of projects, creating a single coordinated list issued by the Joint Office, with a focus on due diligence and quality.

Develop a dashboard that collects information on PPP projects under preparation, transaction, and implementation, to be monitored by senior government officials, e.g. by the President's or Vice President's office. Revise PPP regulations, including Presidential Regulation No. 38/2015, to simplify the OBC to function as a preliminary assessment as per international practice.

Mandate a land champion to ensure complete acquisition of 100 percent of land required before financial close.

C. Contingent liabilities

Implement a scenario-based risk valuation framework to gain deeper insight into contingent liabilities from government guarantees. MoF is currently implementing scenario-based and stochastic models to determine key risk drivers and how these risk drivers may affect the expected loss estimates. Such scenario-based and stochastic models will help MoF to gain deeper insights into the risks of their contingent liability portfolio.³¹ They should also help MoF to measure contingent liabilities from other types of guarantees other than credit guarantees and play more proactive roles in enabling PPP projects.

Develop the content of risk reports on contingent liabilities from government guarantees by describing key risk drivers and how they affect the magnitude of the risks that the government faces. This will help policy makers to make more informed decisions in setting the relevant limits for government guarantees.

Analyze the current volume-based ceiling for government guarantees to assess whether

a more appropriate mechanism might be implemented to manage MoF risk better. As the government starts offering a wider variety of guarantees and risk sharing instruments other than credit guarantees to a broader range of projects, it will become increasingly difficult to manage contingent liabilities through a volume-based ceiling. In addition to a notional volume limit, including a set of risk parameters would provide more granular information on the risks the government faces.³² This set of risk parameters would also help evaluate the effectiveness of different guarantee types in mobilizing private financing for each project.

Amend regulations to provide for MoF to shift from credit guarantees for SOEs to guarantees that cover the government's own contractual obligations and performance risks. Guarantees on risks that the Government can directly control would be more manageable and thus pose less risk to MoF. In contrast, credit guarantees on SOEs involve many risks that MoF cannot directly control, such as sound business strategy and financial management at each SOE.

³¹ These models will also help measure the contingent liability from the guarantees extended to cover PT Hutama Karya's debts, since credit scoring models would not be useful when newly assumed infrastructure investments would significantly alter the borrower's business as well as the balance sheet, like the case of Hutama Karya.

³² An example of a risk parameter to include could be setting a maximum loss under a given confidence interval

IV.

Summary Roadmap for Bringing Projects to Market

BRINGING PROJECTS TO MARKET ROADMAP			
Activity Pillar	Short-term	Medium-term	Long-term
<p>Pillar 1: Reforming and increasing the capacity of key institutions to facilitate the development of a robust PPP project pipeline.</p>	<ol style="list-style-type: none"> 1. Bappenas develops a Model Concept Note for all project proposals, establishes criteria to assess those proposals, and issues Guidelines under a revised Bappenas Regulation 4/2015 to facilitate GCA compliance with the project proposal requirements. 2. MoF establishes a revolving fund under a BLU for the PDF. 3. MoF amends, or repeals and replaces, ministerial regulations and decrees¹ on the establishment and organization of the PPP Unit to provide that the head of the PPP Unit shall be an Echelon One official. 4. Joint Office issues Standard Operating Procedures (SOPs). 5. MoF assesses the LMAN Regulations² to identify any constraints on the ability to clear funding for land acquisition quickly and early. 6. MoT, with support from MoF, issues Model Concession Agreements for use in port, airport, and LRT projects. 7. MoF appoints additional entities that can act as Agents for the PDF (in addition to SMI), to diversify the skill sets and staffing available to deliver PDF assignments. 	<ol style="list-style-type: none"> 1. MoF assesses the complexity of regulations and accounting standards for VGF and AP to ensure that VGF and AP application processes are efficient and have the desired financial impact. 	<ol style="list-style-type: none"> 1. MoF considers issuing a regulation to consolidate the Government Support Instruments (e.g. VGF and AP funding, guarantees) within MoF under a single entity responsible for approval and disbursements (including creation of a BLU to enable such funds to roll from one budget year to the next).

¹ The relevant ministerial regulations and decrees include: PMK 206/2014; KMK 269/2016; and KMK 454/2017.

² The relevant regulations include: Presidential Regulation 102/2016 (creating LMAN) and MoF PMK 21/2017 (implementation).

Activity Pillar	Short-term	Medium-term	Long-term
	<ol style="list-style-type: none"> 8. MoF amends regulations on VGF, AP, and PDF³ to: (i) Allow VGF and AP to be used in the same project; (ii) Allow Minister of Finance to permit the 49% cap on VGF to be exceeded for certain exceptional projects or programs; and (iii) Allow the PDF to fund early project preparation, including OBCs. 9. PT PII issues revised Strategy for Coordinating, Assessing and Designing Government Support Packages (including guarantees, VGF, and AP) and advises on SOE guarantees to ensure that MoF gets best value for the public support provided and uses the MoF balance sheet efficiently. 		
<p>Pillar 2: Facilitating project preparation to mobilize more private sector investment, foreign and domestic.</p>	<ol style="list-style-type: none"> 1. Bappenas, pursuant to a revised Bappenas Regulation 4/2015, issues a Model Concept Note to define expectations for preliminary information required from GCAs. 2. Bappenas, in coordination with the Joint Office, issues a consolidated PPP Project List. 3. MoF launches a PPP Project Dashboard that collects information on PPP projects under preparation, transaction, and implementation. 4. MoF and Bappenas revise the Regulations on OBC Requirements,⁴ to simplify the OBC to function as a preliminary assessment as per international practice. 		
<p>Pillar 3: Improving the management of contingent liabilities to ensure optimal value from the use of guarantees.</p>	<ol style="list-style-type: none"> 1. MoF issues Guidelines on the Use of Scenario-based Risk Valuation. 2. MoF issues Guidelines on the Content of Risk Reports on Contingent Liabilities from Government Guarantees, which describe key risk drivers and how they affect the magnitude of the risks that the government faces. 	<ol style="list-style-type: none"> 1. MoF issues a Report on the Current Volume-based Ceiling for Government Guarantees, to assess whether a more appropriate mechanism might be implemented to better manage MoF risk. 2. MoF amends regulations to deprioritize credit guarantees for SOEs in favor of guarantees that cover the Government's own contractual obligations and performance risks. 	

³ The relevant ministerial regulations include: PMK 223/2012 (provision of VGF); PMK 143/2013, as amended by 170/2015 (VGF guidelines); PMK 190/2015 (implementing AP); PMK 260/2016 (AP procedures); and MoF PMK 265/2015, as amended by MoF PMK 129/2016 (PDF).

⁴ The relevant regulations include: Presidential Regulation 38/2015 and Bappenas Regulation 4/2015.





Chapter 2

**The Role of
State-owned
Enterprises in
Infrastructure**

I.

Introduction

The Government of Indonesia (GoI) has embarked on an ambitious program for accelerating infrastructure development to foster long-term growth and shared prosperity. The National Medium-Term Development Plan estimates that IDR 5,452 trillion (USD 415 billion) of additional investments are needed for 2015–2019,¹ mostly for transport, electricity, and water. The plan is for central government to finance 22 percent of the investment needs, subnational government 19 percent, state-owned enterprises (SOEs) 22 percent, and the private sector 37 percent.

To date, the government has relied largely on public expenditures and on SOEs to deliver its infrastructure agenda. SOEs have historically played a prominent role in infrastructure, providing important oversight, development, and operating roles in key sectors, such as energy, roads, water, ports, and airports. Driven by the urgent need to create new capacity, in recent years the government has given SOEs an even more prominent role in infrastructure by directly assigning projects to them, often with capital injections or government guarantees. Compared to the private sector, SOEs are seen to deliver on infrastructure priorities more quickly, display a higher tolerance to regulatory and financial risks, overcome barriers more easily with respect to land acquisition and other bureaucratic inefficiencies, and be more willing and able to take on commercially non-viable projects as part of their developmental mandates.

The government's medium-term development plan indicates that SOEs alone cannot meet Indonesia's infrastructure needs. State funding for SOEs through equity injections and other forms of direct and indirect subsidies is no longer financially sustainable, constrained by the low tax-to-GDP/revenue ratio and by the single borrower limits of local banks. In meeting infrastructure targets, the Committee for Acceleration of Priority Infrastructure Delivery (KPPID) has also highlighted constraints in SOEs' funding sources, as well as gaps in other sources of funding, such as government-

to-government deals. Aside from funding constraints, SOEs also do not always have the management capacity to carry out assignments in a timely and efficient manner.² Having grown rapidly in size since 2014, the biggest construction company, Waskita Karya, for example, had several construction accidents over the past two years as technical and operational aspects related to work and safety suffered due to its rapid expansion, resulting in the temporary suspension of projects with elevated works.³

Closing the infrastructure gap will therefore require increased private sector involvement but progress on this front has been slow.

To address the infrastructure deficit, SOEs, in addition to going to the capital markets, will need to bring in the domestic and foreign private sector to help raise capital and bring in the expertise, technology, and know-how needed for more efficient infrastructure development.⁴ However, private participation has declined over the past few years, with its share in infrastructure investment falling from an average of 19 percent in 2006-2010 to 9 percent in 2011–2015. During this period, several projects have been directly assigned to SOEs, including those that were initially to be privately financed and implemented, such as the Trans-Sumatra Highway, the Soekarno-Hatta International Airport rail link in Jakarta, the Makassar New Port in South Sulawesi, and the management of small airports. The low level of private participation is partly due to the constraints in the broader enabling environment and the lack of viable projects on the market, but the dominant role of SOEs in infrastructure is a key factor.⁵

GoI is exploring steps to signal its commitment to private investment and pave the way for a more balanced approach between SOEs and private sector financing.

The Ministry of State-Owned Enterprises (MSOE) recently unveiled a USD 70 billion portfolio of SOE investment opportunities to attract private participation through the

¹ RPJMN 2015-2019

² Smith, Julian, Rizal Satar, Agung Wiryanan, Tim Boothman, and Graeme Harrison. 2016. *Indonesian Infrastructure: Stable Foundations for Growth*. PwC Indonesia.

³ Jakarta Post. 2018. "SOEs in hot water after accidents." March 1.

⁴ For more complete analysis on the need for private participation, see the Macroeconomic Context section above and Chapter 3 on Financial markets.

⁵ Broader constraints that inhibit private investment and which are not covered in this chapter include a complex legal landscape for PPPs, involvement of multiple actors, lack of a standardized process for project identification and preparation, and limitations in debt and equity markets that make it difficult to access long-term local currency financing. Lack of commercial viability, combined with insufficient government funding to fill the viability gap (discussed in greater detail below), could also suppress private sector participation even without the presence of SOEs.

- ⁶ Rahayu, Juwita Trisna. 2017. "Proyek transportasi dikerjasamakan asing bukan berarti dijual." Antara News, November 12. <https://www.antaranews.com/berita/664353/proyek-transportasi-dikerjasamakan-asing-bukan-berarti-dijual>.
- ⁷ Dahrul, Fathiya and Yudith Ho. 2017. "Easy cash ends as SOEs asked to embrace market." Jakarta Post, December 5. <http://www.thejakartapost.com/news/2017/12/05/easy-cash-ends-as-soes-asked-to-embrace-market.html>.

full spectrum of bonds, public offerings, securitizations, and equity stakes in SOE projects in key sectors, such as energy and transportation, but has not made progress on closing transactions with the private sector. The Ministry of Transport (MoT) also recently announced a list of mixed-equity projects in airports and ports with 51 percent state ownership and 49 percent private sector participation, which also has not seen progress on closing transactions.⁶ To accelerate and make these efforts successful, the government has taken steps to level the playing field, announcing in December 2017 that, going forward, SOEs will be expected to raise financing through financial markets rather than rely on government financial support.⁷

Increasing private sector involvement will require specific measures to support SOEs and line ministries to partner with the private sector. Efforts will need to focus on improving SOE performance and meeting the needs of investors for efficiency, good governance, and

transparency. As discussed in the rest of the chapter, concrete measures will be needed in four specific areas: (i) incentivizing SOEs, and ministries, to bring in private partners into projects; (ii) creating an enabling legal environment and a level playing field to ensure that SOEs operate commercially on an equal footing with the private sector; (iii) ensuring sound governance arrangements for SOEs in general as well as for joint projects with the private sector; and (iv) leveraging SOE assets and accelerating asset recycling.

The chapter is organized as follows. Section II highlights the role and performance of the overall SOE sector and of infrastructure SOEs, focusing on SOEs in energy, transportation, and water sectors. Section III expands on the key constraints to private investment and the measures needed to alleviate the constraints and increase private investment. Section IV provides a preliminary roadmap for creating partnerships between SOEs and the private sector.



II.

Role and Performance of SOEs

A. SOE sector overview

The SOE sector in Indonesia consists of 142 majority or wholly-owned SOEs and hundreds of subsidiaries. SOEs are classified into two types. Most SOEs (115 of the 142) are limited liability companies (Persero) that are profit-making entities and operate under the Company Law.⁸ These include SOEs in key infrastructure sectors, such as energy, transportation, and telecommunications, as well as in sectors such as construction, oil and mining, banking, and manufacturing. Twenty of these SOEs are listed on the Indonesian Stock Exchange (IDX), accounting for IDR 1,451 trillion or 25 percent of total market capitalization. The remaining 27 SOEs are special purpose entities established by special regulation with mixed public service and profit-making objectives (Perum). Most infrastructure SOEs are Persero, save for water management and some transportation SOEs that are Perum.

SOEs play a significant role in the Indonesian economy. In 2016, total SOE assets amounted to IDR 6,469 trillion, equivalent to slightly more than 50 percent of GDP, a significant increase compared to slightly more than 40 percent in 2013.⁹ SOE equity holdings amounted to

IDR 2,226 trillion, equivalent to 40 percent of total Gol assets. SOE equity represents the government's permanent investment as recorded in the Central Government Financial Statement for the past two years of the current administration.¹⁰ SOE capital expenditures consistently exceed those of the state budget, with projected expenditures of IDR 468 trillion in 2017, compared to IDR 293 trillion in 2016. The sector employs some 1.1 million people.

SOE assets and equity have increased over the years, but SOE revenues have fluctuated and profits have remained flat since 2009.

Revenues grew consistently between 2010 and 2014, dropped slightly in 2015, and saw a recovery in 2016 (Figure 2.1).¹¹ The share of SOE revenues as a percentage of GDP has declined over the years, from 22 percent in 2013 to approximately 15 percent in 2016. SOE profits have been flat since 2009 as a share of GDP, with a slight spike in 2015 due to large asset revaluations.¹² Listed private companies generally outperform listed SOEs in terms of return on equity (ROE) and return on assets in key infrastructure sectors (Figure 2.2).

⁸ Law No. 40/2007 on Limited Liability Companies, also known as "the Company Law".

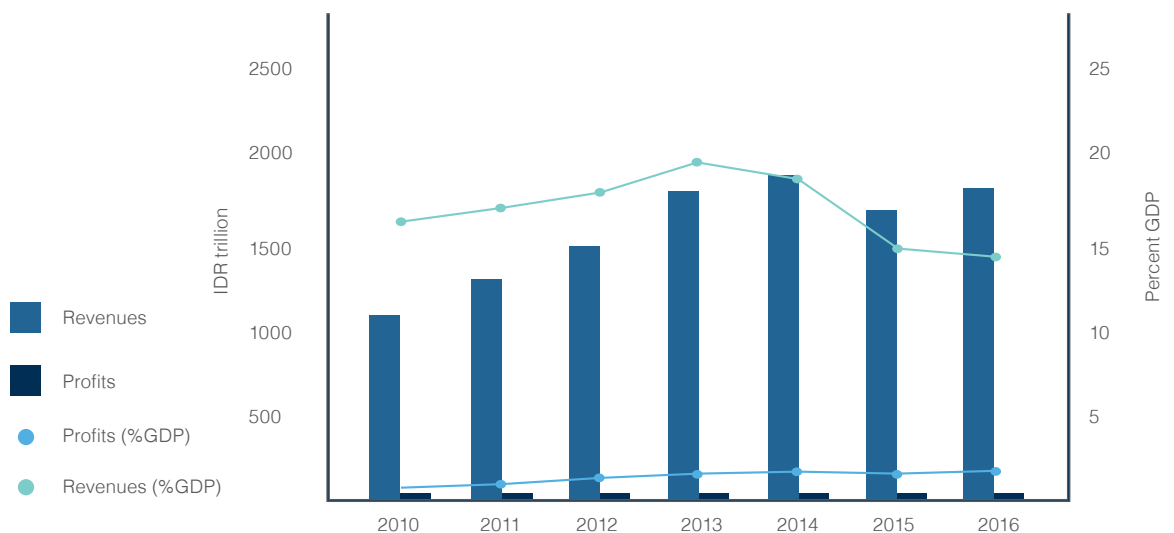
⁹ Ministry of State-Owned Enterprises, Strategic Plan 2015-2019; Tempo. 2017. "Aset BUMN 2017 Diperkirakan Naik 11 Persen." February 7. <https://bisnis.tempo.co/read/843706/aset-bumn-2017-diperkirakan-naik-11-persen>.

¹⁰ Central Government Financial Statements are audited by BPK (Indonesia's Supreme Audit Agency).

¹¹ World Bank. 2017. *Indonesia Economic Quarterly, October* issue.

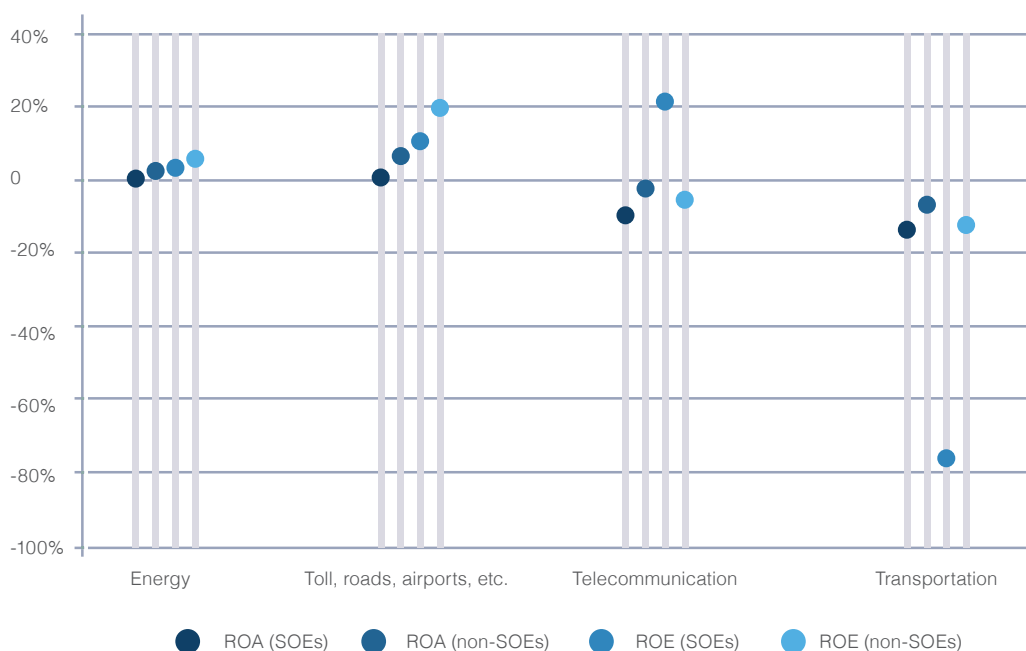
¹² Ministry of State Owned Enterprises. 2016. Annual Report.

Figure 2.1: SOE revenues have declined and profits have remained flat as a share of GDP



Source : Ministry of SEOs and press reports, World Bank staff calculations.

Figure 2.2: Return on equity and return on assets by sector



Source : Indonesian Stock Exchange (August 2017), World Bank staff calculations.

Over the past two years, SOEs have overachieved against some financial performance indicators and underachieved against others. SOEs performed well in relation to targets for return on assets, return on equity, and profitability, but underachieved on targets for capital expenditure and contributions to the state through tax and dividend payments (Table 2.1). In 2016, SOE contributions from tax and dividends amounted to IDR 163 trillion and

IDR 36 trillion, respectively. The MSOE SOE Performance Report does not state the type of tax, how the target is determined, or whether it is based solely on corporate income tax or also includes other taxes, such as value added tax. Details of how much is expected from taxes and dividends are also not available and the report provides no analysis of why the targets were not achieved.

Table 2.1: SOEs' achievements against financial performance targets 2015–2016

Indicators	2015			2016		
	Target	Actual	Achievement	Target	Actual	Achievement
Assets	+12%	+19%	158%	5,632	6,469	115%
Profit	+8%	+26%	325%	143	176	123%
Equity	+12%	+62%	517%	1,340	2,266	123%
Capital Expenditure	+24%	+11%	46%	401	293	73%
State Budget Contribution	227	213	94%	224	200	89%
SOE included in:						
Forbes 2000	11 firms	5 firms	45%			
Global Fortune 500				3 firms	2 firms	67%

Source: 2016 Ministry of SOE Performance Report and 2016 Ministry of SOE Annual Report
 Note: Figures in IDR trillion unless otherwise indicated

MSOE does not include performance on debt or any ratio related to it as part of SOEs' KPIs.

SOE total debt in 2016 grew by 15 percent to IDR 4,203 trillion. Although debt is not part of the KPIs, the ministry set the target for 2017 at IDR 4,643 trillion. The average debt-to-equity ratio (DER) of SOEs was 1.89 in 2016. Table 2.2 below presents information on the debt and equity of select infrastructure SOEs. Some SOEs' liabilities are over twice their equity, for example in the case of construction companies, a toll-road company, and one of the ports.

Table 2.2: Debt and equity of select infrastructure SOEs in 2016

	Debt (in IDR billion)	Equity (in IDR billion)	DER
PT PLN	393,779	880,798	0.45
PT Adhi Karya	14,653	5,443	2.69
PT Jasa Marga	37,161	16,339	2.27
PT Waskita Karya	44,652	16,773	2.66
PT Wijaya Karya	18,598	12,499	1.49
PT Hutama Karya	16,466	7,546	2.18
PT PP	20,437	10,796	1.89
PT Pelindo I	3,000	4,301	0.70
PT Pelindo II	31,560	11,912	2.65
PT Pelindo III	12,536	9,645	1.30
PT Angkasa Pura I	11,669	11,997	0.97
PT Angkasa Pura II	8,064	19,928	0.40

Source : 2016 Ministry of SEOs Annual Report

SOEs have sought to fund expansion through borrowings as they are unable to fund investments from operating cash flow.

At the end of 2017, Bank of Indonesia estimates that SOEs (including state banks) accounted for 7.2 percent of bank loans and 19.3 percent of external debt.¹³ These shares could be rising as SOEs continue to borrow to fund major infrastructure projects, while taking on more risk and incurring debts. Waskita

Karya, for example, bought a stalled toll road concession from private investors in 2014 and since then has bought more than a dozen toll road concessions rather than limiting itself to construction work. Consequently, the company's debt stood at IDR 65.7 trillion as of September 2017, double that of last year. Debt at seven other listed infrastructure-related SOEs reached approximately IDR 200 trillion in September 2017, triple the sum from three years ago.¹⁴

¹³ Bank Indonesia. 2018. Indonesia Economic and Finance Statistics (SEKI). www.bi.go.id.

¹⁴ Today. 2017. "Indonesia living dangerously with USD 478 billion infrastructure drive". December 12.

B. Infrastructure SOEs

Infrastructure SOEs are among the largest in Indonesia and dominate key sectors, such as electricity, toll roads, ports, airports and water. Sector assessments indicate that the government has relied mainly on SOEs for development of these sectors, which in turn has impeded private investment.¹⁵ Overreliance on SOEs is neither feasible nor efficient. SOEs are highly leveraged and have limited financing capacity without selling assets and securitizing revenues. Such a strategy also has fiscal implications as the government will need to increasingly provide explicit and implicit support and take on higher risks. The absence of competition also leads to inefficiencies. As outlined below, sector assessments also show that there is significant room for performance improvements in many of the SOEs.

(i) Electricity

The power sector is dominated by PLN, the nationally integrated state electricity company.

PLN is the owner and operator of transmission and distribution networks, the owner (directly or via subsidiaries) of the largest share of installed power generation capacity, and the single buyer of power from non-PLN power plants. As of 2015, PLN accounted for 70 percent of total installed power generation capacity, while independent power producers (IPPs) accounted for 21 percent, with the balance coming from private power utilities and captive generation.¹⁶ PLN also remains the dominant force in transmission and distribution, even though the 2009 Electricity Law permits private power utilities outside PLN's service areas to generate and sell electricity.

Private sector participation is limited to generation and occurs through IPPs or PPP arrangements, mostly granted through competitive tender.¹⁷ IPP participation is limited to upstream production as power generated must be transmitted through the PLN transmission network, with the revenue streams for IPPs determined by power purchasing agreements (PPA) agreed between IPP investors and PLN.¹⁸

PLN's historic performance with respect to the accuracy of demand forecasting and delivery of investment plans has fallen short, but productivity has improved over time.

PLN's financial performance has improved in recent years, while its reliance on government subsidies has declined due to a combination

of factors, including: falling fuel prices, decreasing reliance on oil-fired generation, and tariff increases for non-residential and larger residential customers. However, some areas of concern remain. Tariffs have still not recovered to the levels of 14 years ago, PLN is still dependent on government subsidies to cover its operating costs and debt service needs, and its profitability in terms of return on capital employed is low, leaving it largely dependent on borrowing and equity injections from government to finance future investment.

PLN's size and dominant role in the power sector impedes the flow of commercial financing into the sector due to conflicts of interest that arise from PLN's multiple roles as system planner, procurer, and executing agency.

Government policies and practices which appear to favor SOEs over the private sector also tend to reinforce the dominance of PLN. PLN no longer has a legal monopoly over electricity generation, transmission, and distribution but under the Electricity Law of 2009 it retains a right of first refusal over any activity in the electricity sector, an entitlement which deters private investors.¹⁹ Although the Electricity Law allows for private sector utilities, in practice, private investment has been limited mostly to power generation, with only a few cases of non-PLN utilities servicing an area.

In 2016 and 2017, GoI issued multiple new regulations that affect the way projects are allocated between PLN and the private sector.

Key shifts include: a move away from allocating projects using competitive tenders and toward greater use of direct selection and direct assignment; reducing the share of private sector investment versus public sector investment, with a shift toward PLN subsidiary companies taking a 51 percent equity share in new IPP projects rather than having new IPPs being either majority or wholly-owned by private investors; and moving more risk onto the private sector. The combined effects of these and other regulations are likely further to strengthen government control over the sector, increase the share of SOE generation companies in the sector, and slow down or inhibit the development of new power generation projects by IPPs while accelerating projects by SOEs.

¹⁵ See Volume 2 for more complete sector-specific assessments of barriers to private sector participation.

¹⁶ Cornot-Gandolphe, Sylvie. 2017. "Indonesia's Electricity Demand and the Coal Sector: Export or meet domestic demand?" The Oxford Institute for Energy Studies.

¹⁷ World Bank. 2015. Indonesia - Sustainable and Inclusive Energy Development Policy Loan Program. Washington, D.C.: World Bank Group.

¹⁸ Komarudin, Yanto and Tim Boothman. 2017. "Powering the Nation: Indonesian Power Industry Survey 2017." PwC Indonesia. <https://www.pwc.com/id/en/energy-utilities-mining/assets/power/power-survey-2017.pdf>.

¹⁹ Law No. 30/2009 on Electrical Power.

(ii) Toll roads

Most toll road concessions are owned/controlled by SOEs, while private sector participation is limited to higher density regions. SOEs have a larger market share than the private sector (see Table 2.3). The private sector accounts for only 33 percent of the total length of completed roads, and less than 15 percent of roads under construction or road projects that have been awarded/assigned. The private sector has a larger share than SOEs in Java due to higher population density and better commercial viability, while in non-Java regions all the projects under construction are under SOEs, and of the four under operation, two are SOEs and two are with the private sector.

Recent high-profile incidents have renewed questions about the quality of SOE performance in the transport sector.

A series of fatal accidents in late 2017 and early 2018 have been attributed to poor planning, supervision, and safety standards on the part of state-owned firms carrying out construction projects in the Jakarta area including two toll-road projects. These incidents have prompted both criminal and civil investigations as well as criticism from the Indonesian Consumers Foundation.²⁰

Table 2.3: Toll road project pipeline

Region/ownership	100% completed projects		Projects under construction		Projects awarded/assigned (yet to start construction)	
	Nos.	Km	Nos.	Km	Nos.	Km
JAVA Region	26	828	23	987	5	143
SOEs	18	547	17	810	3	55
Private	8	281	6	177	2	88
Non-JAVA Region	3	65	8	640	4	458
SOEs	2	53	8	640	4	458
Private	1	12	0	0	0	0
TOTAL	29	893	31	1627	9	601
SOEs	20	600	25	1450	7	513
Private	9	293	6	177	2	88

Source : BPJT 2017

Jasa Marga, an SOE, is the largest toll road operator, owning about 70 percent of the country’s operating toll roads, including commercially viable assets in the Jakarta area. Other important SOEs are Waskita Karya and Hutama Karya, the former having acquired six out of the 19 sections of the Trans Java network, and the latter having been assigned to develop the Trans Sumatra toll road project.

Gol tendered several toll road projects in 2016 and 2017, in and outside Java, but almost all were awarded to SOEs. Local and international private developers indicated that the tenders were not adequately structured for the private sector to participate. All toll projects outside Java that are under construction, awarded or assigned, are owned by SOEs.

(iii) Ports and airports

The four port operating SOEs (Pelindos I to IV) dominate the commercial ports and operate under extended concessions of 30 years or more. The lack of a competitive environment has limited private participation beyond the few joint ventures between international operators and the four Pelindo firms.²¹ Updates to the Shipping Law in 2008 allow for private participation through PPPs and through participation as terminal operators,²² but SOEs continue to dominate most aspects of operations despite their low levels of operational efficiency relative to global benchmarks and their need to finance large capital expenditures. Some ports have been included in the PPP program, but implementation has been slow. The Pelindo

²⁰ Jakarta Post. 2018. “YLKI criticizes poor construction safety, calls for forensic engineering.” February 20. <http://www.thejakartapost.com/news/2018/02/20/ylki-criticizes-poor-construction-safety-calls-for-forensic-engineering.html>.

²¹ These include: (i) the Jakarta International Container Terminal and KOJA Terminal, which are operated by joint ventures between Pelindo II and Hutchison Port Holdings; (ii) Jakarta’s Kalibaru Terminal Phase 1, which is operated by a joint venture between Pelindo II and a consortium led by Mitsui; and (iii) Surabaya’s Tanjung Perak, which is operated by a joint venture between Pelindo III and Dubai Ports World. See Part 2, Chapter 3 on the Transport Sector.

²² Law No. 17/2008 on Shipping.

SOEs have weak operational performance relative to global benchmarks in terms of berth occupancy rate, vessel turnaround time, and working time. Domestic cargo vessels spend around 50–75 percent of their time in ports. By contrast, terminals run by the few joint ventures with international operators perform significantly better than those run only by SOEs. With long-term monopolies and minimal pressure to uphold governance, there are no strong incentives for the SOEs to improve and compete with other players. Instead, new developments of key commercial ports have been directly assigned to the Pelindo SOEs in recent years.²³

The two state-owned airport operators (Angkasa Pura I and II) are the only commercial entities operating airports in Indonesia.

Although AP1 and AP2 are independent commercial entities, in practice each one acts as a monopoly in its respective territory. The non-competitiveness of the airport sector reduces service quality and may affect the quality of the human resources available, both at the operator and regulator levels. Since there is no pressure to uphold governance, there is no pressure for SOEs to improve and compete with other commercial players, resulting in a non-competitive environment with poor safety and service standards.²⁴ In an effort to grow revenues, the Angkasa Puras have been expanding outside of their core business of airport development and operations into areas such as logistics, which has the effect of crowding out the existing private players and causing service levels to fall.

Airport projects have significant potential to attract private sector participation, which in turn can improve service dramatically.

As many primary and secondary airport projects in Indonesia are likely to be commercially viable, expansion of PPP in the airports sector has the potential to both attract private sector capital and to increase Gol's income from airports through improved revenue generation, profitability, and tax collection. PPPs have already seen some success. For example, Angkasa Pura I is considering a partnership with a private strategic investor for the operation of the Lombok Airport based on the positive experience of the joint venture with the private operator GVK under a management contract for non-aeronautical operations at Bali airport. The management contract has increased AP 1's non-aeronautical revenues and improved the quality of service at the airport.²⁵

(iv) Water

Water supply and sanitation services are

provided mainly by local government-owned water companies (PDAMs).

For the period from 2011 to 2016, development of water resources has been exclusively funded by the public sector—65 percent from national budgets and the balance from local governments.²⁶ Private investment is limited to the development and operation of water treatment plants. On the distribution side, the private sector can provide financing, but the 2004 Law on Water Resources stipulates that the operational management has to be provided by SOEs.²⁷ Between 1993 and 2014, 71 business-to-business (B2B transactions) were concluded between PDAMs and the private sector through joint ventures for the development and operation of water treatment facilities, as well as through full concessions of water distribution that included financing from foreign investors.²⁸ Most of the transactions are relatively small and concentrated in service areas with high revenue potential. There is no consolidated effort to take the sector to market and raise resources, in large part because of the policy uncertainty arising from the annulment of the Law on Water Resources by the Constitutional Court in 2013.²⁹

As average water tariffs are lower than unit costs, 70 percent of PDAMs run at a loss, with some 45 percent of them classified by the government as financially unhealthy or sick.

³⁰ Many, if not most, PDAMs suffer from negative net investment, with annual depreciation exceeding fixed asset growth.³¹ Many of the local utilities have insufficient cash flow to fund new investments, given the reluctance to raise tariffs. The operational performance of PDAMs is generally low due to their poor technical and managerial capacities and gaps in governance and accountability mechanisms.

Regulations restrict the role that private actors can play in the water sector.

The MPWH provides specific guidance for the application of the 2015 Presidential Regulation (No. 38/2015) on Government Cooperation with Enterprises in Infrastructure Provision to the water sector. The guidance requires that all cooperation with the private sector in water must be intermediated through an SOE, which means that the private sector is unable to obtain the authority to deliver water services directly or contract directly with local governments. Cooperation is also restricted to investments in the system or technology, while operations must be carried out by the SOE. The guidance differentiates between private participation through cooperation agreements (CA), where government support is requested, and B2B transactions that do not require government support. The first CA with the private sector reached financial closure in 2014.

²³ Natahadibrata, Nadya. 2015. "Port operators get concessions in Surabaya and Makassar." Jakarta Post, May 20. <http://www.thejakartapost.com/news/2015/05/20/port-operators-get-concessions-surabaya-and-makassar.html>. See also: Pelindo II. 2012. "Pelindo Punya Hak Kelola Kalibaru 70 Tahun." 31 August. www.indonesiaport.co.id.

²⁴ See Part 2, Chapter 3 on the Transport sector for further discussion on competitiveness in Airports.

²⁵ See Part 2, Chapter 3 on the Transport sector.

²⁶ World Bank COFIS database using MoF data.

²⁷ Law No. 7 / 2004 on Water Resources.

²⁸ World Bank estimates based on interviews with ASPASINDO members, BPPSPAM, GWI.

²⁹ Constitutional Court Decision 85/PUU-XI/2013.

³⁰ BPPSPAM (Badan Pendukung Pengembangan Sistem Penyediaan Air Minum). 2017. Buku Kinerja PDAM (perusahaan daerah air minum) 2017 [PDAM Performance Book 2017]. Jakarta: BPPSPAM.

³¹ BPPSPAM, 2017

III.

Promoting Private Sector Participation

Making room for the private sector will help raise finance for projects and improve SOE performance. As it is in the private operator's interest to improve performance, other previously ignored aspects of the business may be developed, such as new commercial activities and the generation of new employment opportunities. In a revenue sharing scheme, where the private operator is incentivized to increase income, SOEs can benefit from concessions without having to concede the full ownership of the asset. Involving the private sector can also help the transfer of knowledge and international best practices to SOEs. In such structures, aligning of interests is critical and can be achieved by the income for both the SOE and the private partner being driven by the project's profitability, rather than by fixed payments such as lease payments.

There are broadly three ways in which SOEs can create space for the private sector. These include: (i) as "project owner," through partnering or contracting with the private sector on new (greenfield or brownfield) projects that SOEs have been assigned or won through tender; (ii) as "contractor," through competitive tenders where the private sector and SOEs compete on a level playing field; and (iii) as "investors," through recycling assets that were developed with public money, by securitization, bond issuances, or divestment.

All three ways will require a strong push from Gol to develop and implement measures to support SOEs in their efforts to leverage the private sector. Discussed in greater detail below, these measures include: (i) incentivizing SOEs to improve performance and partner with private investors; (ii) leveling (including through creating an enabling legal environment) the playing field to ensure that SOEs operate on commercial terms without undue advantages; (iii) promoting good governance practices to enhance the efficiency, transparency, and accountability of SOEs to attract private

investors; and (iv) leveraging SOE assets and accelerating asset recycling. Together, these measures should help create the space needed for the private sector to operate in infrastructure development.

A. Incentivizing SOEs

(i) *Existing incentives and recent developments*

MSOE evaluates the performance of SOEs based on their five-year plan, annual work plan, and budget. The performance evaluation framework is contained in MSOE's Assessment Criteria for Performance Excellence in SOEs.³² A balanced scorecard approach with quantitative indicators is used to evaluate SOE strengths and opportunities and to guide the development and implementation of corporate plans. Evaluations are carried out on a quarterly and annual basis by the board of directors (BOD). Assessors visit the SOEs to interview management and review documents. Performance is evaluated in seven areas: (i) leadership; (ii) strategic plans; (iii) customer focus; (iv) measurement, analysis, and knowledge management; (v) labor; (vi) process; and (vii) business performance. After the BOD assessment, SOEs are evaluated by the board of commissioners (BOC) which submits a report to MSOE. The assessor then gives a score and develops a feedback report with recommendations to improve performance.

The performance evaluation system appears to put the emphasis on the overall growth of the SOE sector, rather than on efficiency or return on assets. SOEs are currently assessed mostly on financial indicators and on the overall growth of the sector. Key financial indicators include return on assets, expense/income ratio, net interest income, as well as solvency indicators such as non-performing loans, capital adequacy ratios, and debt/equity ratio. However, especially in non-listed SOEs, insufficient weight is given to efficiency indicators, such as return on equity, return on invested capital, and economic value added (EVA), which measure how well a firm uses the resources at its disposal. The concept of profit margin to incentivize efficiency is also not included as a key performance indicator (KPI). As a result, SOEs do not have the proper incentives to maximize profits or capital efficiency in their core businesses and instead focus on growing their portfolio of assets.

The extent to which SOEs are delivering on their public policy and service delivery mandates also does not appear to be assessed. Given that SOEs are generally required to meet specific public policy or non-commercial goals, it is common practice for SOE KPIs to go beyond profit maximization and other financial indicators and to assess the

delivery of public services. Article 2 of the law governing SOEs notes that the objective of an SOE is to earn a profit but also that SOEs should be pioneers in areas where the private sector cannot operate or lacks interest, and in sectors of public interest. However, a review of the MSOE Annual Report and the MSOE SOE Performance Report found no discussion or evaluation of SOE mandates or the efficiency of SOE service delivery.³³ There are indicators related to levels of satisfaction with MSOE services but none covering SOEs. Service standards for SOEs are contained in regulations set by technical ministries; for example, the minimum standards for Pelindo firms are set by the MoT, while PLN service standards are set by the Ministry of Energy and Mineral Resources (MEMR). However, a review of ministries' performance reports found no discussion of SOE mandates or of the efficiency indicators for their public service delivery objectives.

In practice, there are no real penalties for SOEs that fail to meet their KPIs. For example, MoT has defined some operational KPIs for various ports, and port authorities are mandated to ensure the KPIs are met. By law, port authorities can refuse tariff increases, suspend the activities of the port operator or revoke the concession agreements if the operator does not operate in accordance with the concession obligations. However, the transport sector assessment indicates that, in practice, there are no penalties for failing to meet the KPIs. Moreover, further analysis is needed to determine whether performance results from the previous year impact remuneration levels the following year in terms of incentives for CEOs, salaries and payments to directors, and commissioners, and whether poor performance results in dismissals or other sanctions for CEOs and other senior executives.

Experiments involving partnerships with the private sector have achieved good operational results, improved efficiency, and provide a role model for SOEs. In airports, for example, since 2013 the non-aeronautical operations of Bali airport (the largest airport owned by AP1) have been outsourced to the private sector company GVK under a management services agreement, as mentioned above.³⁴ There is considerable opportunity for similar partnerships around the country, in airports and other sectors, which will improve efficiencies and operating performance and help to raise capital, provided that the interests of the SOE and the private

³² "State Owned Enterprises in Asia: National Practices for Performance Evaluation and Management". OECD and KIPF Report (2016).

³³ Ministry of SOE Performance Report 2016; Ministry of SOE Annual Report 2016.

³⁴ Susanty, Farida. 2016. "Airport operators gear up for foreign partnerships." Jakarta Post, 29 February. <http://www.thejakartapost.com/news/2016/02/29/airport-operators-gear-foreign-partnerships.html>.; Ssee also: GVK Power and Infrastructure, Ltd. 2017. Annual Report 2016-2017. Pg. 52.

partner are aligned by both receiving most of their income from the profits of the project company. For example, Pelindo II successfully accessed the bond market at low yield to raise financing for Terminal I of the Port of New Priok, which will be operated by a consortium comprising Mitsui & Co. Ltd., PSA (Port of Singapore Authority), and NYK (Nippon Yusen Kaisha).³⁵

(ii) Preliminary recommendations for incentivizing SOEs

Several measures need to be taken to incentivize SOEs to partner with the private sector. First, review the operational and financial performance of SOEs to identify areas for improvements, including enhancing commerciality of operating practices, corporate governance, and investment and management

strategy. Second benchmark KPIs and incentives to industry and global operating standards and develop a system of penalties and enforcement to identify areas for improvements in performance. Third, include in the SOE performance evaluation system three new KPIs on return on state equity capital, sector-specific operational KPIs linked to SOE mandates and service delivery, and mobilization of capital from the private sector. Fourth, link new KPIs to management remuneration to motivate performance and curb the demand for state equity capital. Fifth, allow SOEs to involve the private sector in providing management and operational support for improving performance, provided the SOE's income from the venture comes through profits instead of fixed (e.g., lease) payments. Sixth, strengthen the incentives and capacity of SOEs and ministries to partner with the private sector.

B. Leveling the playing field

Low levels of private investment stem in part from broader constraints such as regulatory impediments, sectors that are locked in with long-term concessions and monopolies, and the slow pace of public private partnerships (PPPs). As discussed in Section II above, some sector laws restrict private participation. For example, water laws restrict private participation in the operation of distribution networks, while the 2015 Ports Regulations state that where an entity already owns the land, it may be directly assigned projects on a non-competitive basis. Recent Constitutional Court rulings have also limited private participation in water and energy, based on a broad reading of Article 33 in the Constitution which states that the "land, the waters and the natural resources within shall be under the powers of the State and shall be used to the greatest benefit of the people."³⁶ Long-term non-competitive concessions, such as in airports and ports, combined with the slow pace of PPP implementation have further contributed to low levels of private investment.³⁷

However, the current low levels of private participation also stem from the lack of a level playing field, which has crowded out the private sector. Low levels of private investment stem in part from the lack of an enabling regulatory environment for the private sector to come in, as well as specific regulations in place that create disincentives, such as the right of first refusal in the energy sector and the intermediation of an SOE in the water sector

for any private sector participation. There are two additional reasons for the absence of a level playing field: (i) the direct assignment of infrastructure projects to SOEs; and (ii) SOEs' preferential access to subsidized financing, which creates a soft budget constraint and allows SOEs to undercut private sector competitors in public bidding.

(i) Direct assignment of projects

SOEs benefit from various methods of assigning infrastructure projects. These include direct assignment to an SOE, direct selection from two or more candidates, and competitive bidding. Slow progress in attracting private investors combined with the need to accelerate infrastructure development has led to greater reliance on the direct assignment method.

Under direct assignment, Gol allocates infrastructure projects directly to SOEs through presidential regulation or through government contracting agencies (GCAs), which can be ministries and/or SOEs. There are no readily available data on the number of direct assignments to SOEs through GCAs, which is a significant gap as there may be many such assignments. But since 2014 there have been seven direct assignments through presidential regulations to SOEs in electricity, light rail, high-speed trains, toll roads, and ports (Table 2.4). Such assignments are awarded to individual SOEs or to consortiums of SOEs.

³⁵ Supriyatna Iwan. 2017. "SP Pelindo II Khawatirkan Penerbitan Obligasi Rp 20,8 Triliun." Kompas, 3 February. <https://ekonomi.kompas.com/>.

³⁶ See Chapter 4 on Legal and Regulatory Constraints.

³⁷ See Chapter 1 on Bringing Projects to Market.

Table 2.4: List of presidential regulations assigned to SOEs, 2014–2017

Regulation	Title	SOEs	Assignment
Presidential Regulation No. 45/2014.	Accelerating the development of electricity generation from coal.	PLN	Develop coal-fired generation for electricity
Presidential Regulation No. 107/2015.	Accelerating development of the Jakarta Bandung high-speed train.	4 SOEs: Wijaya Karya Tbk (lead); Kereta Api Indonesia; Jasa Marga Tbk; and Perkebunan Nusantara VII	Build infrastructure and facilities for the high-speed Jakarta-Bandung train.
Presidential Regulation No. 100/2014, and its amendment Regulation No. 117/2015.	Accelerating the Sumatera Toll Road development.	Hutama Karya	Develop 24 toll road sections in Sumatera totaling over 2,700 km.
Presidential Regulation No. 116/2015, and its amendment Regulation 55/2016.	Accelerating development of the light rail transit (LRT) in South Sumatera.	Waskita Karya	Build LRT infrastructure and facilities.
Presidential Regulation No. 4/2016.	Accelerating the development of electricity infrastructure.	PLN	Build electricity infrastructure. The government will provide funding support through capital injection, a two-step loan, a private loan guarantee, and tax-free asset revaluations.
President Regulation No. 65/2016	Accelerating the development of light rail transit in Jakarta and suburbs. (JABODETABEK)	Adhi Karya	Build LRT infrastructure and facilities.
Presidential Regulation No. 43/2017	Accelerating the development of Kijing Seaport in Pontianak.	Pelindo II	Build and operate Kijing seaport in Pontianak, West Kalimantan. Assignments include: funding, technical planning, procurement, land acquisition, construction, operation, and maintenance.

Source: InfraSAP team summary of Presidential Regulations.

In principle, SOEs are only assigned non-viable projects, but there are no clearly established criteria to determine which projects should be assigned to an SOE, pursued by a ministry, or competitively tendered. The choice of assignment versus other methods is reported to be arbitrary and, in some sectors, the basis of the choice appears counterintuitive, in that projects with full cost recovery tend to be given to SOEs while the projects that require government capital or operational subsidies are proposed for PPPs.³⁸ In practice, viable projects often appear to be assigned to SOEs for faster delivery, to demonstrate progress to constituents, and, in part, to compensate SOEs for unviable projects. Direct assignment is also an easier option as SOEs can accept and retain certain risks on the government ledger that private investors cannot (e.g. termination compensation, land acquisition). While time pressure is a consideration, forgoing proper structuring and tendering procedures may result in longer implementation periods, higher costs, and lower service levels over the long term.

Assigning projects directly to SOEs diminishes opportunities for private sector participation but, as some assignments are wholesale in nature, there may still be opportunities to seek financing and construction services from the private sector. For example, Presidential Regulation No. 4 in 2016 assigned PLN to accelerate the development of electricity infrastructure and to act as GCA to issue several construction contracts. Similarly, Presidential Regulation No. 117/2015 assigned Hutama Karya to accelerate the development of the Sumatra Toll Road, which enables it to work with other parties to form subsidiaries and develop 24 toll road segments, which will be split into hundreds of sub-segment contracts, including some which will involve private partners.³⁹ However, data on the extent to which SOEs rely on other SOEs or their subsidiaries to develop projects, as opposed to private partners, are not readily available. There are two potential shortcomings with respect to the role of private partners: (i) private participation does not help create fiscal space, since the SOE still needs to pay the full cost of the project; and (ii) the limited private sector role does not create the conditions or incentives required to increase efficiency, given that the work will be undertaken in response to the prescriptive terms and scope already determined by the SOE.

In practice, projects assigned to SOEs are not necessarily non-viable ones in which the private sector would have no interest. The rationale for direct assignment to SOEs is that the projects are strategically important and urgent, but are not commercially viable enough to attract private investors. However, market perception is that the most viable and cash-generating projects are often assigned to SOEs, as discussed above. For example, commercially viable projects have been directly assigned to the Pelindo firms. In 2015, Pelindo IV was assigned the concession to manage a new development in one of the five hub ports in Phase I, while Pelindo III was assigned the concession to manage a new development in another hub port.⁴⁰ The legal and regulatory framework has, in part, created barriers to entry. Under the 2015 port regulation, port business entities can receive concessions for new developments without tender, if the land is controlled by the entity and the investment does not require state budget. The regulation also requires direct assignment for concessions developed and/or operated before the 2008 Shipping Law, while concessions for new port developments should, in theory, be tendered to port business entities. Nevertheless, public and private sector stakeholders remain uncertain as to whether such direct assignments will continue in the future.⁴¹

The assignment process does not effectively screen projects to identify the non-viable ones. Project screening is carried out by KPPIP. However, there are no clear criteria for screening projects and no clear safeguards in place to prevent projects that should be competitively tendered being assigned to an SOE. It is possible that projects that should have been competitively tendered have been assigned under the seven presidential regulations.

³⁸ See Part 1, Chapter 4 on Legal and Regulatory Constraints.

³⁹ David Ray & Lili Yan Ing. 2016. "Addressing Indonesia's Infrastructure Deficit." *Bulletin of Indonesian Economic Studies*, 52:1, 1-25, DOI: 10.1080/000749.2016.1162266

⁴⁰ See Part 2, Chapter 3 on the Transport sector.

⁴¹ See Part 2, Chapter 3 on the Transport sector.

(ii) Soft budget constraint**The triple role of the government as policymaker, regulator, and owner opens the door for a soft budget constraint.**

Easy access to government financing through subsidies, soft loans, and debt forgiveness gives SOEs a competitive advantage over their competitors and distorts the playing field. With a lower risk of insolvency, SOEs are also willing and able to accept higher risk and a lower return on capital than their competitors. This is not because SOEs have better management and higher productivity levels, but because of the expectation that any financial loss will be borne by the state budget and that there is an implicit guarantee that the government will step in, if required. With preferential access, SOEs and their lenders/guarantors may also pay minimal attention to commercial viability and be more optimistic or more aggressive. This not only crowds out the private sector but also results in SOEs with highly leveraged balance sheets and significant financial stress, which has repercussions for lenders and tax payers.

In practice, SOEs enjoy various forms of financing support that create a soft budget constraint.

As in other countries, one type of support is payments for public service obligations (PSO) imposed on SOEs. SOEs also receive state equity injections, although such support is gradually being phased out.⁴² In addition, SOEs obtain finance with the support of government guarantees and easy access to borrowings from state-owned banks.⁴³ These forms of support risk undercutting private bidders and may also induce SOEs and government-owned lenders and guarantors to pay scant attention to the commercial viability of SOE projects and concessions.

Public service obligations**In Indonesia, the law governing SOEs calls for SOEs to be compensated for the full cost of executing PSOs mandated by the government that are deemed non-feasible.**

The compensation is to be funded directly from the government budget. The law provides the legal basis for the GoI to provide two types of subsidy: (i) a cross-subsidy based on different tariffs for different user groups; and (ii) an input subsidy where the government provides for a lower cost of input materials (e.g. by subsidizing the price of oil supplied to PLN).⁴⁴ In 2016, 12 SOEs received PSO payments. The largest PSO subsidy from the state budget was paid to PT PLN (41 percent) to cover the cost of low tariff consumers, as well as equity

injections to finance rural electrification, for which it receives a low return. PT KAI (railway operator) also received payments, along with other non-infrastructure SOEs, such as PT Pos Indonesia (postal service), PT Pelni (shipping company), and TVRI (television station).⁴⁵ Actual PSO expenditures in 2016 of IDR 153 trillion exceeded the allocated budget by 6 percent.

In some cases, SOEs may be over-compensated and the PSO may be viewed as a commitment to fill financial gaps where revenues do not meet operating costs.

In the case of PLN, for example, around 20 percent of its revenue comes from PSO payments, which is a crucial source of income and in part offsets the financial effects of government policies on electricity prices, national electrification, and the rate of return that PLN can earn.⁴⁶ However, PSO payments to PLN are still not sufficient to address PLN's financial capacity to provide services to remote areas with high service costs.⁴⁷ Payments have also been late and PLN has had to borrow to keep operations running.

Under-compensation and late payments can affect the performance and viability of the SOE, affect service quality, and deter private partners.

In the water sector, for example, the gap between tariff and cost is not fully closed by PSO compensation, making it harder to attract private investors, as in the case of the Bandar Lampung Water Project, which was tendered but failed to attract a bidder despite substantial interest in the pre-tender stage. The project is now being restructured under the new Cooperation Framework with support of PT SMI and PT IIF.⁴⁸

⁴² Dahrul, Fathiya and Yudith Ho. 2017. "Easy cash ends as SOEs asked to embrace market." Jakarta Post, December 5. <http://www.thejakartapost.com/news/2017/12/05/easy-cash-ends-as-soes-asked-to-embrace-market.html>.

⁴³ See Chapter 3 on Bringing Projects to Market.

⁴⁴ Law No. 19/2003, Article 66.

⁴⁵ Novita Intan Sari. 2015. "RAPBN 2016, delapan BUMN dapat PSO sebesar Rp 201,3 triliun." Kompas, 4 September. <https://www.merdeka.com/uang/rapbn-2016-delapan-bumn-dapat-psyo-sebesar-rp-2013-triliun.html>.

⁴⁶ Whereas the World Bank team received conflicting information regarding the continuance of business viability guarantee letters, law firm BakerMckenzie confirmed in consultation that letters continue to be issued and that they had participated in a project in which one was issued in mid-2017. PSO as a percent of PLN revenue based on PLN Financial Statements and World Bank staff calculations.

⁴⁷ See Part 2, Chapter 1 on the Energy sector for further discussion.

⁴⁸ Investor Daily. 2017. "PII guarantees Lampung drinking water provision system and Banyuwangi toll joint projects." 1 November. <https://www.pwc.com/id/en/media-centre/infrastructure-news/november-2017/pii-guarantees-lampung-drinking-water-provision-system-and-banyu.html>.

The manner of calculating and disbursing PSO subsidies may also vary over time and create uncertainties for SOEs.

In the case of PLN, for example, the previously approved annual budgeted subsidy was adjusted to a lower amount based on audits from the state auditor, resulting in subsidies lower than actual costs. Moreover, while MoF Regulation No. 44/PMK.02/2017 allows for underestimation in the calculation of subsidies and for quicker disbursement of subsidy payments, SOEs have little assurance that subsidies will be delivered in a timely manner, if at all. The method of calculating and disbursing subsidies may also be revised, with no assurance that the government will maintain the levels of PSO margin. Together, these factors affect SOE operations and create cash-flow problems for SOEs. Additional concerns and the lack of transparency also arise from PSO compensation payments that are not systematically monitored and disclosed by the government.

Subsidy programs to increase private sector interest for concessions can also be used to support SOEs.

In 2012/2013, the government introduced viability gap funding (VGF) for PPP projects that are economically viable but not financially viable, and to which a technical ministry can contribute with parliamentary approval. The VGF is provided as a minimum amount of public funding needed to achieve a PPP project. The government also introduced the availability payment (AP) scheme in 2015, which transfers demand risk to the public sector. Under the PPP regulation (Presidential Regulation No. 38/2015), the “Business Entity” specifically includes SOEs in its definition. Therefore, SOEs are also eligible to apply for VGF or AP support. In toll roads, the revenue scheme for projects has so far been based on user tolls but the government is preparing several toll road projects where SOEs could request VGF or AP. SOE ports also request VGF for projects that are not commercially viable (such as Pelindo II for Sorong port). Requests for VGF may increase in coming years as SOEs are increasingly assigned the development of new ports handling low volumes.⁴⁹

⁴⁹ See Part 2, Chapter 3 on the Transport sector for further discussion.

⁵⁰ Smith, Julian., Rizal Satar, Agung Wiryanan, Tim Boothman, and Graeme Harrison. 2016. Indonesian Infrastructure: Stable Foundations for Growth. PwC Indonesia. Appendix I.

⁵¹ Financial Notes APBN 2016 & 2017, MoF. Cited in Smith et al. (PwC) 2016.

Equity injections

Government equity injections with soft terms have been a form of compensation or subsidy to SOEs but their use is being cut back.

Under this program, MoF regularly provided equity injections to SOEs that were assigned infrastructure projects. Between 2015 and 2016, SOEs received equity injections totaling approximately IDR 95.4 trillion (USD 7.2 billion). In 2015, 36 SOEs received equity injections for a total amount of IDR 41.4 trillion, half of which was for infrastructure SOEs. In 2016, equity injections increased to IDR 53.98 trillion, of which 83 percent was for infrastructure.⁵⁰ However, in 2017, MoF began cutting back equity injections, with planned capital injections dropping sharply to IDR 7.2 trillion.⁵¹ MoF is pushing SOEs to embrace new sources of financing, including through the capital markets.

Neither MoF nor MSOE explicitly requires SOEs to achieve a minimum rate of return on state equity as per good practice.

Since state equity capital comes at a cost, allowing an SOE to use state equity without requiring a return rate that covers its cost is equivalent to giving a net subsidy to the SOE. This could enable the SOE to undercut its competitors by accepting higher risk and lower returns. Moreover, while the SOE’s key performance indicators submitted to the MSOE may include an ROE rate, it is not clear to what extent the cost of state equity capital is factored in. For example, the hurdle rate for investment at the government-owned infrastructure financing company PT. SMI is 8.5 percent for lending with government guarantee, and 9–10 percent for equity investment, which gives a sense of the potential range of the cost of state equity capital. Using 12 percent as a cut-off line, Table 2.5 provides a snapshot of ROE for Indonesian SOEs in 2015.

Table 2.5: Return on equity of Indonesian SOEs, by performance group (IDR trillion, percentage)

SOE performance group	Profit after tax	Equity	ROE
SOEs with negative equity	-1	-14	
SOEs with ROE below 12%, excl. PLN, Pertamina	8	158	5.1
PLN	16	848	1.9
Pertamina	16	269	5.9
SOEs with ROE above 12%	177	768	23.8
Total	211	1,986	10.6

Source: Australia Indonesia Partnership for Economic Governance (AIPEG). " 'Implicit subsidies' to Indonesia's SOEs cost over IDR 100 trillion per year, and are creating significant risks to Indonesia's economy". May 2017.

There is no specific dividend policy for SOEs but foregoing dividends or allowing SOEs to pay low dividends is a form of soft budget constraint, which gives SOEs an unfair advantage over their competition. According to the Company Law (for Persero) and the SOE Law (for Perum)⁵², SOEs are mandated to retain at least 20 percent of the equity. The use of the remaining amount is decided at the general shareholders' meeting (Persero) or by the minister (Perum). Dividends from SOEs are included as one type of state revenue in the state Budget. The general shareholders' meeting (Persero) and the minister (Perum) must present the dividend revenue plan to parliament during discussion of the state budget planning process. Dividend payouts to the government are determined on a case by case basis, but all dividends go to MoF. The MSOE Performance Report indicates that IDR 36 trillion was paid in dividends in 2016 by the top ten SOEs, but no breakdown is provided.

Government guarantees

MoF has a comprehensive guarantee program for wholly-owned SOEs to help raise financing for infrastructure programs in the power, water, and toll roads sectors. SOEs account for the majority of MoF guarantees in terms of volume, reflecting the dominant role SOEs play in infrastructure development. The total volume of MoF guarantees stands at USD 26.3 billion, of which USD 23.7 billion is committed to cover PLNs' obligations.⁵³ Guarantees can only be directed toward specific sectors by presidential regulation and provided by the Budget Finance and Resource Mobilization Department in MoF. The guarantee covers the full amount of debt. Presidential Regulation No.

82/2015 on Central Government Guarantee for Infrastructure Financing provides for guarantees on direct loans from multilateral and bilateral international financial institutions (IFIs) to SOEs. To obtain a guarantee, SOEs should have a risk management plan and monitor their risk of default. Municipalities may also benefit from central government guarantees to carry out infrastructure investments at local levels through a program whereby PT SMI makes loans to select municipalities and the quality of the portfolio is insured by MoF.

Government guarantees are offered in sectors where the lack of commercial viability of the investments makes it difficult for SOEs to raise funding in the market. For example, in electricity, through Presidential Regulation 4/2016 PLN was offered a set of financial supports, including capital injection, a two-step loan, a private loan guarantee, and tax-free asset revaluations. In transport, guarantees provided by Regulation 43/2013 support socially important but non-viable toll roads. And in water, Presidential Regulation 29/2009 and MoF Decree 22/2009 are the legal instruments for the clean water program, for which the Gol provides a credit guarantee that covers 70 percent of the repayment obligations of PDAMs.⁵⁴

⁵² Law No. 40/2007 on Limited Liability Companies, Article 70; and Law No. 19/2003 on SOEs, Article 42.

⁵³ Ministry of Finance data, 2017.

⁵⁴ See Chapter 1 on Financial Markets.

MoF charges guarantee fees for PPP-related guarantees but not for SOEs, which is a form of implicit subsidization or soft budget constraint. Guarantee fees are not applied to SOEs as they are seen to be delivering projects assigned by the government and therefore ought to be subsidized. By not charging a fee, the government provides an implicit subsidy and creates the problem of moral hazard for SOEs as pursuing guarantees becomes an even more attractive option if no upfront payment is required.⁵⁵ This practice may also have the unintended consequence of favoring the role of SOEs in infrastructure development. Charging guarantee fees that reflect the risks assumed by the government would help level the playing field and encourage more private sector investment.

In addition, the government guarantee is abused when the SOE takes advantage of the guarantee to benefit its other lines of businesses at the expense of the government assignment. A firewall between the government-assigned projects and other businesses operated by the SOE does not appear to exist in the current system. The SOE is only required to separate the accounts of the assigned projects from the accounts of its other businesses in its financial reporting and to subject both types of accounts to examination by the state auditor. Much depends on the integrity of the SOE management.

Finally, while a government guarantee helps the SOE obtain access to capital and reduce borrowing costs, it also provides shelter from the risk of bankruptcy. As such, the government guarantee can be viewed as a form of compensation for the perceived cost the SOE is believed to incur in performing the government's assignment.

Borrowing from state-owned banks

SOE borrowing from state-owned commercial banks that are supervised by the same state shareholder institution is also a potential form of soft budget constraint. Most national level SOEs have MSOE as their state shareholder, which also acts as shareholder of the four state-owned commercial banks, which account for 38 percent of banking system assets and are among the largest sources of finance for infrastructure projects, including those undertaken by SOEs. State-owned banks lend primarily to SOEs and large corporations.⁵⁶ All four state owned banks support the government's infrastructure policies and initiatives by lending to the infrastructure sector.⁵⁷

The ownership framework provides a potential loophole for soft lending from the banks to SOEs under the influence of their common shareholder institution, MSOE. State banks are 'urged' to provide working capital and capital expenditure loans to SOEs. State banks have provided large syndicated loans to SOEs involved in key infrastructure projects, such as PLN and Angkasa Pura II.⁵⁸ Loans from Bank Mandiri, BRI, and BNI together accounted for 49 percent (IDR 51 trillion or USD 3.8 billion) of all loans to PLN on both fast track and non-fast track.⁵⁹ These loans are provided on commercial terms but the extent of such borrowings is not fully known and there may be cases in which a facility is provided at special rates. A key determinant in resisting any pressures on state banks to lend to SOEs would be the operational independence of the banks and the soundness of banking sector supervision.

⁵⁵ See Chapter 3 on Bringing Projects to Market for further discussion.

⁵⁶ Bank Indonesia. 2017. Indonesia Economic and Finance Statistics (SEKI). www.bi.go.id.

⁵⁷ World Bank. 2017. Mobilizing Local Currency Financing for Infrastructure in Indonesia: A Financial Market Perspective.

⁵⁸ See for example: PT PLN. 2017. Consolidated Financial Statements for the Years Ended December 31, 2016 and 2015. <http://www.pln.co.id/statics/uploads/2018/01/PLN-Restate-8-Januari-2018.pdf>.

⁵⁹ World Bank. 2017. Mobilizing Local Currency Financing for Infrastructure in Indonesia: A Financial Market Perspective.

(iii) Preliminary recommendations for creating a level playing field

Indonesia's huge infrastructure financing needs call for a pragmatic approach going forward, based on using existing SOE capacity while attracting private capital.⁶⁰

Such an approach would help fill the financing gap and provide higher efficiencies in delivery and operations. Achieving a more appropriate balance requires a range of measures to level the playing field and bring greater commercial direction and financial discipline to SOEs. These include:

- Separate the segments of infrastructure sectors where competition is possible from those that are natural monopolies, and open them up for competition. For example, separating state-owned power generation plants from the transmission and distribution network helps provide a level playing field for IPPs, even if divestment is not realistic.
- Reform or abandon the process of direct assignment to allow for a more rigorous and transparent screening process based on clearly defined criteria, to ensure that only exceptional projects that are important, urgent, and cannot be awarded through competitive process are assigned to SOEs.

Adopt open competitive bidding for new and financially viable projects to allow selection of the best operator.

- Develop a consolidated financing policy for SOEs to instill greater financial discipline with a better mix of debt and equity finance. Such a policy would limit state support to SOEs, phase out implicit subsidies, encourage them to seek commercial equity capital at market rates, and subject them to market discipline. It would aim to manage SOE debt by imposing limits on SOE borrowing and developing clear criteria for the consideration and approval of government guarantees on SOE debt. SOEs would be encouraged to pursue equity funding options, such as partial listing of SOEs on the IDX, as well as PPPs to promote direct investments in projects. A dividend policy would articulate the terms and conditions for retained earnings, which should be viewed as state equity capital investments.
- Improve the PSO system to minimize the likelihood of both over- and under-compensation and to introduce efficiency benchmarks. The costs of PSOs should be regulated, monitored and publicly disclosed.

C. Strengthening the corporate governance of SOEs

SOEs will continue to play a critical role in meeting the government's ambitious infrastructure targets. This will be true even if the government manages to increase the PPP pipeline and engage the private sector directly on more projects. SOEs may carry out projects on their own or partner with the private sector to deliver joint projects. This includes domestic investors as well as foreign investors who can bring fresh equity, capital, and better technology. At the same time, foreign investors will calculate the foreign currency risks to the project's risk premium that would make it more difficult for them to compete with SOEs.

The government has developed a plan to establish state-owned holding companies in various sectors, partly to boost the borrowing capacity of SOEs but also to strengthen efficiency and competitiveness and create economies of scale.⁶¹ In 2016 four sectoral holding companies were established in fertilizer,

cement, plantation, and forestry. Six others have been proposed, including toll roads and infrastructure concessions, banking, oil and gas, mining, housing construction, and food commodities.⁶² Holding companies can exploit synergies and economies of scale, but sound corporate governance frameworks and practices are especially vital to ensure that holding companies carry out their ownership responsibilities with the requisite autonomy and in a professional manner with high levels of transparency and accountability. Holding companies operate more independently with freer rein in their operations, and with market-based investment activities that may be more risky. As such, they require clearly defined KPIs and the highest standards of governance to manage risks, maximize returns, and be equipped with the necessary skills, functions, and processes to carry out their ownership role effectively.

⁶⁰ World Bank. 2013. SOEs in Indonesia. Policy Research Working Paper. Jakarta: World Bank.

⁶¹ Ministry of State Owned Enterprises. 2016. Annual Report.

⁶² Kyunghoon Kim. 2017. "Time to Scrutinize Indonesia SOE Merger Synergies". The Jakarta Post, January 11.

Drawing from the legal and institutional foundation that is already in place, enhanced governance practices will be needed to improve the performance, transparency and accountability of SOEs and to strengthen their ability to develop projects jointly with the private sector. Indonesia's SOE governance framework is broadly in line with good practice. To further improve SOE governance and performance and to attract domestic and foreign private investors, three areas require attention: (i) developing a clear policy direction for state ownership; (ii) strengthening the role of SOE boards; and (iii) establishing higher levels of transparency and disclosure.

(i) Developing a clear policy direction for state ownership

The 2003 SOE Law and its preamble provide some of the elements required to set a clear policy direction for state ownership. Article 2 of the law stipulates that the objectives of SOEs are to earn a profit and act as pioneers in businesses which cannot be carried out by the private sector or where the private sector lacks interest.⁶³ The law notes that privatization is an important source of SOE revenue and provides for privatization of SOEs in competitive sectors, and in sectors with rapid technological change. SOEs which cannot be privatized include entities in defense and security and in sectors involving special duties related to the public interest. Under the current judicial interpretation of the constitution, SOEs in energy and other natural resources cannot be fully privatized.

However, the law and the preamble date back almost 15 years and the preamble is an explanatory document rather than a formal government policy that sets the direction for state ownership. Recent developments in the economy, in the SOE landscape, and in the policy direction of the state do not appear to have been documented in any systematic way since the law was passed. Attempts have been made to rationalize the role of SOEs in the economy. In 2012, for example, the government adopted a Rightsizing Policy to restructure and reduce the size of the sector to about 80 SOEs by the end of 2014 through mergers/consolidation, divestment of assets, and closure of non-viable companies. And in 2014, a shareholder's aspiration was negotiated which included profitability and developmental goals, financial and operational targets, and service level agreements for PSOs. However, there is no comprehensive formal ownership policy which provides clarity on the rationale and direction of state ownership.

Adopting a formal state ownership policy based on present goals and circumstances would provide clarity to investors and other stakeholders about the direction of the state's role in the economy. According to the OECD Guidelines on the Corporate Governance of State-Owned Enterprises, common rationales for state ownership typically include: (i) the delivery of public goods or services where there is market failure or a greater public interest to be served; (ii) the operation of natural monopolies where market regulation is deemed infeasible or inefficient; and (iii) support for specific economic and developmental goals in the national interest.⁶⁴ Based on these goals, the ownership policy indicates sectors in which the state would retain full ownership, bring in private participation but retain control, and release ownership fully to the market. The primary role of private ownership in competitive markets and the phasing out of inefficient or loss-making SOEs in such markets is usually emphasized. The ownership policy also establishes the government's expectations in terms of the different types of SOEs that are to be retained with full ownership or control. Profitability and shareholder value are typically the driving objectives for commercial companies, while efficiency and service delivery are given greater emphasis in SOEs with predominantly public policy objectives. Finally, the ownership policy highlights the principles and framework for the governance of SOEs.

Once there is full consensus on the ownership policy it should be codified as a Presidential or Governmental regulation, or as a law.

The process of developing and codifying the ownership policy is made easier as there is a centralized ownership entity, MSOE, already in place that can drive and manage the process of developing the policy and building consensus through consultations with all key stakeholders. Once there is full agreement, and the regulation is issued, the government and MSOE will need to monitor implementation and act as needed to enforce the regulation.

(ii) Strengthening the role of SOE boards

Indonesian SOEs have a two-tier board system. This includes the management board or the BOD and a supervisory board or the BOC. Key issues and practices within this system are discussed below.

⁶³ Law No. 19/2003 on State Owned Enterprises.

⁶⁴ OECD. 2015. *OECD Guidelines on Corporate Governance of State-Owned Enterprises*, 2015 Edition, OECD Publishing, Paris. <http://dx.doi.org/10.1787/9789264244160-cn>.

Board Composition

As shareholder, MSOE appoints the BOD through the GSM (for majority-owned SOEs) or through the minister (for wholly-owned companies). As a management board, directors are required to have the requisite background, competence, and skills. The directors must undergo a fit and proper test conducted by a team appointed by the minister to establish that they possess the qualities required in terms of integrity, leadership, experience, honesty, good behavior, and dedication. External firms are often involved in choosing directors of larger SOEs. For prominent appointments, such as the President Director (PD) of large SOEs, MSOE may be advised by a high-level committee appointed by the president, and appointments can come both from long serving and experienced managers from inside and outside the SOE.

Recent director appointments are generally considered to have resulted in more experienced professionals compared to the past. A survey of the websites of BODs in 13 infrastructure SOEs (electricity, toll roads, ports, and airports, plus Pertamina), carried out by the World Bank team, shows that almost all directors have formal backgrounds in relevant areas such as engineering, business/management, finance/economics, and law, and that nearly two thirds of all directors have a master's degree or higher. In terms of skills and experience, the survey shows that all directors have had previous government experience, while only 30 percent have had private sector experience, and that all directors have previous SOE executive experience, whereas only 5 percent have held ministerial positions.

The appointment of the BOD by the MSOE stems from the Indonesian Company Law, which calls for owners to pick top managers directly, but this is contrary to good practice where the supervisory board, or the BOC, should choose and appoint the BOD. The practice in Indonesia greatly restricts the BOC's authority to approve and supervise the BOD's key decisions and hold it accountable for results. While the Company Law allows the owner to appoint the BOD, the corporate governance code for listed companies encourages the BOC, either directly or through a nominated committee, to play a role in the BOD selection process, even though, in practice, the final decisions are still made by the MSOE. Extending this practice to all SOEs would strengthen the role of the BOC but this would require BOCs to be more professionally composed and empowered than they are at present.

MSOE also appoints the BOC, which is made up exclusively of non-executives. MSOE regulations encourage at least 20 percent of the members to be independent, compared to 30 percent for listed companies. The above-mentioned survey also analyzed BOCs. It showed that 70 percent of commissioners have a formal background in engineering, finance, economics, business, or law, with the rest having an army or social background, and that nearly 80 percent have a master's degree or higher. In terms of skills and experience, 70 percent of commissioners had government experience, while 22 percent had private sector experience. However, few commissioners have direct experience in the sector and lack competencies in key areas, such as risk management. In terms of government functions, 60 percent of commissioners are senior civil servants from ministries, 20 percent are SOE executives, 10 percent are from the army/police, and the rest from audit and other jurisdictions. The President Commissioner (PC) of the BOC and one or two others are independent members, although they may be civil servants, former ministers, or have backgrounds in the military, police, politics, and academia. Having senior civil servants as commissioners could raise conflicts of interest. For example, PLN's BOC has two independent commissioners out of a total of seven. One of the members is the Director General of Electricity from the MSOE, who is also largely responsible for the regulation of PLN; this could present a potential conflict of interest.⁶⁵

BOCs composed primarily of civil servants, SOE executives, and members of the army or police are not in line with good practice. Both in the region and globally, political appointees are being removed and the number of civil servants is increasingly limited to one or two. Many countries require at least a third to one half of the supervisory board to be independent of the government and of the SOE.⁶⁶ Emphasis is increasingly placed on establishing clear competency requirements and a structured and transparent process for selecting commissioners, and on giving boards a role in the selection process. A strong BOC with qualified members and a greater number of independent members would have a positive influence on SOE performance as they become increasingly commercialized.

⁶⁵ PT PLN. 2016. Annual Report.

⁶⁶ OECD. 2015. *OECD Guidelines on Corporate Governance of State-Owned Enterprises*, 2015 Edition, OECD Publishing, Paris. <http://dx.doi.org/10.1787/9789264244160-en>.

Fiduciary duties and conflicts of interest

In line with good practice, the Company Law and the SOE Law require directors and commissioners to act in the interest of the company, in good faith and with prudence.⁶⁷

Under the SOE Law, directors are prohibited from holding any government or regulatory position that could lead to a conflict of interest. Commissioners may hold government office, but are prohibited from holding a position that could lead to conflicts of interest or may affect their ability to act independently. As noted above, both directors and commissioners are expected to possess certain character traits that reflect their fiduciary duties. The MSOE GCG Regulation prohibits directors and commissioners from taking personal advantage or engaging in actions where there is a personal gain,⁶⁸ while the SOE Law prohibits board members giving or receiving anything valuable from customers or government officials that may or will influence their decision making. SOE board members also come under the Anti-Corruption Law and may be held criminally liable for company losses as well as corrupt practices.

Potential institutional conflicts of interest are an area of concern. One such conflict pertains to the role of civil servants on BOCs. Such positions are lucrative as the compensation paid to the civil servants is set at a fixed ratio of that paid to the full-time directors. In many countries, civil servants on boards do not receive pay as their service is considered part of their duty as a civil servant. Having civil servants on the board may also lead to favoritism or pressure from their respective ministries, especially in the context of being assigned government work or receiving an advantage in tendering for it. Especially in the context of mobilizing private sector participation, the general strategy of encouraging SOEs to do business with each other is also a cause for concern. In listed companies, this is covered by rules on related party transactions, and certain procedures need to be taken to ensure that the transactions are conducted on an arm's length basis.

Boards composed of professionals are better able to carry out their fiduciary duties on behalf of the company and reduce corruption risks. The Anti-Bribery Law applies to SOEs. The Corruption Eradication Commission (KPK) has processed a few alleged cases of breach of integrity arising from corruption and collusion.⁶⁹ The GCG Regulation requires SOEs to have a code of ethics/code of conduct and requires board members to submit wealth reports in accordance with the legislation, but the extent of

compliance is unclear. In addition to monitoring and enforcing compliance, good practice also requires that boards receive regular and specialized training on exercising their duties and responsibilities as directors.

Board oversight and responsibilities

BOD powers are generally consistent with the powers of such boards in two-tier systems but, contrary to good practice, the BOD is subject to direct oversight by MSOE rather than the BOC. One possible encroachment on the competence of the BOD is the powers of the MSOE over strategy details and annual work plans, as well as in day-to-day matters. This reflects both MSOE's broad role under the SOE Law and the BOC's limited role compared to good practice. According to the relevant laws and regulations, the BOC can 'recommend', 'advise', and 'supervise', but it can neither appoint the BOD nor sets its remuneration levels, which limits the BOC's supervisory abilities. The BOC can suspend BOD members with cause, but directors can be reinstated. In line with rules for listed companies, the MSOE GCG Regulation gives the BOC slightly wider authority, including making the BOC responsible for implementing good corporate governance, although the BOD is also responsible for documentation of good governance practices. BOCs of listed SOEs have more responsibility for key decisions and overseeing BOD governance, including advising on board nominations and remuneration.⁷⁰

The SOE Law protects SOEs from external interference in decision-making but, in practice, political and government institutions may intervene. Article 91 states that no parties, other than the organs of an SOE, shall interfere with the management of the SOE, defining interference as 'an action or direction which has direct influence on the management of the SOE or BOD decision-making'. According to the law, government departments and institutions should not impose any expenditure on SOEs, while SOEs in turn should not have to fund the expenditures of government bodies. In practice, however, when an SOE is required to act in the government's interests and those interests differ from the SOE's interests, or when the government favors the interests of others, such actions are likely to have an adverse effect on the SOE. Examples of such interventions include tariffs below cost-recovery without adequate PSO compensation, imposition of unviable projects on SOEs, and investments with zero or insufficient rates of return. Maintaining arms-length relations with companies can be a challenge.

⁶⁷Law No. 19/2003 on State-Owned Enterprises; Law No. 40/2007 on Limited Liability Companies.

⁶⁸MSOE Regulation PER-01/MBU/2011, as amended by MSOE Regulation PER-09/MBU/2012.

⁶⁹IFC. 2014. IFC Corporate Governance Manual. Chapter 15.

⁷⁰Law No. 19/2003 and MSOE Regulation PER-01/MBU/2011 as amended by MSOE Regulation PER-09/MBU/2012.

In the water sector, for example, PDAM's commercial operations are obscured by the social policies of the local government (e.g. on tariffs) and by political exigencies, where the local government is involved in key decisions of the utility or may even circumvent the Supervisory Board.⁷¹

Boards composed of professionals are better able to push back against government intervention. Many countries have reinforced the role of the BOC and increased both its autonomy with respect to the government and its authority over the BOD. In addition to explicitly empowering the boards to set strategy and to choose and oversee the CEO, boards of SOEs, especially the large and more profitable ones, are also being given greater autonomy and substantial discretion over approving major decisions without government approval, such as capital expenditure and mergers and acquisitions.⁷²

(iii) Enhancing transparency and disclosure

Broad principles of transparency and accountability are well recognized in Indonesia's laws and regulations. The MSOE CG Regulation states that 'SOEs shall carry out their operations by adhering to GCG principles of transparency, accountability, responsibility, independence, and fairness. Transparency is defined as 'openness in decision-making process and disclosing material and relevant information about the company', and accountability as 'clarity of function, implementation, and responsibility of the Company so that corporate governance is implemented effectively'. The SOE law mandates SOEs to produce annual reports and regulations stipulate the contents of the reports for Perum, while Persero reports follow the requirements set out in the Company Law.⁷³ The reports are reviewed and signed by both the BOD and BOC.

In line with good practice, SOEs are subject to an independent external financial audit.

The BOD is required to submit annual financial statements to an external auditor appointed by the GSM/minister and selected from a list of candidates submitted by the BOC. While MSOE suggests using one of the big four accounting firms, there is no regulation requiring SOEs to do so. Listed and large SOEs are audited by the big four, while others use second-tier firms, including PT PLN. Financial reporting is in line with Indonesian Financial Accounting Standards based on IFRS,⁷⁴ except for PT PLN, where financial statements are prepared

based on Indonesian GAAP as per the Capital Market Law.⁷⁵ Of the 115 SOE financial statements audited in 2016, nine received a qualified audit opinion due to departure from financial accounting standards. Submission of financial and performance reports by SOEs to MSOE form part of the KPIs; this requirement was fully complied with in 2016.⁷⁶ There is no performance indicator requiring a clean audit opinion or the resolution of matters underlying a qualified audit opinion. Nevertheless, MSOE requests SOEs to follow up on the matters leading to a qualified opinion. The BOC, through its mandatory audit committee, nominates and appoints the external auditor. The GSM/minister approves the nomination and the amount of remuneration to be paid to the external auditor. The audit committee's role in fostering a strong internal control environment needs to be further assessed.

BPK, the Supreme Audit Institution of Indonesia, carries out performance and investigative audits on SOEs.

Performance audits are based on the BPK's audit plan, which uses a risk-based approach and looks at a specific set of performance indicators. Investigative audits are performed as required. The summaries of financial and performance audit results are published on the BPK website and detailed reports can be obtained from the BPK office. Investigative audit findings are forwarded to law enforcement agencies. BPK has a follow-up mechanism that requires audited firms to respond to findings within two months and imposes administrative sanctions for failure to reply. BPK also conducts audits on PSO subsidies received by SOEs. When conducting subsidy audits, BPK does not rely on the third-party financial audits completed by private firms, as the allowable costs in subsidy audits are specific to each subsidy.

However, the BPK's right to do an investigative audit on SOEs may hinder private sector interest to invest in SOEs.

In June 2017, BPK announced that it found potential state losses worth IDR 4.08 trillion stemming from the contract extension Pelindo II gave to its partner PT Hutchinson Port Holding. The BPK investigation concluded that there were numerous violations and irregularities surrounding the contract extension. The contract extension was not in the business plan and was not approved by the annual shareholder's meeting. Scheduled to expire in 2019, the contract was extended to 2039.

⁷¹ See Part 2, Chapter 4 on the Water and Sanitation sectors.

⁷² OECD, 2015.

⁷³ The Annual Report for Perum contains: (i) annual financial statements drawn up in accordance with the Indonesia Financial Accounting Standards; (ii) consolidated financial statements for the group of companies, in addition to the individual financial statement of each company; (iii) a report covering the condition and performance of the company and the results achieved; (iv) the main activities of the company and the amendments during the book year; (v) details of problems arising during the year which affect the company's activities; (vi) the names of the members of the BOC and the BOD; and (vii) salary and other allowances for BOD members, and payments to, and other allowances for BOC members. Under the Limited Liabilities Company law the Persero report is required to include a CSR report and a BOC supervision report in addition to the above.

⁷⁴ Indonesia Financial Accounting Standards were developed on the basis of IFRS but are one year behind. Although the board responsible for setting the standard tried to minimize the gap with IFRS, Indonesia has not yet fully adopted IFRS.

⁷⁵ Law No. 8/1995 on Capital Markets.

⁷⁶ MSOE Annual Report 2016.

SOEs are required to conduct a GCG compliance assessment every two years and review follow up actions on the assessment findings every year after the assessment.⁷⁷

The assessment is carried out by an independent assessor appointed by BOC through a tender process or by BPKP (the government's Internal Auditor), directly appointed by the BOD. The BPKP evaluation methodology is contained in a series of five books and includes the following indicators of GCG practice: commitment to practicing sustainable GCG (7 percent of the final score), shareholders and GSM (9 percent), BOC (35 percent), BOD (35 percent), information disclosure and transparency (9 percent), and other aspects (5 percent).

The GCG implementation average score is one of the annual KPIs set by MSOE for SOEs.

The 2016 target is 83, higher than the 2015 target of 75. The average GCG score of 86.49 achieved by SOEs in 2016 is higher than the target.⁷⁸ The MSOE performance report does not contain detailed findings from the GCG assessments and the complete reports are not readily available. Some listed SOEs publish a summary of the GCG assessment report on their website as part of GCG good practice, such as the toll road company PT Jasa Marga, which achieved an average score of 97.⁷⁹

Disclosure of GCG manuals and assessment results on SOE websites varies among SOEs.

Some SOEs publish GCG information (but not to the extent of applying the ASEAN Corporate Governance Scorecard), but do not provide details on GCG assessment findings. For example, PT Hutama Karya provides information on the GCG score for each indicator, as assessed by BPKP, on their website but does not include the detailed review; PT Pelindo II only provides average GCG scores for the past four years; and the PT PLN website only provides information on the assessment method itself and its manuals.

Various other bodies are also involved in the assessment of corporate governance implementation, leading to coordination problems.

Bodies such as MSOE and OJK (in the case of listed SOEs) also carry out compliance assessments. The results of the assessments are submitted to the GSM/minister together with the Annual Report. All the agencies have some form of SOE governance monitoring in their mandates but it is not clear which of these institutions is primarily responsible for monitoring corporate governance in SOEs. While BPKP is an independent assessor, on the government side

the MSOE, as shareholder, is responsible for collating, analyzing, and publishing the results, and for implementing corrective actions. MSOE requires SOEs to be assessed once every two years, followed by a review/evaluation the following year focusing on the follow-up actions. Under the MSOE regulation and in practice, the assessment can be carried out by a consulting firm or by a government agency, such as BPKP. For listed companies and for financial sector SOEs supervised by OJK, SOEs carry out the assessments based on the regulatory requirements.

Listed SOEs and those that regularly raise funds from the capital markets generally comply and publish financial and non-financial information, such as the composition and remuneration of the boards.

Listed SOEs have strong incentives to publish their reports as there are consequences for non-compliance, such as penalties from IDX, suspension, or even delisting. For SOEs that are issuing debt, non-compliance results in an unsuccessful offer. In the absence of such incentives, non-listed SOEs have lower levels of disclosure as there are no penalties or sanctions and thus compliance becomes selective and voluntary. Such SOEs are not required to publish their financial statements. While they often have websites, the information on them tends to be limited. Lack of disclosure may also reflect a lack of reliable information or an underlying reluctance to divulge information on SOE inefficiencies and underperformance.

SOEs are required to establish an internal audit function but, contrary to good practice, the internal audit function reports to the PD rather than to the BOC.

This compromises the independence of the internal control function and undermines the ability of the BOC independently to evaluate management performance and stay informed about risk issues. The SOE Law stipulates that the BOD should provide the result of the internal audit in response to a written request from the BOC. The law requires the BOD to follow up on matters arising from the regular internal audit review. The MSOE GCG regulation further requires the BOD to report to the BOC on the internal audit result on a regular basis. The head of the internal control unit is also appointed, and can be dismissed, by the PD, but only with the approval of the BOC. This structure compromises a key function of the BOC which is to supervise internal controls, monitor compliance with rules and regulations, and ensure the accuracy and reliability of financial reporting. An assessment is needed of the extent to which information

⁷⁷ MSOE Regulation PER-01/MBU/2011, as amended by MSOE Regulation PER-09/MBU/2012.

⁷⁸ 2016 Ministry of SOE Performance Report.

⁷⁹ The executive summary available on the PT Jasa Marga website includes details of the company's performance against each indicator.

technology-based transaction processes and management systems are in place to ensure the accountability of records and bookkeeping transactions.

MSOE's strategic plan aims to strengthen the disclosure of reliable and easy to access information. MSOE has set itself a KPI, which measures the availability, through a portal, of valid SOE data. A centralized database for all SOE financial and non-financial information will have to be created to achieve the KPI. There is already a wealth of information available from the various ministries, audit institutions, and the SOEs themselves that, if made available to the public through a single, open data-compliant portal, would become an important tool in ensuring the transparency and accountability of the SOE sector.

In line with good practice, MSOE presents an Annual Financial Report on SOEs to parliament and publishes it on the MSOE website. The report includes financial and non-financial information, such as information on SOE boards and the implementation of good corporate governance practices.

(iv) Preliminary recommendations for strengthening soe governance

Indonesia has a well-developed legal and institutional framework for SOE governance but further steps need to be taken to improve SOE governance and to attract private investors. These include the following:

- Develop and codify a formal ownership policy that articulates the rationale and objectives for state ownership and sets the expectations for SOEs. The policy distinguishes between the requirements for commercial SOEs versus

SOEs with predominantly public policy goals. The goal is to highlight sectors where the state will retain full ownership, sectors where private sector participation will be actively encouraged, and sectors from which the state will withdraw. The aim is to rationalize state holdings to focus on SOEs that provide public goods and address national priorities, while freeing up scarce resources through phased diversification or exit from sectors where market failure no longer exists.

- Strengthen the role of SOE boards, especially the BOC. Among the key recommendations are to: appoint qualified and competent commissioners capable of exercising objective, independent judgment to guide strategy and monitor management; increase the number of independent members; instill a culture of integrity and ethics; empower the BOC to exercise its responsibilities as opposed to those of the shareholders and management while guarding against external interference; and require board members to have regular training and capacity building.
- Enhance transparency and disclosure. Key recommendations are to: designate a single agency to take the lead on monitoring corporate governance compliance in SOEs, collating results, analyzing them, implementing corrective actions, and publishing them; establish penalties and sanctions for non-compliance of corporate governance provisions for non-listed SOEs; and create a centralized database for all SOE data (strategic plans, financial statements, budgets, targets, performance scorecards, PSOs, equity infusions, dividends, compensation etc.) that is made available to the public through a single, open data-compliant portal as means of enhancing transparency and accountability.

D. Leveraging SOE assets

Government has signaled its commitment to leveraging a host of SOE revenue-generating, operational, brownfield assets to raise private financing, enhance efficiency and value creation, and pave the way for a more balanced approach between SOE and private sector financing. The President has instructed ministries and SOEs to mobilize private capital. To this end, MSOE has launched a USD 70 billion portfolio of SOE investment opportunities to attract private participation through a range

of options such as securitization, partial or full divestment, and management contracts, while MoT has put forward a list of mixed-equity projects in airports and ports with 51 percent state ownership and 49 percent private participation, although progress is limited. Outside of these programs, other SOEs also have significant assets that can be leveraged and where cash flow from the assets can be recycled into new investments. A limited concession scheme regulation, which details

another method of recycling assets through concessions on brownfield projects, is expected in 2018.

(i) Scope for asset recycling

There is significant scope for recycling SOE assets to help unlock additional resources to accelerate infrastructure development.

The 142 SOEs in the sector have a total of nearly 800 subsidiaries, many of which can be restructured, divested, or closed. The Chamber of Commerce and Industry recently advised the government to sell many of the subsidiaries, especially those that do not have relations with the core businesses of their parent companies, that operate in competitive sectors without any core developmental functions, and that could be managed by private companies.⁸⁰ The profits from the sales can be used by the government to help finance infrastructure projects. MSOE plans to reduce the number of SOEs and their subsidiaries to around 200, from the current 800, through mergers, initial public offerings, and sales to the private sector. Many of the SOE subsidiaries are long-standing companies which should be relatively easy to sell.

In the electricity sector, PLN has recently attempted to raise additional investment funds using new methods, including issuing asset-backed securities and corporate bonds.⁸¹

This has demonstrated its willingness to use innovative financing methods, including having these new securities traded on the IDX. As the dominant market player, PLN could also launch IPOs for selected power generation subsidiaries and/or lease or sell a portion of the shares in its subsidiaries through competitive trade sales. Partial divestitures would help unlock existing equity to recycle into investments in new capacity, increase private sector investment in the sector, create a new means of raising capital for electricity sector investments, and reduce pressure on government to provide PLN with financial support. PLN could also unlock the value of the government's equity in existing electricity assets to finance the construction of new assets by auctioning off the long-term leases of some assets with the government retaining ownership of those assets, divest shares in PLN generation company subsidiaries or in specific power stations owned by those subsidiaries, and divest fully some existing assets.

In the transport sector, many of the SOEs have non-core business lines that could be recycled.⁸² The Pelindos have subsidiaries which operate port-related businesses, such as

pilotage, marine, port equipment, and logistics services, further extending their presence in the port sector. International experience has shown that vertical integration and dominance creates barriers to private participation, as new entrants need to rely on the upstream and downstream suppliers owned by the competitor. In the landlord port model, navigation-related services, such as pilotage and towage, can be provided by the port authorities. Furthermore, globally, port equipment and logistics services operations are frequently undertaken by private sector companies. Such businesses could be subject to a limited concession scheme by the SOEs to focus their limited management and financial resources on infrastructure that is strategically important to Indonesia, but where private sector appetite may be poor.

In view of the above, the government should move forward in implementing an aggressive asset recycling agenda to improve efficiency and enhance value creation. This involves addressing key implementation issues related to: the sequencing of the program; development of a decision-making framework to determine the approach to asset recycling; need for improved corporate governance arrangements; and the development of a strategy and action plan for implementation.

(ii) Implementing the asset recycling program

Given the diverse nature of SOEs in Indonesia, a decision-making framework is needed to determine the sequencing and methods of asset recycling. The process could start with asset recycling of non-strategic SOEs operating in competitive sectors as the process is relatively straightforward and is likely to yield rapid benefits barring any economywide distortions that hinder competition. Recycling of assets in infrastructure sectors, such as power, water, and transport, may be more difficult as SOEs are larger and have more financial and political clout, the stakes are higher, and foreign investment issues are even more salient. As such, the experience of recycling assets in non-strategic SOEs could help pave the way for recycling assets of infrastructure SOEs. Nonetheless, some governments began their programs by giving priority to the recycling of large SOE assets to seize a window of political opportunity, to send clear signals of commitment to financial markets and investors, and to achieve economic and financial benefits. In the end, priorities are country-specific and the choice depends on a combination of factors such as government willingness and capacity,

⁸⁰ Jakarta Post. 2017. "Business People Tell Government to Sell SOE Subsidiaries." October 27.

⁸¹ See Part 2, Chapter 1 on the Energy sector.

⁸² See Part 2, Chapter 3 on the Transport sector.

investor interest, and sectors most in need of efficiency improvements and new investments.

SOE assets can be recycled and leveraged through various methods to achieve the goals of improving efficiency and enhancing value creation. These include: (i) securitizing the future revenue flows at the project level; (ii) issuing bonds at the project or SOE level; (iii) selling partial or full equity stakes to private operators/investors, (iv) giving a limited concession; (v) creating infrastructure funds to attract institutional investors; and (vi) issuing public equity on the capital markets. With different investors, different accounting methods, and different operational set-ups, these methods have their advantages and disadvantages. For example, securitization and bonds would not help debt-ridden SOEs improve operational efficiency, but they allow such SOEs to continue to operate their assets and maintain future revenues once the bond is repaid. On the other hand, selling equity stakes takes the asset off the SOE balance sheet and allows private operators to come in and improve efficiency and increase value creation. However, once the SOE sells the asset, it loses the revenue stream, and it must reinvest the proceeds of the sale into something equally profitable or pay proceeds as dividends to MoF. Each asset or SOE therefore must be considered on a case-by-case basis as to how best to leverage efficiency and value based on the need for efficiency gains, the capacity of the SOE to manage the asset going forward, and the debt needs and capacity of the SOE.

Improving the corporate governance of SOEs will be essential to attracting domestic and foreign investors, making SOEs more investor friendly, and ensuring that SOEs behave more like private companies. In addition to general corporate governance improvements, developing clearly defined corporate governance arrangements will be especially important for mixed ownership schemes where the government retains majority ownership. In such cases, minority share ownership can have positive effects on efficiency provided that managerial control is transferred to private investors and the government's voting rights are limited to curtail day-to-day interference. However, as the government retains majority ownership, investors will want a level of comfort to ensure that they have clearly defined powers and control rights and that they can get their investment back. Such rights typically guarantee a certain number of board seats proportional to the size of the investment, with veto rights or supermajority rights to prevent major changes in structure or significant transactions that can

damage minority shareholders. Other protections typically address equity sales and changes in ownership as well as exit provisions for minority investors, including rights to sell back their equity or redeem debt on terms agreed to when the initial investment was made.

Legal structures and arrangements can only go so far and investors must also be able to trust the controlling company. When the controlling company is an SOE, investors must be assured that the company will be transparent in its dealings and operations, that it will not be subject to undue political influence, and that it will not abuse its position at the expense of investors. In the ports sector, for example, the Pelindos own a majority stake in two joint ventures, except in Jakarta International Container Terminal (JICT) and the KOJA Terminal which is operated by a JV between Pelindo II and Hutchison Port Holdings which owns 51 percent. In 2014, Pelindo II extended the concession with Hutchison that was originally set to expire in 2019 but it did so on the grounds that its share will be diluted to 49 percent and the annual rent payments from Hutchison be doubled (from USD 60 million to USD 120 million), in addition to a one-time upfront payment of USD 250 million, which raises questions about the commercial viability of the arrangement. On the other hand, it was reported in the Jakarta Post that some members of the House of Representatives felt it would have been better if there had been no contract extension, so that JICT would be wholly owned by Indonesia.⁸³

General experience highlights the potential risks posed by majority government ownership. In some instances, SOE partners would not let the private partner inject funds; corporate decisions could not be made since SOEs would not act; lenders could not exercise security over accounts because banks were afraid to act with SOEs in the project; restructuring decisions took years and SOEs and government would not make decisions at least partly due to personal liability for losses at SOEs (risk of jail); and a complex web of interests within the government that made it difficult to exert pressure. In some cases, SOEs have taken financing and used it for a different purpose, have spun off the most profitable assets, and have been ineffective at managing regulatory issues, which had a material impact on the business.

Majority private ownership with clearly defined shareholder rights would help minimize or avoid such risks. One such example is airports in Brazil.⁸⁴ The airport system until 2012 was operated by Infraero, an SOE. But in 2012 the government carried out a concession of

⁸³ See Part 2, Chapter 3 on the Transport sector for more details.

⁸⁴ See Part 2, Chapter 3 on the Transport sector for more details.

three different airports, with each concession awarded to a different company, with Infraero retaining a 49 percent shareholding. The government managed to attract internationally recognized airport operators with proven experience under concessions with assured investments. In 2014, a second lot of airports was offered to the private sector with equally positive results. Commercial revenues per passenger increased substantially following the PPPs, although some operators adopted aggressive bidding strategies and are now facing financial challenges.

JV partnerships should be structured to realize the full potential of the private sector.

The private sector brings more than capital; the private sector also brings development and operational know-how, which are key to improving efficiency and service and unlocking the full value of Indonesia's infrastructure, including maximizing dividends to the government. Therefore, including the private sector as a meaningful partner, ideally with majority ownership or control where possible, will allow the SOE to maximize the available private capital and benefit from the most efficiency gains on the projects.

A clearly defined strategy and action plan for implementation of the asset recycling program will need to be developed, based on strong political commitment, institutional capacity, and the need for transparency.

Asset recycling is a political process. Securing and signaling commitment from the political and administrative leadership will be essential to define the scope and objectives, explain the program, and build coalitions for change. Decisions will need to be made on whom to sell assets to, at what prices, and under what terms and conditions, backed by commitment from the top to tackle vested interests that may threaten to slow or derail the process. The strategy and action plan will need to spell out the sequencing of the program and the other issues mentioned above. In addition, it will need to identify the needs for strengthening the capacity of MSOE and of SOEs to carry out the program and the resources and flexibility needed to hire the financial advisors and qualified experts to carry out the transactions. Transparency of the process will be critical and calls for the development of clearly defined criteria for the selection and evaluation of bids, clearly defined competitive bidding procedures, disclosure of purchase price and buyer, and adequate monitoring and supervision of the program. The larger and more visible the transaction, the greater the importance of transparency, lack of which can lead to popular

outcry and derail not only the program but reform in general.

(iii) Preliminary recommendations for leveraging SOE assets

Several measures need to be taken to leverage SOE assets and accelerate asset recycling to raise private financing, enhance efficiency, and ensure value creation. These include the following:

- MoF and MSOE should develop a strategy and time-bound action plan for the asset recycling program, including: (i) an inventory of existing assets, valuing them, and developing a market-driven plan to carve out assets that will attract private sector participation; (ii) sequencing and methods of asset recycling; and (iii) a rigorous assessment based model or framework to determine each asset's best strategy and method for asset recycling. The framework would take into account key considerations, including: (i) current management of the asset and whether there is room for efficiency gains; (ii) the capacity of the SOE to manage the asset going forward, given plans for expansion; and (iii) the debt needs and capacity of the SOE, including plans to replace the asset's revenue stream in the event of divestiture. This framework should be established and applied to systematically assess an SOEs' pool of assets to determine how best to leverage value and efficiency through a recycling program. Value creation should be the goal, not just fundraising. To this end, the structures and approaches to asset recycling need to be coordinated, to ensure a market is created and that the process is well-managed.
- MSOE should establish clearly defined governance structures for joint ventures and partnerships with the private sector, including: corporate governance protections with respect to board seats, veto rights and supermajority rights; necessary protections for minority investors; and clearly stipulated requirements for financial reporting and information disclosure.
- SOEs should bring in private operators under a management contract or a small equity stake, as needed, to improve the asset and enhance its value before it is sold.
- Incentivize SOEs to structure JVs to realize the full value of the private sector by offering majority ownership and/or control where possible, to access the largest pools of capital and maximize operational gains.

IV. Summary Roadmap for the Role of State-owned Enterprises

THE ROLE OF STATE-OWNED ENTERPRISES ROADMAP			
Activity Pillar	Short-term	Medium-term	Long-term
<p>Pillar 1: Incentivizing SOEs to partner with the private sector.</p>	<ol style="list-style-type: none"> 1. MSOE completes an Operational and Financial Performance Review of SOEs to identify areas for improvements, including those involving corporate governance and investment strategy. 2. MSOE, through a Shareholder Letter or similar instrument, instructs SOEs to involve the private sector in upgrading facilities and providing management and operational experience (as has been done at the Bali airport, for example), including via agreements where the private sector takes a minority share but is given sufficient control. 	<ol style="list-style-type: none"> 1. MSOE issues new or revised SOE KPI Regulations to: (i) Implement KPIs that are benchmarked to industry/sector and global standards, along with a system of penalties and enforcement; (ii) Introduce explicit KPIs for return on state equity capital and a new KPI for amount of additional private sector finance leveraged or attracted; and (ii) Link performance against KPIs to management remuneration, such as bonuses, in a predictable manner. 	<ol style="list-style-type: none"> 1. MSOE develops and implements a policy or program to strengthen the capacity of SOEs and line ministries to partner with the private sector.
<p>Pillar 2: Creating a level playing field for competition between SOEs and private companies.</p>	<ol style="list-style-type: none"> 1. MSOE issues a Regulation on Direct Assignment that articulates the process and criteria for direct assignment, to ensure that only exceptional projects that are important, urgent, and cannot be awarded through competitive process, are assigned to SOEs. 	<ol style="list-style-type: none"> 1. MSOE issues Guidelines on SOE Financing and Guarantees, to harden external budget constraints and instill greater financial discipline in SOEs. 2. MSOE and MoF develop a formal Dividend Policy for SOEs, to articulate the terms and conditions for retained earnings, which should be viewed as state equity capital investments. 3. MSOE and MoF impose Limits on SOE Borrowing and develop clear criteria for the consideration and approval of government guarantees on SOE debt. 	<ol style="list-style-type: none"> 1. MSOE and MoF develop a Comprehensive Funding Policy for SOEs, with a better mix of debt and equity finance; this policy should limit state support to SOEs, encouraging them to seek commercial equity capital at market rates (e.g. partial listings on the IDX).

		<ol style="list-style-type: none"> 4. Government revises PSO Regulations to improve the PSO system, including by introducing efficiency benchmarks, to minimize the likelihood of both over- and under-compensation. 5. MSOE leads the effort to phase out all implicit subsidies and forms of preferential financing, such as government guarantees without fees. 6. MSOE and MoF establish a Task Force on Asset Recycling with a mandate to advise and support SOEs in recycling some existing assets by securitizing revenue streams, issuing limited concession schemes, listing shares on the stock market, launching IPOs, selling subsidiaries through trade sales, and partial divestiture. 	
<p>Pillar 3: Strengthening SOE governance.</p>	<ol style="list-style-type: none"> 1. MSOE issues a Regulation on the Appointment and Operation of SOE Boards of Directors, to ensure that the way in which SOE boards are composed and operate allow them to play a central function in governance, bear ultimate responsibility for stewardship and company performance, and increase the company's ability to maximize returns from state equity capital. This regulation should specifically include provisions on: (i) Appointing qualified and competent directors capable of exercising objective, independent judgment to guide strategy development and monitor management; (ii) Bringing in more independent members to serve on BOCs; (iii) Ensuring that board members understand and comply with their fiduciary duties and reduce, or better manage conflicts of interest; and 	<ol style="list-style-type: none"> 1. MSOE publishes an overarching State Ownership Policy that defines the objectives and establishes the policy direction for state ownership, to specifically include: (i) Defining the rationale and objectives for state ownership, highlighting sectors where the state will retain full ownership, sectors where private sector participation will be actively encouraged, and sectors from which the state will withdraw; (ii) Developing a strategy for listing SOEs and encouraging SOEs to prepare to access financing through the capital market; (iii) Rationalizing state holdings to focus on SOEs that provide public goods and address national priorities, while freeing up scarce resources through phased diversification or exit from sectors where market failure no longer exists; and 	<ol style="list-style-type: none"> 1. MSOE issues a policy to increase levels of transparency and disclosure through uniform implementation, compliance monitoring, and publication of findings, specifically: (i) Establish penalties and sanctions for non-compliance for non-listed SOEs so that compliance is not selective or voluntary; (ii) Designate a single agency to take the lead on monitoring corporate governance compliance in SOEs, collating results, analyzing them, implementing corrective actions, and publishing them; (iii) Provide public disclosure of financial and non-financial information through a portal which is part of MSOE's objectives and KPIs relating to transparency; and

	<p>(iii) Establishing the responsibilities of the board as distinct from the responsibilities of shareholders and management while guarding against external interference.</p> <p>2. MSOE establishes clearly defined Governance Structures for Project Finance and SPVs to allow them to cooperate fully with the private sector. This framework should:</p> <p>(i) Ensure transparency through proper financial reporting and disclosure of information; and (ii) Introduce corporate governance protections with respect to board seats, veto rights and supermajority rights, as well as protections for minority investors.</p>	<p>(iv) Establishing the expectations required of SOEs, distinguishing between the requirements for commercial SOEs versus SOEs with predominantly public policy goals.</p>	<p>(iv) Create a centralized database for all SOE data (strategic plans, financial statements, budgets, targets, performance scorecards, PSOs, equity infusions, dividends, compensation, etc.) that is made available to the public through a single, open data-compliant portal as means of enhancing transparency and accountability.</p>
<p>Pillar 4: Leveraging existing SOE assets through asset recycling.</p>	<p>1. MoF and MSOE launch a strategy and time-bound Action Plan for the Asset Recycling Program, to include: (i) developing an inventory of existing assets; (ii) determining sequencing and methods of asset recycling; and (iii) developing a rigorous assessment-based model or framework to determine each asset's best strategy and method for asset recycling. Value creation should be the goal, not just fundraising. To this end, the structures and approaches to asset recycling need to be coordinated, to ensure a market is created and that the process is well-managed.</p> <p>2. MSOE issues Guidelines on the Prioritization of Joint Ventures and Partnerships with the Private Sector, and associated governance structures, as recommended above.</p>		





Chapter 3

Financial Markets

I.

Introduction

Financing for infrastructure, whether debt or equity, is currently sourced primarily from public or public-related entities. Private participation in infrastructure development is limited. As discussed in the previous chapter, much of the infrastructure development to-date is being driven by the Government through state-owned enterprises (SOEs). Financing is provided largely by state-owned banks; Mandiri, BRI, and BNI, which together account for half of Indonesia's banking assets. Projects are financed through corporate, on-balance-sheet relationship lending.

Local banking and capital markets are too small to be relied on fully for Indonesia's infrastructure financing. Currently, the banking portfolio could grow at most USD 10-20 billion cumulatively per year, compared to the private financing need of USD 49 billion per annum. Moreover, the banking sector only issues loans with short tenors (5 years or less), which limits its ability to finance long-term assets. Participation of the non-bank financing sector (pension funds, social security, and life insurance companies) would allow additional liquidity and longer-term maturities. However, the total asset volume of domestic institutional investors is also too low to give a meaningful and sustainable source of financing for infrastructure in the long run. A reallocation of investment from institutional investors into infrastructure would optimistically result in a maximum cumulative investment of USD 10 billion into the infrastructure sector.

Given the size of the local banking and capital markets, Indonesia will need to attract foreign capital to mobilize additional liquidity into the system. However, apart from equities and government securities, the capital markets are segmented between foreign and domestic investors. Efforts need to be made to connect the markets through developing foreign currency and interest rate hedging instruments, and to introduce products where foreign and domestic investors can co-invest. In the meantime, securities issuances in the global market by Indonesian projects or entities should be encouraged and facilitated as a means to

mobilize funds from foreign investors. Such initiatives have begun through recent issuances of global IDR bonds by Indonesian entities (i.e. 'Komodo Bonds' by state toll road and construction companies Jasa Marga and Wijaya Karya).

To provide sustainable sources of financing for infrastructure, reforms are required to increase the pool of long-term savings through institutional investors. The early withdrawal and short-term behavior of domestic institutional investors should be addressed, while the retirement system should be reformed to ensure compatibility of the pension and social security systems which in turn will facilitate the accumulation of savings that can be channeled into infrastructure.

The use of project financing techniques should be encouraged, both in bank lending and capital markets. Thus far, banks rely mostly on lending based on the strength of borrower balance sheets (directly or through sponsor guarantee on projects), instead of using limited-recourse financing. This limits the future ability to borrow, as borrowers will soon reach either a prohibitive level of financial leverage or bank single borrower limits, or both. In the capital market, instruments that could be used for project financing, such as securitization or project bonds, are not being utilized to their full capacity due to an inefficient regulatory framework and taxation regime. While there were two recent successful infrastructure-based securitizations (i.e. by Jasa Marga and Indonesia Power), it is unclear if the approach is sustainable or replicable.

This chapter focuses on the financial market aspects of mobilizing financing for infrastructure development in Indonesia.

Following this introduction, Section II will discuss the banking sector; Section III will focus on capital markets, including (i) institutional investors, (ii) capital market instruments, and (iii) foreign investors. Section IV closes with recommendations.

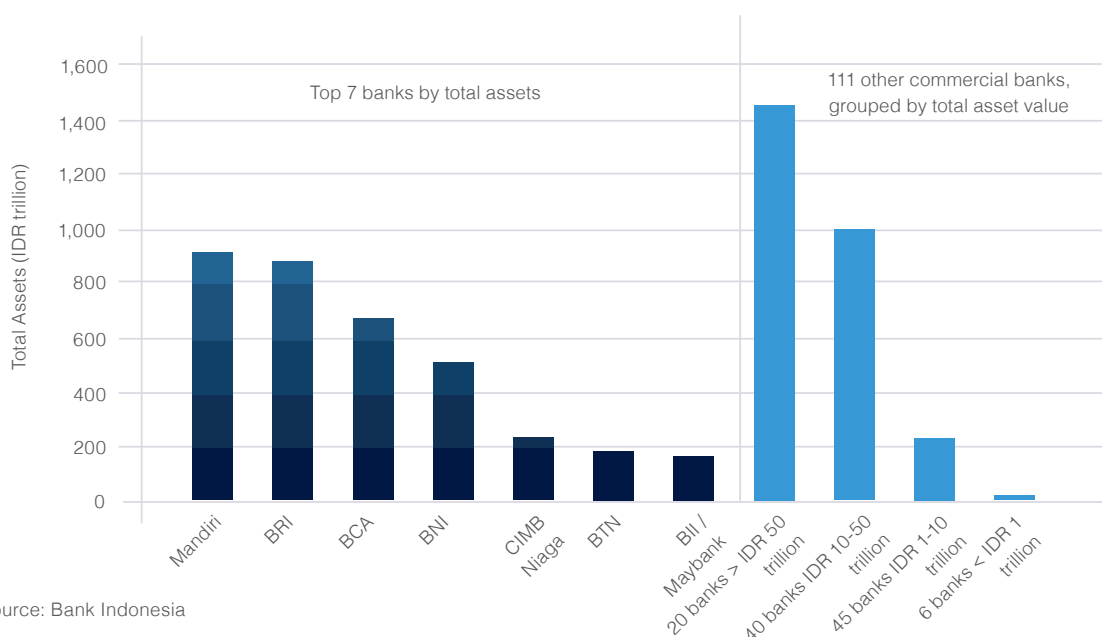
II. Bank Financing of Infrastructure

This section notes several key constraints to increasing bank financing of infrastructure, including: (A) the concentrated market for IDR financing and its limited liquidity; (B) the homogeneity of the banking sector, including the lack of innovative instruments such as limited recourse financing, and (C) single borrower limits.

A. Concentrated market for IDR financing

Four local banks dominate the supply of IDR financing to the infrastructure sector. These comprise three state-owned banks (Mandiri, BRI, and BNI), which are largely focused on supporting SOEs,¹ and one private bank (BCA), which supports corporate clients (see Figure 3.1).

Figure 3.1 : Concentration of assets in the Indonesian banking market



Source: Bank Indonesia

¹ For example, loans from Mandiri, BRI, and BNI together make up 49 percent (IDR 51 trillion or USD 3.8 billion) of loans to PLN on both fast track and non-fast track projects; BCA contributes 8 percent (IDR 7.8 trillion or USD 580 million) and smaller local banks a further 6 percent, giving a total local bank share of loans to PLN of 64 percent (IDR 65.5 trillion or USD 4.9 billion). A further 33 percent is sourced from PRC lenders and the remaining approximately 3 percent from foreign banks, including the ADB.

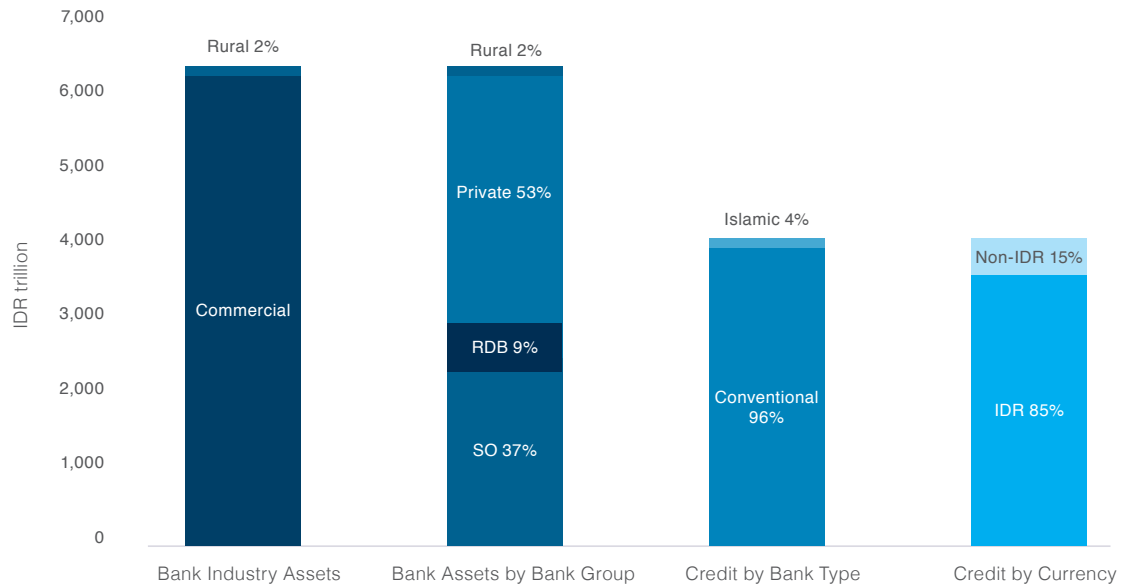
² In the private commercial bank space, BCA is by far the single largest private commercial bank with assets of over IDR 600 trillion (approximately USD 45 billion), or approximately 10 percent of total banking assets in Indonesia.

In addition to the four banks mentioned above, there are 114 commercial banks in Indonesia, but only a very limited number of them finance infrastructure. These include:

(i) international and regional foreign banks (including regional commercial banks) operating in Indonesia (e.g. BII/Maybank, CIMB-Niaga, Citibank, DBS, and Standard Chartered) who have supported their clients on infrastructure projects, usually in foreign currency; (ii) local private commercial banks who lend to projects in support of corporate relationships, subject to the

economics of the transaction providing adequate compensation (only Bank Central Asia (BCA)² has the balance sheet capacity to underwrite a locally structured, long dated, syndicated infrastructure loans (with corporate support)); (iii) local banks participating in syndicated loans, for which a substantial part of the credit assessment is based on the name of both the sponsors and the lead banks arranging the financing. The remaining banks provide corporate and working capital loans.

Figure 3.2: Scale and composition of the Indonesian bank market

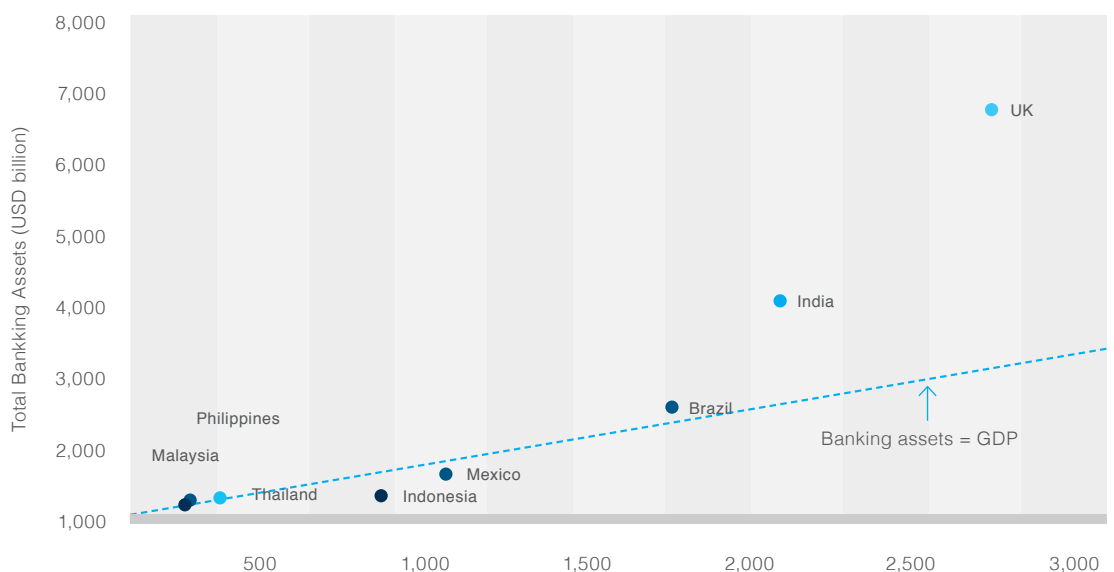


Note: Credit excludes inter-bank credit.
Source: Bank Indonesia.

The size of the banking sector in Indonesia is equivalent to half the nation's GDP, which is small by comparison to similar countries. The commercial banking sector has assets of just over IDR 7,275 trillion (USD 508 billion) as of December 2017. Total credit supplied for non-interbank lending activities was IDR 4,000 trillion (USD 300

billion), split 85 to 15 between IDR and non-IDR credit (see Figure 3.2). By comparison, the size of the banking sector as a percentage of GDP is much higher in neighboring countries (Malaysia, Philippines, and Thailand), as well as in Brazil, India, and Mexico (as shown in Figure 3.3).

Figure 3.3: Comparison of the size of the banking sector for selected countries

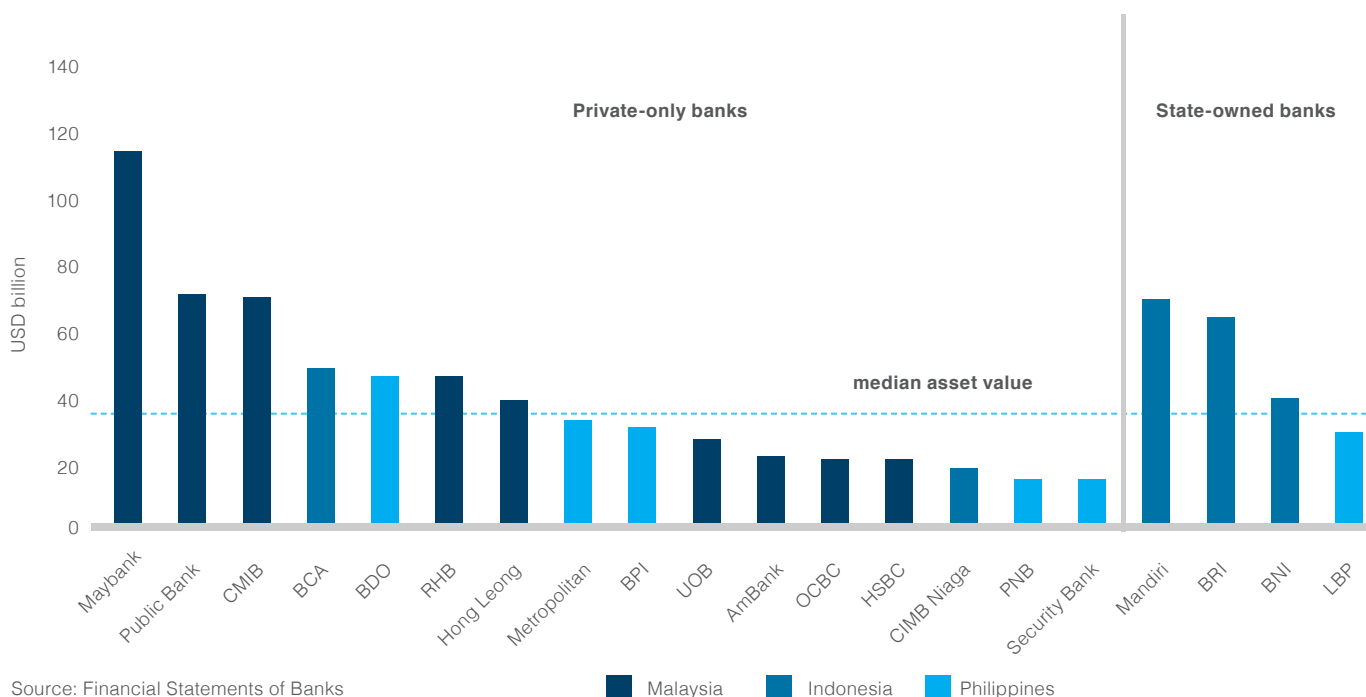


Source: Banks, World Bank, IMF.

Although Indonesian banks are on average smaller, Mandiri, BRI, and BCA are of comparable size to major banks in Malaysia and the Philippines that are also undertaking locally styled infrastructure lending in local currency. When compared to commercial banks in these two neighboring countries, only five of

the 118 Indonesian commercial banks rank in the top 20 measured by total assets, ranging from USD 15 to 120 billion in total assets (see Figure 3.4). Malaysian banks dominate the range with 75 percent of Malaysian banking assets represented in the top 20, compared to about 60 percent for the Philippines and 52 percent for Indonesia.

Figure 3.4: Top 20 banks in Indonesia, Malaysia, and the Philippines by total assets



Source: Financial Statements of Banks

Indonesia’s banking assets will need to grow at 20-25 percent each year for it to be of broadly comparable size (relative to its GDP) to its neighbors by 2020. This is assuming a GDP growth of about 5 percent each year for the next three years. Although local banks are currently seeking to expand the banking system and deepen the depositor base, the sector achieved 9 percent growth from 2014 to 2015, and is estimated to only have achieved 6 percent growth from 2015 to 2016.

Infrastructure already forms a high proportion of the four infrastructure banks’ portfolios.

The loan portfolios of the larger banks lending directly to the infrastructure sector vary widely among the state-owned banks, with BNI having the largest proportion of infrastructure-related lending, amounting to approximately 21 percent of its portfolio, while Mandiri has approximately 11 percent. As for private banks, BCA is considered the most active with about 5 percent of its portfolio

in the sector. As the major lenders are already highly exposed to infrastructure, they will be limited in how much more they can lend in the future, unless creative solutions, including debt recycling or project financing structures, are found.

There is limited liquidity for infrastructure lending arising from a substantially polarized market. Foreign banks have a limited willingness to lend in IDR.

As such, IDR lending is typically supplied by local banks, and non-IDR lending mainly by foreign commercial banks. IDR borrowing is more expensive than USD and the currency swap markets are not liquid after 10 years, making swapped IDR less attractive than USD where either non-IDR content is used or non-IDR project income arises.

Another potential method of generating further liquidity is through longer-tenor interbank loans. In September 2015 China Development Bank (CDB) advanced separate multicurrency bilateral loans to three state-owned banks (BNI, BRI, and Mandiri) for the equivalent of USD 1.0 billion each to support infrastructure project funding consistent with the government infrastructure policy, including for the financing of long-term, cross-border infrastructure and industry transactions between Indonesia and

China. A notable feature of this interbank loan is that it has a 10-year tenor, which, by November 2015, was fully drawn, and improved the ability of each bank to better to fund long-term loans to infrastructure assets. A substantial portion of the loan is in USD and the targets include power and port infrastructure. The USD tranche is also structured with reduced principal repayments for 2.5 years, with the CNY tranche offering grace on principal repayments for the first 2.5 years.

B. Homogeneous market for infrastructure lending

Most infrastructure lending in Indonesia is done on a corporate, rather than a limited recourse, basis. Such corporate loans are characterized as being on the borrower's balance sheet, and short-term (with tenors of 3-5 years, but in exceptional cases up to 7 or 10 years). The loans are extended based on the strength of the sponsor name or based on a key relationship, which benefits larger SOEs and major corporate clients and sponsors. Longer loan tenors for infrastructure projects (10 to 15 years) that have been provided to special purpose vehicles (SPVs) with SOE sponsors are effectively corporate in style and have substantial recourse to the sponsors. Most local IDR lenders do not require interest rate swaps to be implemented and do not take material refinancing risk, which limits liquidity at certain maturities, offers no meaningful liquidity at longer maturities, and decreases the ability to optimize capital structure efficiently. Such loans also create a mismatch in duration between loan market tenors and the concession life, which places more reliance on support and guarantees, adds further complexity to the transaction and steers borrowers towards using corporate loans and offshore financing, where available.

Although local banks can provide long dated IDR loans, the reliance on conservative, corporate-style lending means that financial structuring is generally absent or incomplete in local-bank driven deals. The technical skills, experience, and corporate motivation required to analyze a limited recourse financing credit are not available to any meaningful extent in the local bank market. The loan covenant package is light, and where thresholds are introduced, they tend in many instances not to be effective. Often loans do not have structural features that would allow the bank to consider providing credit to the project without seeking sponsor support. The concept

of whole life analysis on the local sponsor side is not well understood and adequate reserving for major maintenance and rehabilitation over the concession life is not typically evident. These gaps contribute to an incomplete project risk matrix and a potential shortfall in cash provision for local infrastructure projects.

Hence, in the case of locally driven transactions, considerable sponsor obligations are placed on the project. This sponsor support can be in the form of a: (i) sponsor completion guarantee³, which allows the sponsor to ensure that the project company has sufficient funds to achieve construction completion; or (ii) sponsor cash deficiency guarantee, which requires the sponsor to inject capital into the project company to cover cash shortfalls in operations, maintenance, and debt servicing. Depending on the market risks, the cash deficiency guarantee may remain in place for up to five years of operations for marginal projects, where revenue ramp up or stabilization is expected to take time. After revenues are expected to have stabilized, the scope of the guarantee is normally reduced to require coverage only for potential cash shortfalls in operations and maintenance. Lenders are only prepared to take a risk on the stabilized traffic and revenue streams with such protections in place.

In addition, debt is likely priced too high and excessive sponsor support is required. Local banks insist that the interest rates charged reflect the quality of the sponsors and the project credit, and that sponsor support is usually there for comfort and would not typically be called upon. It is unclear precisely how local banks are pricing loan credit. Based on a SOE capital market transaction in Q4 2016, a 10-year corporate bond issue of around IDR 1 trillion (USD 75 million) had margins of 30–75 basis points (bps). Pelindo

II raised over USD 1 billion of corporate loans at a margin of 220 bps to finance new projects, Angkasa Pura II raised corporate loans at margins of 200–250 bps to fund airport development, and PLN borrowings in IDR have margins in the range of 100–300 bps.

Lending margins on IDR corporate term loans to project sponsors typically range from 100–500 bps. This compares to margins of 300–550 bps where infrastructure term loans are advanced to projects supported by sponsor guarantees. On the basis that the credit is correctly priced, the additional cost of providing 10- to 15-year financing would appear in most part to be due to liquidity premium. Local banks appear able to justify this approach and sponsors seem to accept it, even where significant sponsor support is extended to the project.

The name of the borrower, for corporate loans, or the sponsor, in the case of project loans, remains a very important consideration for lending in Indonesia, with SOEs and the major corporates dominating bank loan books. Less well-established local private sector sponsors are unlikely to obtain funding from the state-owned banks, and the larger private local banks (in particular BCA) and foreign banks are in a position to be more selective about to whom they advance financing.

International and regional banks (particularly those from Malaysia and Singapore), often analyze, structure and lend on a project finance basis, usually in non-IDR. However, the cost of borrowing in IDR limits competitiveness and the amounts they are willing to lend. Hence, where they are permitted to lend in IDR, they invariably do so only to corporate clients. Where foreign (often regional) banks extend infrastructure financing in IDR to local borrowers, some of the covenants usually seen in international project financing are evident alongside features required by local banks.

Foreign currency loans also often involve sponsors being given letters of credit for equity obligations and DSRA obligations. PII may provide a guarantee for the government's obligations under a concession contract, including, but not limited to: (i) termination payments due to the lenders and sponsors; (ii) interest payments on loans for up to 5 years of operations where demand risk, e.g. in the case of toll roads, is shared with the government, and (iii) land acquisition. In the power sector, lenders in the past have benefited from aMoF guarantee covering PLN obligations under the Power Purchase Agreement (PPA) for projects developed

under the Fast Track II scheme. However, the new generation of power PPAs targets smaller projects (200-500 MW) and does not offer such support.

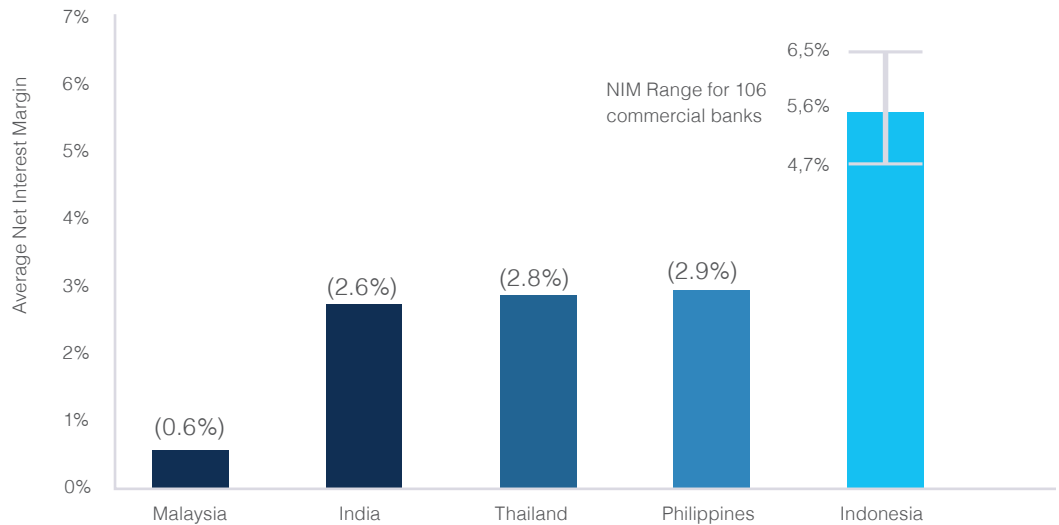
The ability of a borrower to raise limited recourse, non-IDR financing is often dependent on whether the sector can generate non-IDR revenue. Three broad segments of infrastructure assets are identifiable. First, in power and electricity, non-IDR financing for IPP projects is available often with export credit agencies (ECAs) on a covered basis using multilateral and foreign commercial banks. Where PLN develops on balance sheet assets, these may be financed by ECAs using non-IDR loans for offshore equipment, IDR corporate loans from local banks, and tranches of sharia financing. Second, in airport and ports, non-IDR financing from foreign and some major local banks is available, with IDR financing primarily from local banks and limited volumes from select foreign banks. Third, in roads, rail, and water, primarily IDR financing from local banks and smaller volumes from a few foreign banks is available.

The asset base of the banking system is growing too slowly to be effective in supporting and supplying credit for the nation's infrastructure program. The banking market is concentrated and the largest banks benefit from comparably high net interest margins. As such, there is insufficient motivation or incentive, particularly for local private commercial banks, to innovate, expand product offerings or deepen credit analysis to implement more complex credits in local currency, such as limited recourse infrastructure financing.

Indonesian commercial banks have benefited from healthy net interest margins (NIM) of 5.6 percent in 2016 with state-owned banks closer to 6.1 percent. This compares with a much lower range, typically 2.5 to 3 percent, for other countries in the region (Figure 3.6). High net interest margins imply that Indonesian commercial banks enjoy low cost of funds compared to their lending rate, which in turn means there is not much incentive to go beyond 'business as usual' and innovate to seek out returns.

³ A contractor's completion guarantee may also be required. It is common for lenders to approve which contractor may be used or set conditions on the qualifications, experience and size of the contractor that constructs the works.

Figure 3.5: Net interest margins in selected Asian countries (2016)



Sources: BNM financial stability report

⁴ BI Regulation No. 8/13/PBI/2006 defines the concept of borrowing in this context to include credit, securities, placement, securities purchased under reverse repurchase agreement, acceptances, credit derivatives, off-balance sheet items, derivative claims, potential future credit exposure, equity and equity participation, and temporary equity participation.

⁵ Bank capital of BCA is of a similar magnitude to each of BNI, BRI and Mandiri.

C. Single borrower limits

Single borrower limits (SBL) are often cited by local banks as a reason to not extend too many infrastructure loans or introduce junior debt or other products, where permitted. Bank Indonesia (BI) places restrictions on commercial bank lending to a single entity or borrower group. For a single name, the SBL⁴ is 20 percent of the banks' capital; for a single borrower group, it is 25 percent; and for related parties it is 10 percent.

The maximum exposure to a single borrower allowed would translate approximately into the limits described below and shown in Figure 3.7. Mandiri, BRI, BNI, and BCA⁵ have SBLs in the range of IDR 17–36 billion (USD 1.2–2.7 billion) for borrowers unrelated to the bank, and up to IDR 8–14 billion (USD 600–1,000 million) for related parties. The main private commercial bank lenders (excluding BCA and BTN, the smallest state-owned lender) have SBLs in the range of IDR 4–9 billion (USD 300–650 million) for borrowers unrelated to the bank and up to IDR 2–3 billion (USD 140–250 million) for related parties.

In practical terms, borrower limits are determined internally and may be actively managed for experienced borrowers who are key clients. However, this depends on the approach to risk management, which varies from one bank to another. The actual internal limit for a single borrower is often considerably below the regulated lending limit, and prudent lenders would not allow long-term exposures to a single

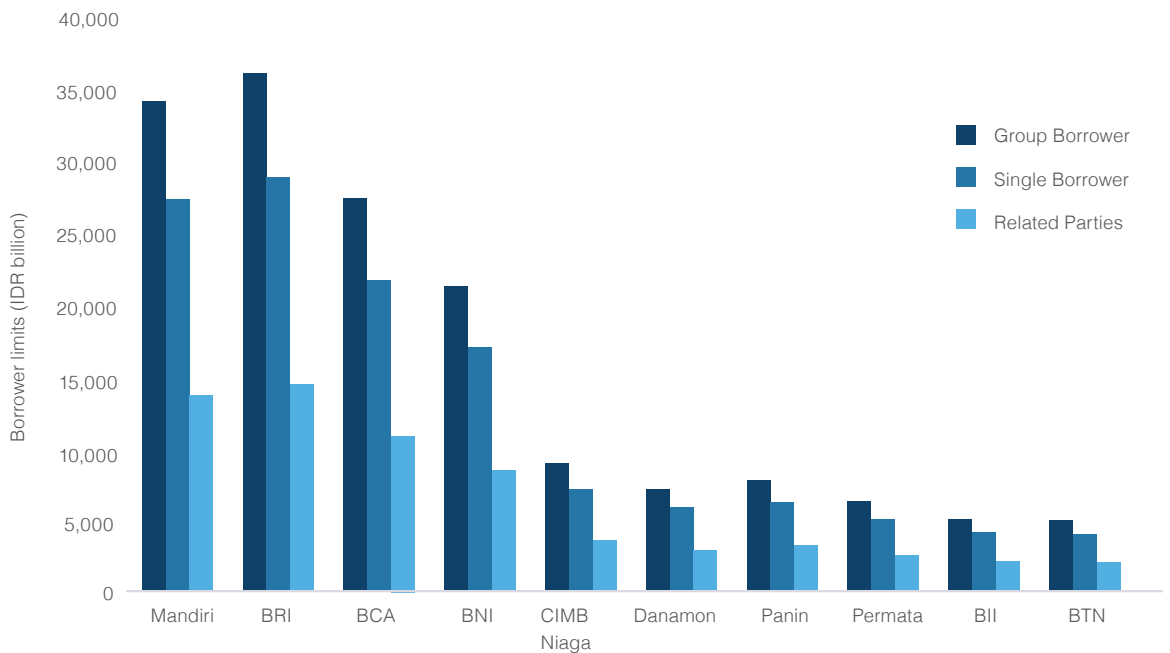
borrower to approach the regulated levels for any meaningful length of time. For example, they would seek to manage temporary peaks in exposure that may arise for a bank involved in sizable acquisition financing.

One way of managing the SBL is to encourage the syndication of loans. Large IDR transactions are often closed on a syndicated loan basis, often being pre-sold. Banks have also recognized the benefits of doing this, and some use this as a core part of their overall lending and risk management strategy. The loan market in Indonesia in Q1 2017 syndicated 11 deals with a total value of USD 4 billion. The top 10 bookrunners held market shares ranging from 4.4 to 13.9 percent. Mandiri was the only Indonesian bank in the top ten, holding 8.1 percent (ranked 3rd place) of the market total, acting as bookrunner for a total of USD 321.7 million across two deals.

The appetite for large ticket underwriting has reduced, partly due to the single borrower limit. In the past, one or two banks would lead the lending group as mandated lead arrangers (MLA) with large committed underwriting amounts. To ensure the target financing amount is reached, lead bank groups either form club deals or expand the number of MLAs (to typically four to five), and offer underwriting on a firm commitment basis and, if needed, additional volume on a stretched or best efforts basis.

There is no exception to the Single Borrower Limit for infrastructure projects, even if there is a limited recourse structure, driving the convergence of loans in SOEs and a small number of large private corporations. The nature of limited recourse or SPV structures is that the liabilities are ring-fenced for a given project, but under current Indonesian regulation on single borrower limits such liabilities are still treated as being on the main sponsors' balance sheet. Maintaining this approach will mean that the direction of credit supply will continue to focus on SOEs and major private corporate names at the expense of other participants as they have the largest balance sheets. Without additional entrants, the current players are likely to experience rising costs for managing and delivering a project pipeline, increased exposure to interest rate movements and shortages of skills and experience, all of which point to increases in the cost of infrastructure delivery in Indonesia.

Figure 3.6: Estimated SBLs for the state-owned banks and private commercial banks



Source: OJK; banks; World Bank analysis.

III.

Capital Market Financing

This section of the chapter is structured in three parts. Part A provides an overview of the constraints to institutional investor investment in infrastructure in Indonesia. Part B discusses the various capital market products and the constraints to using them more frequently to finance infrastructure. Lastly, Part C discusses the barriers to mobilizing international investors.

A. Constraints to institutional investor investment in infrastructure

The participation of the non-banking sector (i.e. institutional investors including pension funds, social security, and life insurance companies) is essential to close the financing gap for infrastructure. This is not only because of the need to supplement bank financing, but also due to the match between the long-term liabilities of these investors and the long-term nature of infrastructure investments. However, the small size of institutional investors, their short-term approach to investment, and the segmented regulatory and taxation treatment has impeded their investment in infrastructure.

(i) The low volume of capital of institutional investors

The domestic institutional base in Indonesia is small compared to neighboring countries (e.g. Singapore and Thailand) and the amount of domestic funding required. Together, the total size of social security funds, private pension funds, the insurance industry, and collective investments is approximately IDR 1,586 trillion (12.8 percent of GDP), or USD 119 billion (Figure 3.9). This stock of institutional savings (representing 12.3 percent of GDP), when compared to the flow of incremental funding from the private sector needed for infrastructure, amounts to 5 to 6 percent of GDP per annum, which means that such savings cannot be relied on as a single source of financing for infrastructure.

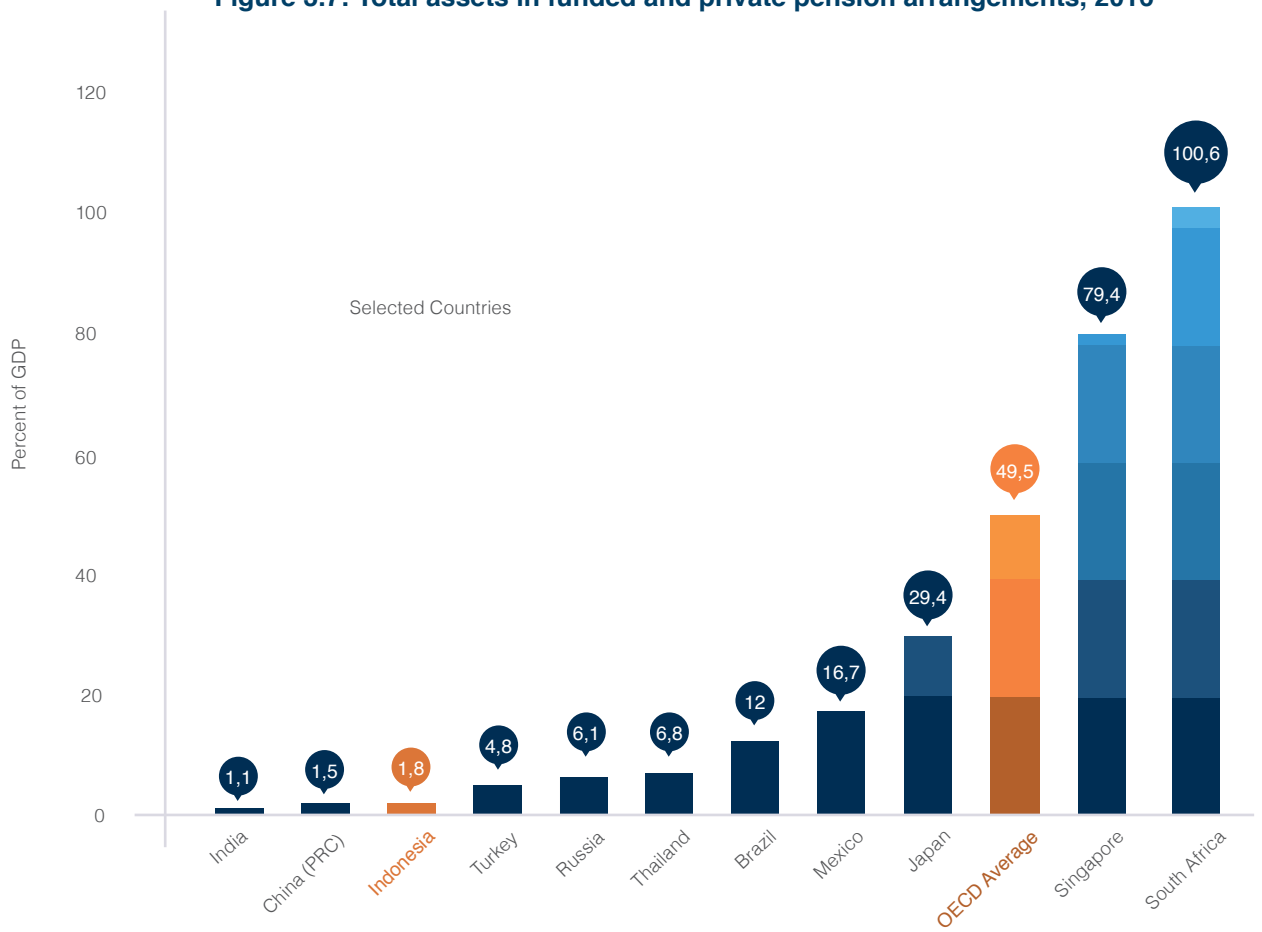
Pension funds

In June 2017, the total size of occupational pension funds were approximately IDR 254 trillion (USD 19 billion), with growth expected to slow down following the introduction of

the new social security system in 2015 (see Figure 3.10). Pension funds can be occupational funds established by sponsors and employers (DPPK/EPF) and pooled funds managed by fund administrators in independent financial institutions (DPLK/FIPF). DPPK/EPFs (Employer-sponsored Pension Funds) may have defined-benefits and/or defined-contribution schemes, while DPLK/FIPFs (Financial Institutions Pension Funds) all have defined contribution schemes. Most occupational funds are in the more established DPPK segment. However, the growth in the DPLK segment has been much higher — 21.7 percent compound growth rate over the past five years, compared with 6.2 percent and 14.4 percent for defined benefit DPPK and defined contribution DPPK, respectively. Going forward, the growth of the overall occupational pension system is expected to slow as a result of the new national social security system (SJSN – BPJS Employment), which introduces a new segment of pension savings in the social security system and increases mandatory contributions from both employers and employees.

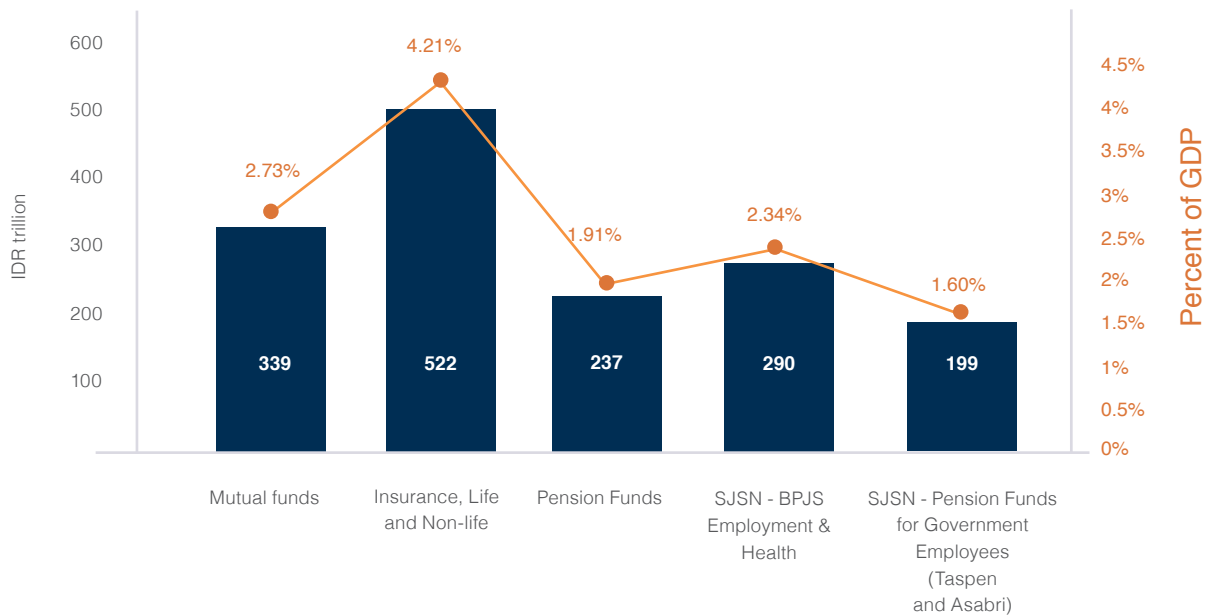
Indonesia has recently implemented a reform that is expected to generate significant growth in social security funds, particularly in the old-age and pension savings segment, in the coming years. As of the 2016, the total social security funds assets stood at IDR 488 trillion, or approximately USD 36.7 billion (3.9 percent of GDP). The new SJSN is a broad-based mandatory system that provides a social safety net for Indonesians, introduced by a law in 2004 and fully implemented in 2015. It is being implemented by two major categories of social security fund implementation agencies - BPJS Kesehatan (Health) for health benefits and BPJS Ketenagakerjaan (Employment) for employment-related benefits.

Figure 3.7: Total assets in funded and private pension arrangements, 2016



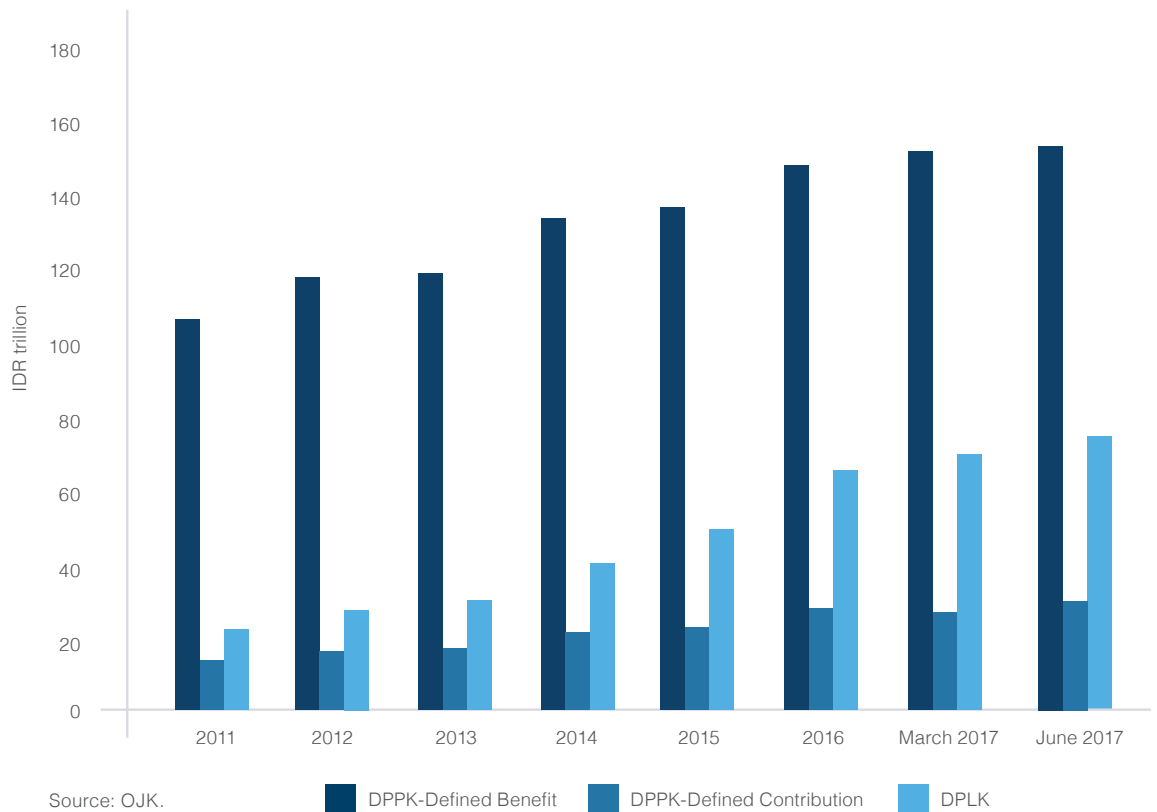
Source: OECD Global Pension Statistics.
 Note: Data for Brazil refer to closed pension funds only.

Figure 3.8: Institutional investors in Indonesia



Source: OJK, Taspen, Asabri.

Figure 3.9: Occupational and private pension funds



Under the new SJSN, the old-age and pension segments will likely contribute to an increase in long-term savings that will be channeled into the capital markets. These two segments combined require a mandatory total contribution of 8.7 percent of wages, an increase from 5.7 percent required before the implementation of SJSN reform. The total contribution will be gradually increased to 13.7 percent over a period to be determined. Other employment-related benefits are work-accident insurance and basic life insurance.

In addition to the existing mandatory old-age savings, a new mandatory pension scheme was introduced as part of the SJSN reform under BPJS Employment. Given the very recent implementation of the reform, a surge in total contribution has not yet been observed, but an increase is to be expected in the near future as enforcement intensifies. In the first three years, the new component has accumulated approximately IDR 25 trillion (approximately USD 2 billion). The new pension segment follows a defined-benefit scheme. With an initial total contribution of 3 percent of wages, split 2 percent

and 1 percent between employer and employee respectively, the intention is to eventually increase the total contribution to 8 percent. The pension segment is likely to take some of the share of future savings away from the occupational pension funds (DPPK and DPLK), although it is expected to result in a net increase in total assets under management due to the mandatory nature of the BPJS.

Insurance

The insurance industry in Indonesia is still small (with total assets of 5 percent of GDP) but it is growing into a source of long-term finance. Of the total assets of IDR 575 trillion (approx. USD 42.5 billion) held by the insurance sector as of June 2017 (excluding the insurance segments under the BPJS), life insurance represented approximately 71 percent. Given its long-term liabilities, the life insurance industry is expected to be interested in long-term investments, such as infrastructure. In contrast, the general insurance segment has largely made short-term investments.

Mutual funds

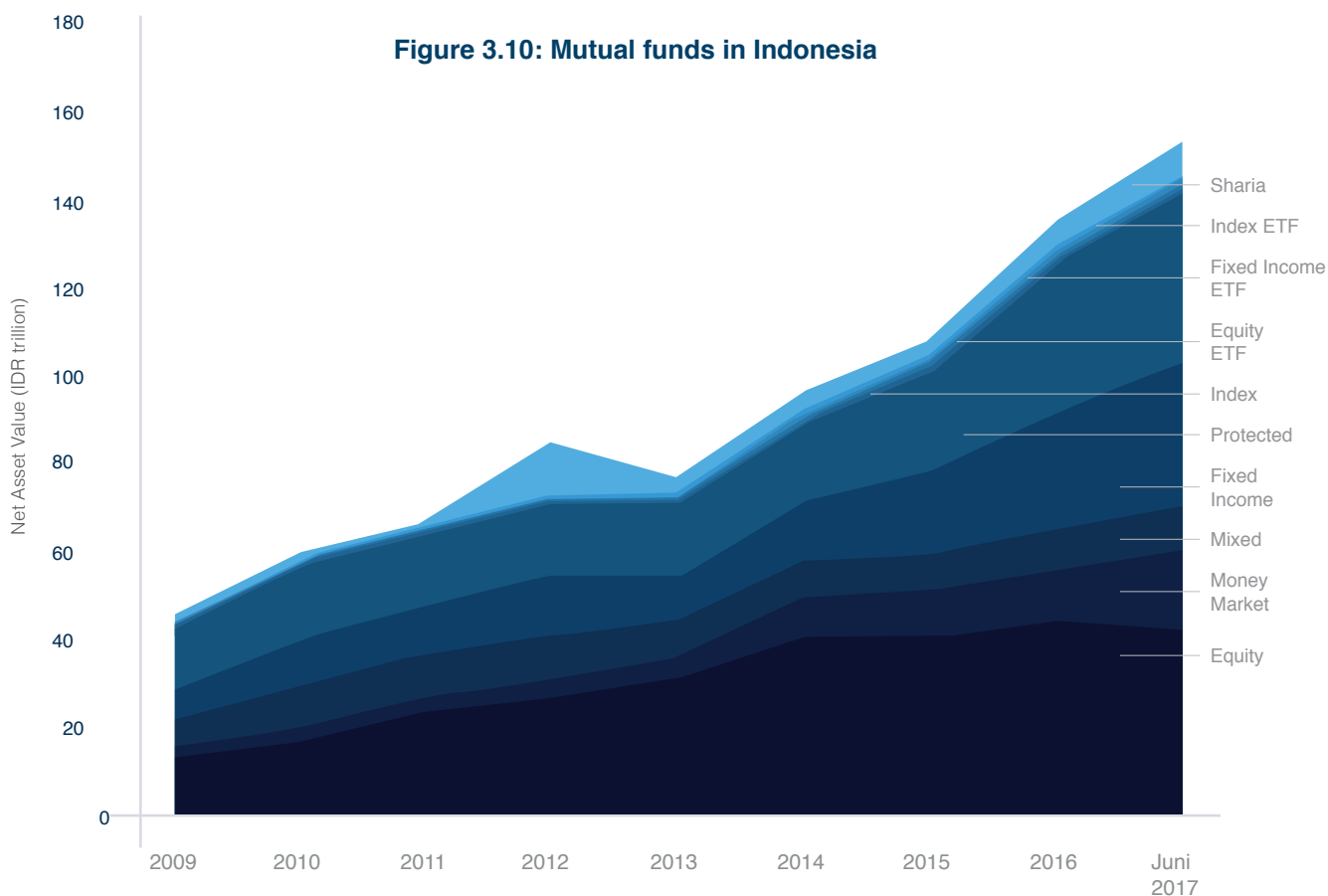
The mutual fund industry has been growing fast and consistently in the past decade, with a compounding growth rate of 15 percent per year over the past 5 years. As of June 2017, the industry was worth approximately IDR 375 trillion (USD 28 billion), or 2.9 percent of GDP. Authorities have been actively promoting this industry by providing tax incentives (see above) and facilitating the development of products that help mobilize private savings into pooled investments in the capital markets. While the bulk of mutual fund investment is in equity (34.1 percent) and government securities (24.6 percent, including bonds, bills, and *sukuk*), there is a large portion (25.5 percent) in non-government debt securities (Figure 3.11).

Generally, mutual funds are the vehicles used to mobilize individual and household savings into the capital markets. Recently, many funds have been created to cater specifically to institutional investors for tax or regulatory purposes (discussion on these funds will be provided in the Products section). Some institutional investors also invest in mutual funds for the purposes of diversification, gaining access to professional managers, or benchmarking.

There are several explanations for the low volume of the savings being made through institutional investors, especially through pension schemes. First, tax benefits for pension savings are not readily evident.

Despite pension contributions being tax deductible, there is little incentive for individuals to increase contributions. As noted, most of the occupational pension funds fall into the defined-benefit category, where employee contributions are fixed. Additional contributions are more relevant in the defined-contribution scheme, but since most salaries are paid on a net-of-tax basis, employees do not necessarily see the relationship between pension contributions and tax paid in their pay stub. In recent years, more employees are filing tax returns, in which the linkage between additional contributions and reduced taxes is clearer.

Second, it is relatively easy to withdraw pension and social security savings. Once the savings are in the system, there is little incentive to keep them there when an opportunity to withdraw presents itself, i.e. upon termination of employment or early retirement. There is no penalty for early withdrawal.



Source: OJK.

Third, there is limited portability of pension savings. There is no easy mechanism for transferring pension savings to a new account (under the occupational scheme) when a participant changes job. The administrative inconvenience, combined with easy withdrawal, commonly leads to a liquidation of previous pension savings. While mandatory nature of the new BPJS pension scheme will lead to accelerated mobilization of savings, much of these savings may not stay in the system due to the factors outlined above.

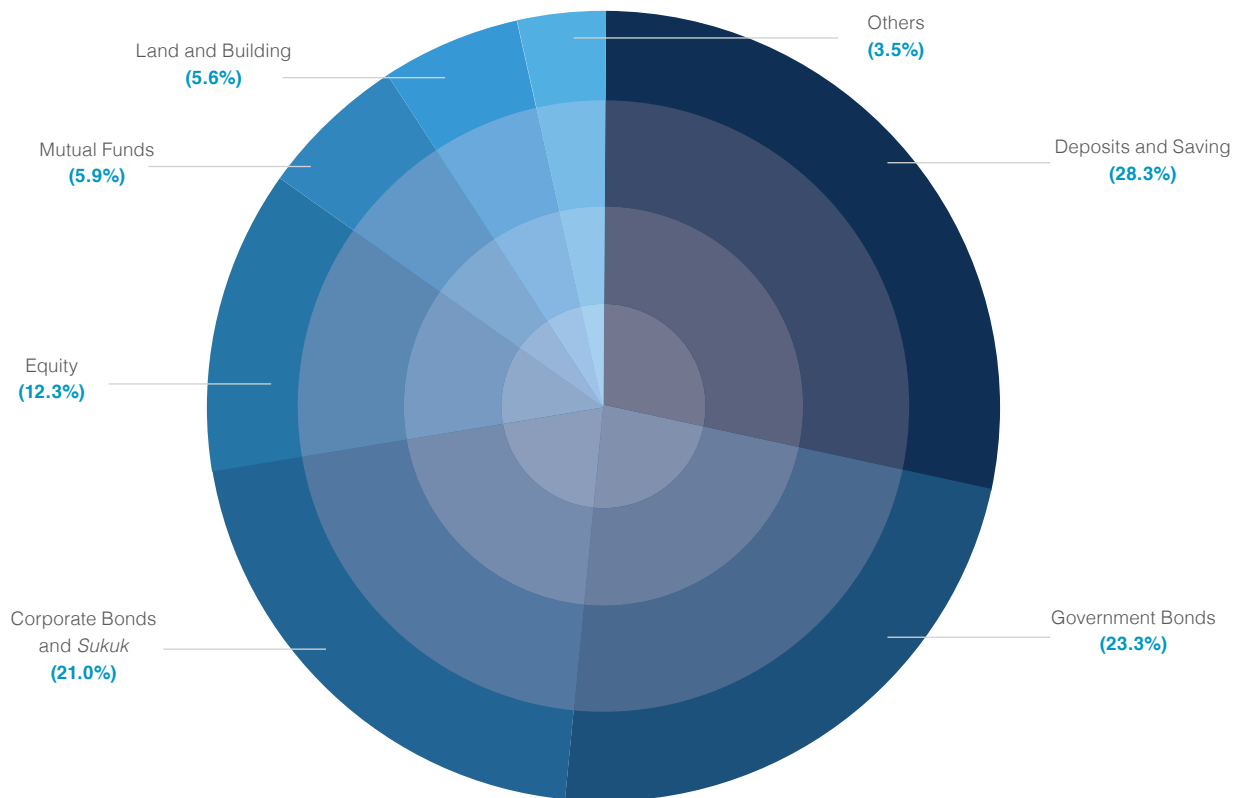
(ii) Short-term and conservative approach to investment

The majority of the assets of institutional investors are invested on a relatively short-term time horizon. Pension funds, despite their long-term liabilities, have close to 30 percent of their assets in savings and deposits (Figure 3.12). For the defined-benefit and defined-contribution DPPK, the shares in such deposits were lower at 17 percent and 24 percent respectively, but the DPLK had an extremely high value of 57 percent.

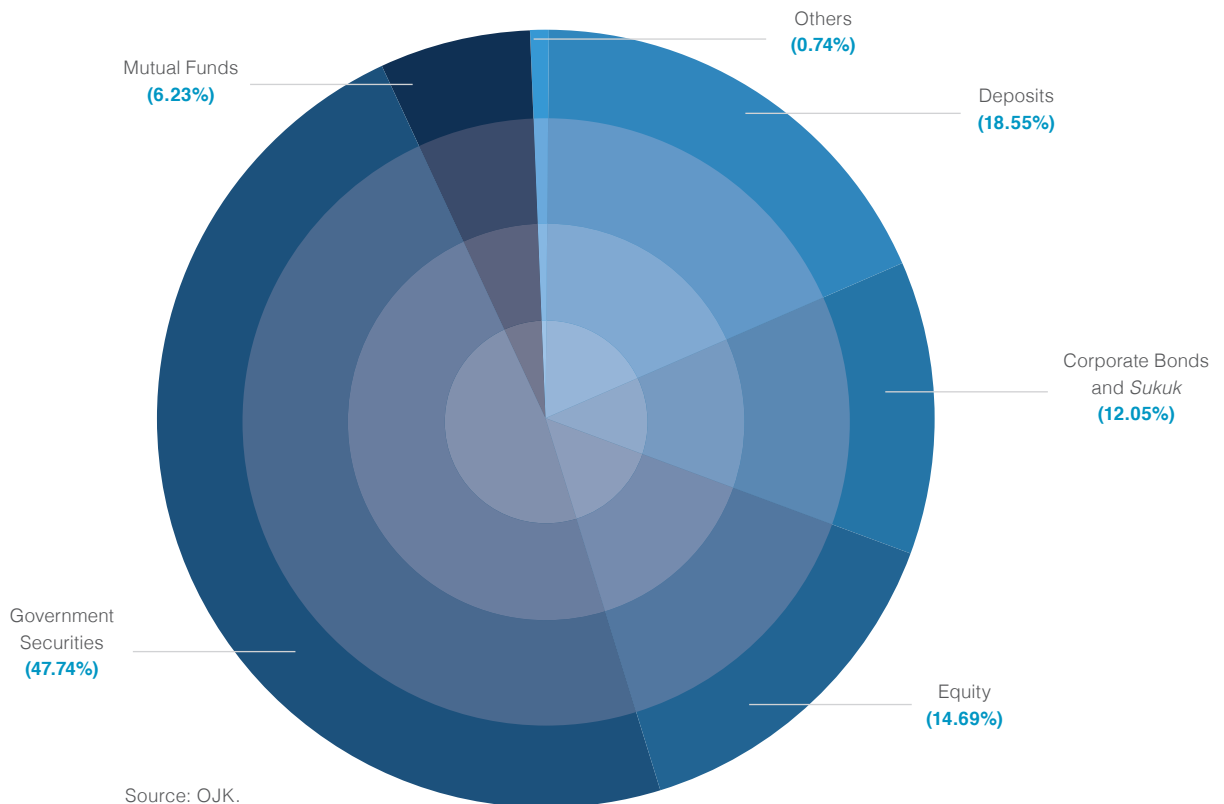
Historically, the bank deposit portion in DPLK portfolios has hovered around 60 percent.

Given the young average age of the working population in Indonesia, these ratios seem relatively high. The story is quite similar with BPJS Employment (Figure 3.13), although its proportion of deposits has declined recently and given way to increases in government securities, in accordance with an OJK requirement which mandated a minimum holding of the latter.

Figure 3.11: Portfolio of occupational pension funds (June 2017)



Source: OJK.

Figure 3.12: Portfolio of social security funds (excluding Taspen and Asabri), June 2017

The following are major reasons for such a conservative and short-term approach to investment for pension and social security funds.

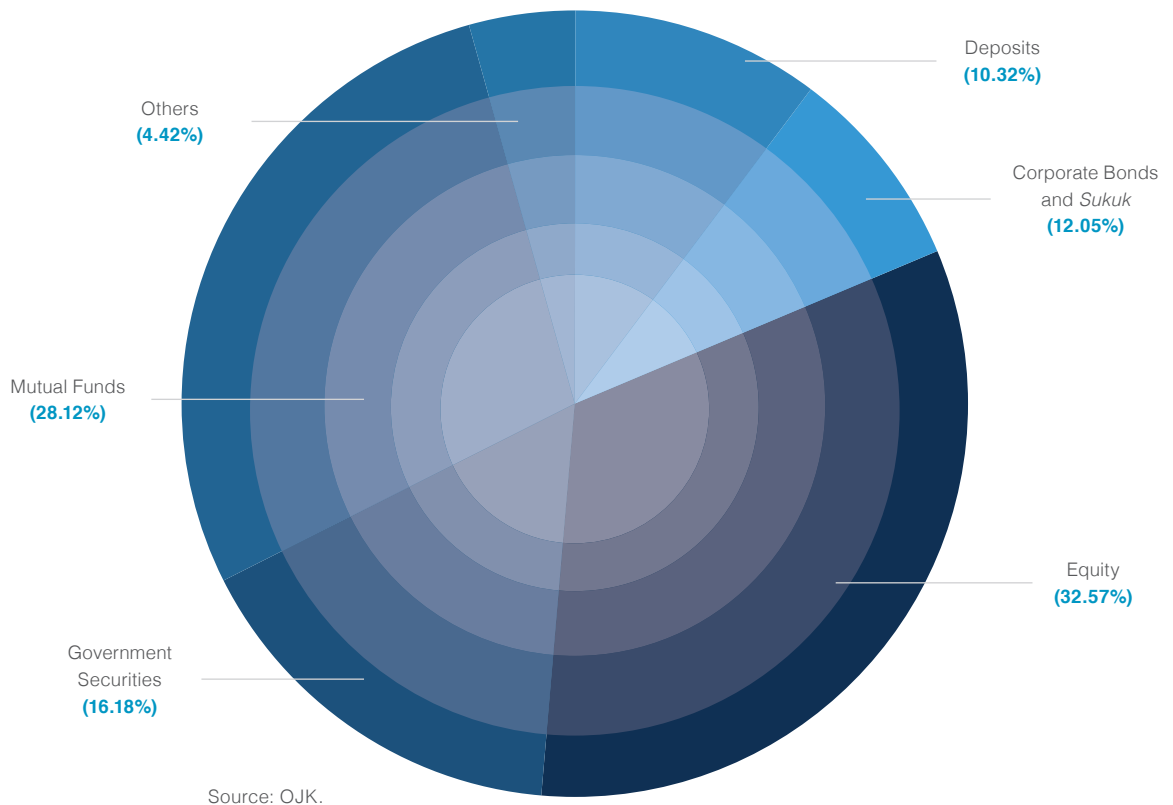
- First, fund managers of defined-benefit pension schemes claim that they must maintain sufficient liquidity in the case of early withdrawal by eligible participants upon termination of employment or early retirement. The same applies to the BPJS.
- Second, there is a tendency for managers to focus on short-term results relative to the long-term sustainability of pension funds, since they have finite terms of office. Moreover, this short-term mindset is exacerbated by the common method of measuring performance based on annual return targets - this is especially in the case of defined-benefit funds, where this type of measurement is stipulated in the regulations and commonly practiced by pension fund managers.
- Third, common practice resulting from the reporting standards for pension fund performance is a focus on realized income and gains or losses rather than portfolio appreciation. In addition, for many public funds (e.g social security funds and pension funds for employees of government bodies and SOEs), investment losses may lead to onerous scrutiny and even corruption investigations. The consequence is aversion to risks associated with long-term investment.
- Fourth, in a defined-contribution plan, the investment risk is borne by pension participants who make their own investment choices. Given that many people do not have sufficient knowledge of how to make investment for their pension and have to choose from among a variety of investment options, most opt to invest in instruments they know best, i.e. deposits. A default option for participants who are unable to make their own choice, which, in the case of young participants should lead to a default long-term investment, does not exist or is not endorsed as part of the regulation.
- Fifth, the policy in the past toward pension fund investment has been conservative. Derivatives were largely prohibited until recently and even now are allowed only for very limited purposes and activities. The absence of standardized interest risk derivative products, such as futures and swaps, and the ineligibility of pension funds to invest in such products, deter fund managers from investing in long-term debt securities (such as those for infrastructure) because they are unable to mitigate the risk of interest rate volatility.

(iii) Segmented regulatory and taxation framework

The segmented regulatory and taxation framework results in asset allocations that may be unsatisfactory for certain types of institutional investors. For example, unfavorable taxation deters insurance companies from making more investments in corporate bonds. In general, income from non-government fixed income securities is taxed at 15 percent. However, among institutional investors, only the insurance companies are effectively taxed at this rate. Pension funds and social security funds are exempted from income taxes. Meanwhile, mutual funds are taxed at a discounted rate of 5 percent for income received from corporate bonds, a discount which should be temporary but has been extended several times

with the argument that it supports the growth of the mutual fund industry. This has led some insurance companies to channel some of their investments into fixed-income instruments through mutual funds. The portion of mutual funds in the insurance portfolio is 28 percent, much higher than that in the pension portfolio (6 percent). While funds linked to debt securities of infrastructure projects exist, they are generally unattractive to pension funds because they have a tax on income of 5 percent, whereas if the pension funds were to make an investment in the debt securities directly, the income would be tax-free.

Figure 3.13: Portfolio of life insurance companies (June 2017)



B. Capital market products

Products that currently exist in the Indonesian capital market have not provided the levels of finance needed for infrastructure development.

Financing through the capital markets is limited to the issuing of corporate bonds or equities, mostly through public offering. This channel is available to large and well-known corporations, which, in the infrastructure sector, are mostly state-owned enterprises (SOEs). Mobilization of financing from institutional investors other than through public bonds or equities has been attempted (e.g through the creation of limited participation funds) but has not gained traction.

It seems that borrowers, particularly SOEs, are incentivized to hold on to assets rather than recycle capital and credit lines into new projects.

Once loans are operational, there has been little activity to date in selling down the equity or debt of infrastructure projects to potential investors, such as pension funds, insurance companies, infrastructure funds, or private sector trade buyers, even after (equity) lock-in periods have expired. This tendency to hold on to assets constrains capital for new development and promotes more aggressive or risky project arrangements, such as contractors taking on pre-closing financial risk. There is an opportunity to reduce exposure to operational assets, allowing SOEs to focus on creating assets and developing an operating business. Methods of asset recycling vary, but generally include share sales or public equity, securitization, funds, and corporate bonds (all discussed below).

There are several capital market products that could be used to finance infrastructure and whose regulatory foundation already exists in Indonesia.

These include: (i) government bonds; (ii) public equity; (iii) corporate bonds; (iv) securitization; (v) funds; (vi) municipal bonds; and (vii) *sukuk*. The following sub-sections briefly discuss each of the products listed above and the need to develop new solutions based on international experience that could be tailored to Indonesia's context to enhance the role of capital markets in infrastructure financing.

(i) Government bonds

Government can finance the development of infrastructure directly from its own budget or from funds it raises through the issuing of bonds on the capital market. The latter might include general government bonds or bonds issued specifically for infrastructure development

purposes. In Indonesia, as is commonly the case in many countries, government bonds are issued for general funding of government budget. The proceeds from the issuing of government bonds are not earmarked for any specific purpose - infrastructure spending is only one possible use for the proceeds. Issuing a line of bonds specifically for infrastructure might remove some of the political resistance toward government debt. However, it does not relieve the government of constraints in relation to budget spending, deficit, and the borrowing limit. Furthermore, issuing a new line of bonds specifically for infrastructure investment may create market segmentation without a clear pricing benefit, at least in the short- to medium-term.

(ii) Public equity

The issuing of shares by infrastructure companies has been one method of raising funds for infrastructure development.

In the past ten years, approximately IDR 50.6 trillion (USD 3.9 billion) has been raised by companies in infrastructure-related sectors, including telecommunications, energy, and construction (Figure 3.15). This includes initial public offerings (IPOs) and secondary offering of shares by listed companies. Fundraising by companies in infrastructure-related sectors represents 10 percent of total new funds raised through the offering of public shares during the period.

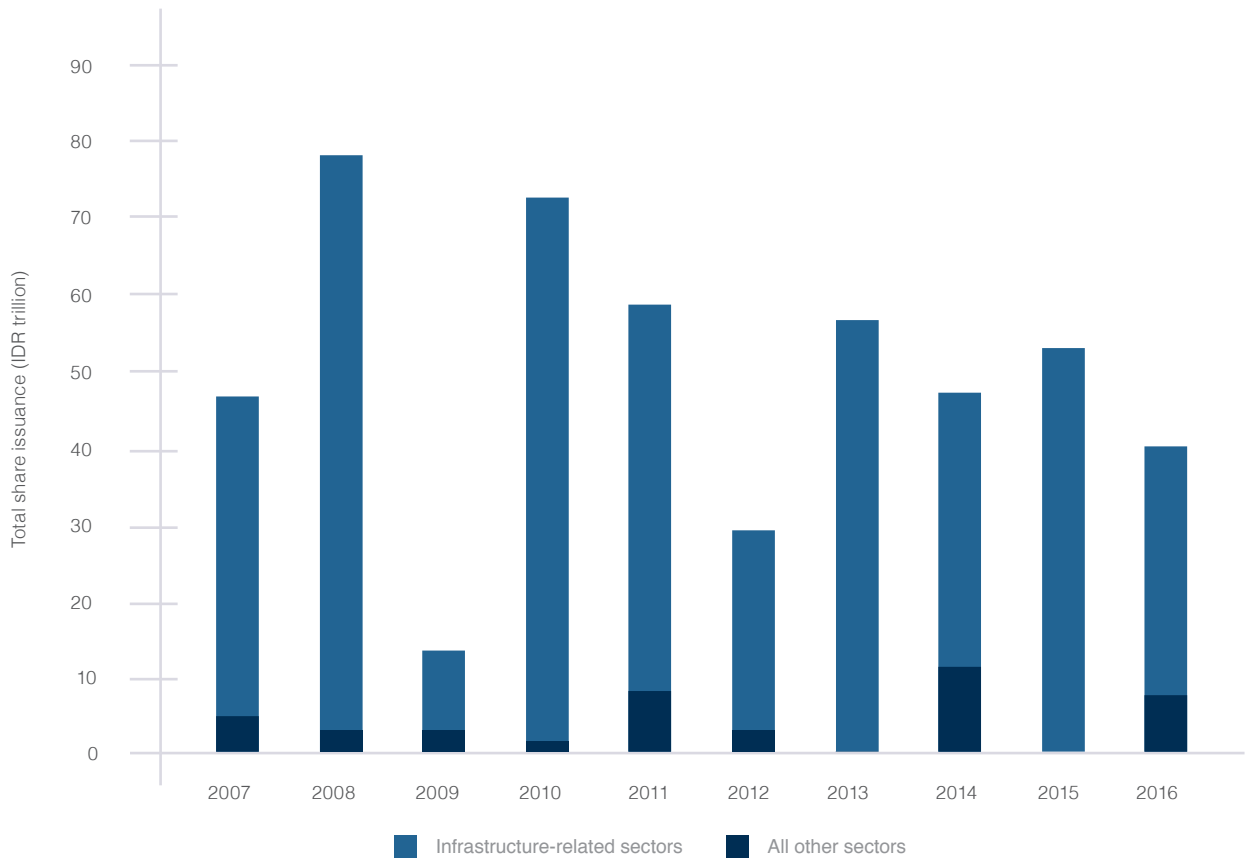
However, the public equity market may only be suitable for large corporations or well-established, well-known companies. From the data covering the past ten years in all sectors, the average size of companies undertaking an IPO is IDR 4.1 trillion (USD 297 million).

The average size in the infrastructure sector is also similar. This implies that only well-established companies of a certain size can access this market. Given that new infrastructure projects are usually undertaken by a subsidiary or project company with no operating assets, they would not be able to raise funding from public equity markets unless the fundraising itself is undertaken by a parent company that already has sizeable assets.

Several projects must be combined to reach the threshold size, which means that investors will be taking on a mixed set of risks and will have less ability to choose projects based on quality, types of infrastructure investment, or other criteria.

Some investors may prefer diversification, but

Figure 3.14: Issuing of public equity shares in infrastructure and all sectors



Source: Indonesia Stock Exchange.

those investors with certain risk thresholds would have to accept the mix of infrastructure projects, which may have different risk profiles. Combining good projects with lower quality ones would prevent investors from obtaining more optimum pricing. Further, investors who want to focus on certain sectors or subsectors would have less choice, if the companies issuing the bonds combine projects of different types (e.g. Nusantara Infrastructure includes toll roads, energy, ports, and others), or mix infrastructure investment in with other businesses (e.g. Astra Infrastructure is mixed in with Astra International). The size threshold also limits potential issuers or project owners, who may not have large and strong balance sheets from raising funds through the capital market.

Risk pricing and the cost of capital usually means that the public equity market is not suitable for funding new infrastructure projects. New projects are normally very risky, as they include construction risks, among others. Public or retail investors are typically unable to price the risk accurately on the basis of the limited information available. In contrast,

targeted institutional investors may have a better understanding of the risk and may therefore be willing to accept and control it. As such, new infrastructure projects normally have few public equity investors.

The public equity market could be a good way of refinancing projects or providing an exit mechanism for the original equity investors. As a project matures, equity risk drops significantly, and the value of the project's equity increases proportionately. Early investors would be able to exit and realize gain from their investment.

(iii) Corporate bonds

Corporate bonds are arguably the most straightforward instrument for fundraising in the capital market for infrastructure. The corporate bond market in Indonesia is relatively active. About 98 bonds are issued annually, with the annual total over the past five years averaging IDR 50.1 trillion (USD 3.8 billion). Bond issues vary in size from IDR 20 billion (USD 1.5 million) to about IDR 4.6 trillion (USD 350 million).

The vast majority of corporate bond issuers come from the financial sector (73 percent). Infrastructure accounts for approximately 13.1 percent of total bonds outstanding (Figure 3.16). Some of the largest issues are in the infrastructure sector. However, the relative size of the Indonesian corporate bond sector is still below those of comparable countries in Asia (see Figure 3.17).

The suitability of bonds—and debt financing in general—for financing infrastructure is clear.

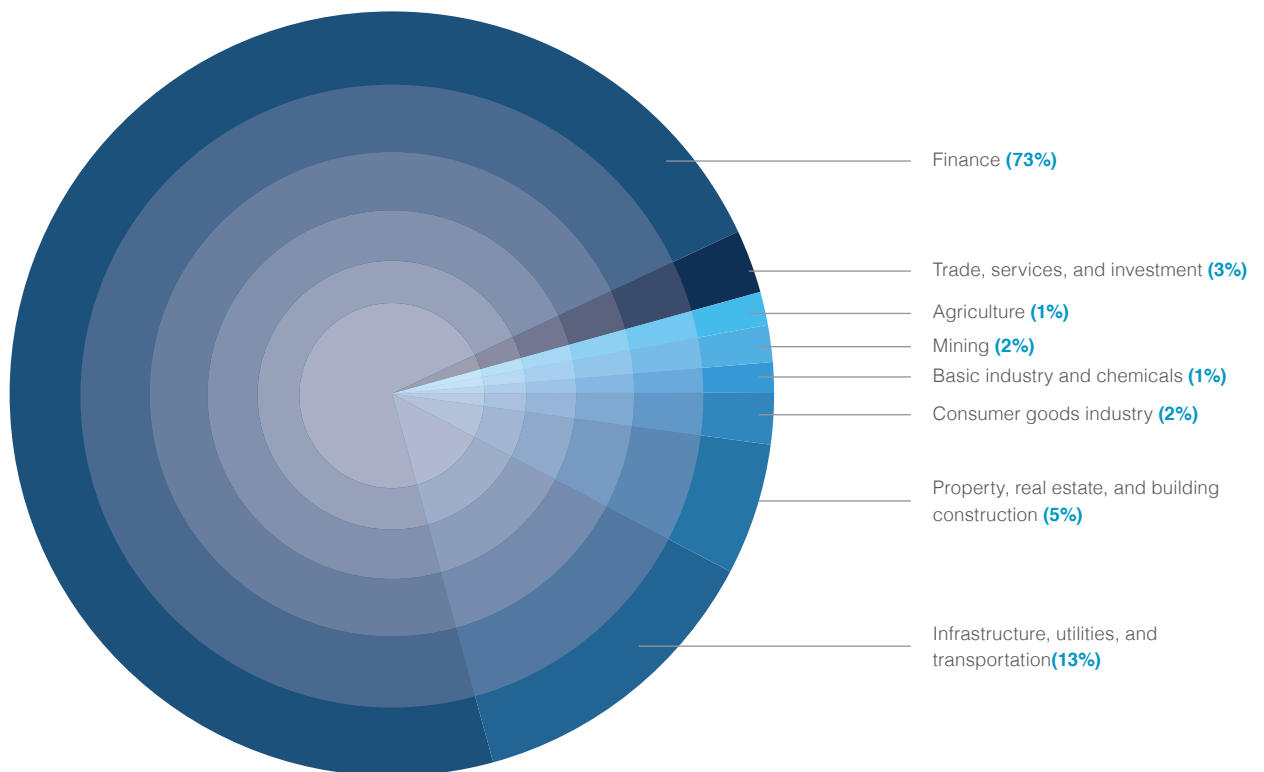
The amount of funding required for infrastructure investment tends to be large and therefore requires the participation of many investors. The leverage ratio (debt-to-equity) of infrastructure investment is usually high, commensurate with the high risk and high cost of equity capital. High investment risk leads many financiers to prefer lending (debt), with a promised payback and return on investment, in order to limit their risk exposure. Most risk is taken on by the project owner or sponsor through their equity investment, mostly held privately, at least until the project matures.

In theory, bonds have major advantages over bank loans for infrastructure financing.

First,

investment in infrastructure is long-term, while bank sources of funding are mostly short-term. Currently, the longest tenor an infrastructure project could obtain for a commercial bank loan would be approximately seven years, although certain projects could be given a longer term by certain banks (i.e. Bank Mandiri for certain SOE projects). Investors in bonds, many of whom are long-term institutional investors including pension funds and life insurance companies, are willing to take a longer tenor. However, to date such long-term tenors have been limited to bonds issued by large, well-known enterprises, most of which are state owned (e.g. Telkom, PLN, Indosat, and Pelindo). Second, the size of infrastructure investments would not normally allow a bank to be the sole lender due to its exposure limit. Bonds are naturally designed to be sold to many investors (including possibly banks) and are therefore more practical in the case of large borrowing requirements. Currently, the largest single bond issue is by Indonesia Exim Bank totaling IDR 4.6 trillion. Further, bonds lend themselves to greater transparency, with the result that the investor base can change over time as different investors participate at different times in the project cycle depending on their risk tolerance.

Figure 3.15: Corporate bonds outstanding as of June 2016



Source: Indonesia Stock Exchange

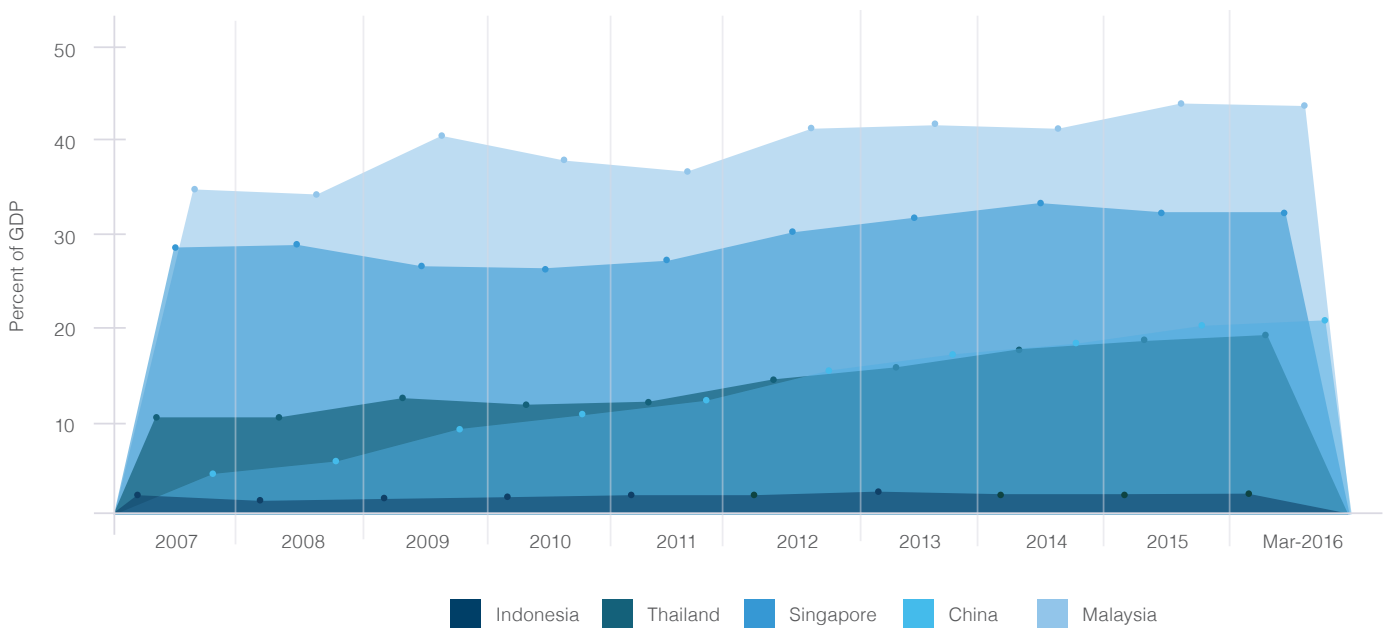
However, the Indonesian corporate bond market has so far been accessible only to large, well-known entities, due to hurdles in a new project company's ability to issue a structured project bond. A stand-alone project, particularly a greenfield project, typically has a risk level too high for bond investors. A company that has several operating assets, could borrow for the purpose of developing a new project, but the borrowing itself would be backed by the performance of the overall project portfolio. For a stand-alone project to be able to borrow from the bond market, a significant structuring of the bond would be necessary to mitigate most of the credit risk. Such structuring may include guarantees to cover construction and ramp-up (off-take) risks, security over assets and revenue stream, and other credit enhancement mechanisms. The latter is critical in the context of helping Indonesia build investor confidence, as the country has yet to develop a strong track record and history of completing large infrastructure projects.

Structured bonds are not common in Indonesia, because credit culture is not prevalent. Most Indonesian investors are familiar only with standard corporate bonds without any structure that would enhance the bond's credit quality beyond the company's own credit rating. In recent history, only one corporate bond has been issued that carried

a credit enhancement in the form of a partial credit guarantee. Investors are most receptive to the name of the issuer; credit ratings are a secondary consideration for investment decisions in the bond market. The result is the prevalence of SOEs and other large and well-known corporations.

The issuance of structured bonds is also made difficult by the absence of other legal structures permitted to issue bonds. In the non-government sector, the regular 'corporate' structure is the only legal vehicle that can be used to issue bonds. Using such a vehicle is certainly appropriate when the bonds are backed by the corporation's balance sheet. However, when a bond is issued for a specific project and payment against it depends primarily on the project's revenue (commonly referred to as a 'project bond'), a SPV should be used. A SPV allows a specific operation (i.e. a single asset or project) to be ring-fenced in a highly efficient manner (especially from the point of view of tax efficiency), separating it from the other operations (assets and liabilities) of the project owner or sponsor. In Indonesia, an efficient SPV of this nature does not exist—a project must be contained within a corporate entity, which is subject to the same requirements as those applied to a typical corporation.

Figure 3.16: Country comparison, corporate bonds to GDP (%)



Source: OJK.

In practice, the regulatory framework for corporate bonds prevents a new project from issuing bonds. This restriction is caused by the interaction between the regulation covering the issuing of bonds, the listing regulation, and the investment regulation applied to institutional investors. Specifically, the investment regulation covering pension funds states that most pension funds can only invest in bonds that are listed on a securities exchange in Indonesia. As pensions and social security funds represent the largest investors in the domestic bond market, such regulations essentially prohibit a new company or a new project from issuing bonds in the public market given that this company would not be listed.

For the corporate bond market to become a common vehicle for infrastructure investment an effective framework for SPVs needs to be created and a regime for the non-public issuing of bonds targeted at institutional investors established. The creation of effective SPVs would allow stand-alone projects to be structured and funded specifically by the proceeds from the issuing of bonds, the payment for which relies on the revenues from the project. At the same time, a new channel for issuing bonds without going through the cumbersome process of a public offering would allow many companies and projects to raise funds through the bond market.

(iv) Funds

Using a fund to channel investment into infrastructure could address some of the challenges related to public bonds or equity investment. In the fund concept, instead of investing directly in the company that undertakes new projects, investors invest indirectly through a professionally managed fund, which in turn makes the investment in new or existing projects. The investment made by the fund may take the form of debt, equity, or anything in between (that is, quasi-equity), but most are undertaken through private transactions. The private nature of the individual transactions provides a better opportunity for the fund manager to negotiate and effectively structure the deal to manage risks.

However, apart from mutual funds, the fund industry in Indonesia is underdeveloped. Although there have been attempts by private-sector players to establish domestic infrastructure funds, they have not been successful, judging from the lack of uptake in the form of new or follow-up funds or

growth of existing funds. Currently, the size of infrastructure-related funds is approximately IDR 3.2 trillion (USD 232 billion), a small portion of the overall fund industry in Indonesia, which is about IDR 290 trillion (USD 2.1 billion), including mutual funds. That said, the size of the infrastructure fund industry in Indonesia may be understated as the only publicly available data is sourced from the statistics for RDPTs, registered in Indonesia through OJK, the financial services authority.

RDPTs, or limited participation funds, are essentially a collective investment scheme that, unlike mutual funds, can be offered only to a limited number of investors. The basic idea is to provide a legal vehicle for private equity funds that can be purchased by institutional investors. The legal vehicle for a RPDT is a CIC (a collective investment contract or KIK, using the local abbreviation), which is a tripartite contract between the investors, a fund manager, and a custodian to undertake investment stipulated in the contract. The basis for the CIC legal vehicle is established under the Indonesian Capital Market Law (1995). Unlike mutual funds, for which the legal basis for CIC was originally established, a RDPT is not open-ended and can be offered to a maximum of one hundred investors, with no more than forty-nine investors allowed to invest in it.

Over the years, RDPT has been used to make various investments but there has been no common theme to its investment activities. While the initial intention was to provide a vehicle for private equity, some funds established included public equities, thus confusing the funds with typical mutual funds. Also, many funds were established to invest in a single asset—such as debt securities issued under a private placement, commonly called MTNs—despite the original intention of promoting funds based on a portfolio of diversified assets. Despite some examples of the use of RDPT for infrastructure-related investment, including loans to new projects that could not otherwise have been made through the bond market, these examples have not transformed RDPT into a major vehicle for infrastructure investment.

The main rationale for using RDPT to date has been regulatory and tax arbitrage. In the case of RDPTs that include public equities, the likely motivation was the avoidance of volatility, given the less frequent valuations typical for private equity funds (as compared with mutual funds). In the case of single-asset RDPTs, the

investment made by certain types of investors through the funds may be more economical than a direct investment, given the tax incentives provided by the government to promote the fund industry. Here, the interest income earned by the fund from its debt securities investment is taxed at 5 percent; while a taxable investor would pay a withholding tax rate of 15 percent for the interest income in the same securities. Income distributed by the fund is nontaxable.

The differential tax rate, while allowing RDPT to grow, also prevents it from becoming a mainstream instrument for large, tax-exempt institutional investors, such as pension funds. Because RDPT as a collective investment scheme is a taxable entity, it is not particularly attractive to nontaxable investors, such as pension and social security funds, which could otherwise purchase the debt securities (in the case of single-asset funds) directly without paying any taxes on the income. For these investors, investing in RDPT is expensive, not only from the structuring perspective—that is, additional layers of intermediation that include an asset manager and custodian, both of which add to the cost—but also from the additional tax.

The various regulations governing institutional investors treat RDPT differently, impeding its growth as a vehicle for private equity or infrastructure funds. Investment regulations for pension funds and insurance companies do not allow for a common use of RDPT. The pension fund regulation appears reasonable by allowing investment in RDPT: (i) only by pension funds with a minimum investment portfolio of IDR 20 billion and sufficient risk management procedures; and (ii) if the maximum investment does not exceed 10 percent of the total pension fund portfolio. This is in line with the perceived risk associated with private equity investment. In contrast, until recently the regulations governing insurance companies allowed investment only in RDPT that has listed securities as the underlying assets. This requirement alone prevented insurance companies operating in Indonesia from investing in a private equity or infrastructure fund through RDPT.

OJK has very recently introduced a new regulatory framework for infrastructure funds, called DINFRA, incorporating many useful features from the existing schemes but also giving flexibility to enable a variety of structures. While this regulatory framework appears to remove many of the constraints

in the previous regulation that impaired the fund as a nimble instrument for infrastructure investment, it remains to be seen whether the new framework is effective, as it has not been tested through the formation of a new fund. Additionally, regulations governing institutional investors need to be revised to allow them to invest in this new type of fund.

(v) Securitization

Securitization is widely considered a potential product for mobilizing financing in the infrastructure sector. Through securitization, securities are issued and paid using specific, identifiable future cash flows. As the payment of the securities is based on the cash flows coming from a third party, the performance of the securities is not linked to the financial condition of the originator. Thus, investors are not as exposed to the financial risk of the originator as in a typical corporate bond structure, although there are risks associated with the originator's operational performance, e.g. delivery of services or collection.

Indonesia has a framework for securitization, yet many challenges remain. The regulatory framework for domestic securitization was established in 2008 using the collective investment contract as the vehicle for securitization, locally known as KIK-EBA. However, until very recently, only one type of securitization (mortgage-backed securities, MBS) has been issued. Securitization backed by other types of assets or by other entities has not materialized, due not only to a lack of economic motivation to securitize but also to the absence of a supportive enabling environment.

At least three types of securitization could be attempted to channel funding to infrastructure projects, including: (i) the securitization of revenues from infrastructure projects; (ii) the securitization of infrastructure loans; and (iii) the securitization of infrastructure assets. The first type of infrastructure-related securitization was launched in August 2017 in Indonesia for IDR 2 trillion, backed by future revenues from the Jagorawi toll road operated by Jasa Marga, an SOE. PLN followed with another securitization for approximately IDR 4 trillion in November 2017, using receivables in the power sector as the underlying assets. **A key bottleneck to further securitization is its tax treatment.** Unlike a typical securitization vehicle in other markets, the securitization vehicle used in Indonesia is subject to various taxes, including income taxes (from

interest received and capital gains) and value-added tax. This renders some types of securitization economically nonviable. These tax issues include: (i) tax on gains or losses on transfer, if the transfer of securitized asset occurs at a price other than the book value; (ii) tax on interest income received by the securitization vehicle; and (iii) for securitization of infrastructure assets, tax on the transfer of assets (primarily land transfers). A strict interpretation of accounting rules makes it difficult to obtain an off-balance-sheet treatment of the transaction, without which the originator can receive no capital relief as the securities issued under the securitization would be considered as debt against the originator, thereby rendering invalid a major benefit of securitization as opposed to standard corporate debt.

One of the biggest motivations for securitization is the originator's ability to raise funds using the strength of the assets, thereby relieving pressure on their balance sheet. This is achieved by selling the assets into the SPV, which in turn obtains the funds to buy the assets from selling the securities. For securitization to work best, the originator needs to maintain a residual benefit in the assets, as this represents 'skin in the game' reflecting the originator's responsibility toward the quality of the assets. The absence of 'skin in the game' creates potential moral hazards and adverse selection problems, where the originator may sell the worst performing assets to the investors through the securitization vehicle. By having residual value in the securitization, the originator will ultimately benefit from good performance of the assets, and will conversely suffer if the assets perform poorly. Accounting rules suggest that the originator can treat the assets as off-balance-sheet only if: (i) the originator transfers substantially all risks and rewards associated with the assets; or (ii) the originator does not have control over the assets. Under the skin-in-the-game concept, the originator does not transfer substantially all risks and rewards and must therefore go through the so-called 'control test' to determine how much control is retained by the originator. However, the control test appears to be subject to accounting bias, i.e. in order to achieve an off-balance sheet treatment, accountants tend to require a majority of the first loss to be owned by a party other than the originator, with the result that any such treatment may require additional measures that may be costly or impractical. This issue has so far prevented the widespread application of securitization of assets other than mortgages.⁶

⁶ In the case of MBS, the existence of PT Sarana Multigriya Finance (SMF), a secondary mortgage corporation that purchases a majority of first-loss pieces, helps establish the off-balance sheet treatment of MBS.

The recent Jagorawi securitization accomplished the intended impact of reducing Jasa Marga net-debt-to-equity ratio despite its owning the full first-loss piece.

This was achieved thanks to the accounting resolution that treats the cash proceeds from securitization as unearned revenue, thus not impacting the gross debt level even as the total assets increase. As such, an off-balance sheet treatment was not necessary.

While the fundamental legal basis of securitization is set out under the capital market regulations, there are additional bottlenecks associated with the sale or transfer of assets.

For the securitization of revenues from infrastructure projects, specific receivables to be transferred must be identified before the receivables themselves are established. Receivables normally arise when there is a service delivered; in the case of future receivables, the originator or seller of the receivables is not yet delivering the service (for example, water-use fees arise when the water is supplied to the users). As such, there is a responsibility on the originator, seller, or another contracted party to deliver the service such that the revenue can be continuously generated. This raises a second issue regarding the liability of the originator that may render the sale of the receivables not 'without recourse' or not a 'true sale'. The 'true sale' feature is a requirement under the securitization regulation. To overcome this issue, some accounting adroitness was introduced in the Jagorawi securitization, whereby Jasa Marga created a certificate representing the right to receive future revenues from the toll road. This certificate was then sold to the securitization vehicle.

Similarly, there is a question as to whether real assets, as opposed to financial assets, can be securitized. Under Indonesian regulations, real assets are not listed as eligible assets for securitization using the securitization framework-only financial assets are recognized. However, an alternate structure using the collective investment contract framework allows for the securitization of real assets. This is known as DIRE, or collective investment contract for real estate investment funds (REIF). In a DIRE scheme, a collective investment contract (CIC), acting as an SPV, purchases the assets (real estate) using the proceeds of issuance of participation units. The SPV continues to own the assets, which are managed by the asset manager. Income from the assets, after subtracting all costs, is distributed to the unit holders. DIRE introduces a new concept, in which a CIC can own real

assets, while previously the only eligible assets were financial. In theory, this concept could be applicable to infrastructure assets. However, despite OJK's recognition of CIC ownership of real estate, a CIC is not widely recognized as a legal body in the Indonesian legal system but rather is viewed as a contract between legal bodies. In consequence, there has been no test yet as to whether a CIC will be able to sustain legal challenges to its ownership of real estate.

(v) Municipal bonds

Indonesia has established a regulatory framework for municipal bonds, but to date no municipal bonds have been issued in Indonesia. The regulatory framework includes the borrowing framework for the municipalities, the specific framework for bonds issued by municipalities, and the investment eligibility criteria for institutional investors. Efforts to issue bonds by DKI Jakarta (between 2011 and 2013) and Jawa Barat (2014 and 2015) did not yield results, due to the overly complicated and lengthy processes involved. Further discussion of municipal bonds can be found in Part 2, Chapter 2 of this report.

(vii) Sukuk

Sukuk are often cited as suitable instruments for funding infrastructure projects. *Sukuk* are effectively debt-like securities whose payments are based primarily on the performance of the underlying assets in the forms of leased assets (*ijarah*), sale-and-purchase agreements (*murabahah*), profit-sharing agreements (*mudharabah*), joint ventures (*musyarakah*), investment contracts (*wakalah*), construction projects (*istisna*), or others. *Sukuk* are similar to securitization transactions, but with an approach that must conform to Islamic principles. Some *sukuk* structures are arguably more suitable to infrastructure projects than others. These include *sukuk istisna*, which are issued based on a contract for future delivery of constructed assets (for example, roads and power plants). However, in theory, many *sukuk* structures can be used to fund infrastructure including, for example, the leasing of already operating assets (*ijarah*) or investment in a portfolio of projects (*wakalah*). Most *sukuk* are structured with recourse to a sponsor or an ultimate obligor, who is legally responsible for paying any shortfall in the debt services (coupon or principal). Any surplus income received from the assets can be claimed by the ultimate obligor. This allows the *sukuk* to be structured to have exactly the same risk and return features as if the debt securities were issued by the obligor

themselves. If there is any nonperformance of the underlying assets, the ultimate obligor will take responsibility. Investors are therefore exposed not to the risk of the assets, but to the risk of the ultimate obligor. This is an 'asset-based' structure, in contrast to an asset-backed structure where the investors ultimately bear the risk of the assets and there is no recourse to the sponsor or obligor. In fact, in some asset-based *sukuk*, the cash flow from the assets commingles with the obligor's other cash flows.

The asset-based structure means that most *sukuk* are commonly treated like regular debt securities, and hence face challenges similar to those of corporate bonds. Credit ratings for *sukuk* are the same as the credit ratings of the obligor's senior debt and there is no seniority for *sukuk* holders despite the existence of identified assets underlying the *sukuk*. Most likely, an issuer that cannot issue bonds based on their own credit standing would not be able to issue *sukuk* simply on the basis of offering eligible assets. As such, *sukuk* do not provide any new avenues for issuers that do not already have access to the market. However, *sukuk* may broaden the financing base (investor base) of the issuer, as *sukuk* can tap into the market of Islamic investors, which might not have been otherwise accessible.

(viii) New capital market solutions and products

The development and application of new capital market solutions and products is needed to mobilize capital from both domestic and foreign investors. The analysis in this section illustrates several limitations of existing instruments to finance large-scale infrastructure through capital markets. Going forward, an enhanced role for specialized financial institutions such as SMI, IIF, and IIGF represents a promising opportunity to stimulate financing via capital markets by tailoring for the domestic market products used internationally or developing new ones that would fit Indonesia's context.⁷ Global experience has shown that domestic development institutions can play a catalytic and critical role in helping to address market gaps.

IIF and SMI should focus on demonstration transactions that could provide a model and be replicated on a larger-scale for the financing of infrastructure in Indonesia.

The products or features within the existing capital market instruments being explored include:

- **Credit enhancements at project level:** this type of product enhances the credit quality of the project for specific risks, such as a temporary loss of liquidity caused by cost overruns or other specific events. The enhancement goes for all lenders of the project, be it via credit, bonds, or funds, as it seeks to crowd-in several types of investors. The Transportation Infrastructure Finance and Innovation Act (TIFIA) line of the Department of Transportation in the United States and the Subordinated Multipurpose Facility (SMF) line provided by FDN in Colombia are relevant examples of such products, whose implementation was critical in attracting local and foreign institutional investors for capital market transactions in the form of bonds and private debt funds.
- **Project bond structures:** it will be vital to design structures that could help transition to project finance rather than rely on corporate-finance transactions. This would include the design of enhancements or guarantees that could be embedded in the project bond to mitigate certain risks (e.g. construction risk) and attract institutional domestic and international investors. Several examples are being developed and implemented internationally; the challenge

in Indonesia will be to identify a model that could be tested and replicated on a wider scale, to become a benchmark structure in the domestic market.

- **Private infrastructure funds (debt or equity):** this type of investment vehicle has proven useful in bringing in institutional investors to infrastructure projects. Private debt funds pool institutional investors together as limited partners with a manager or general partner, who should be supported by a team of experienced investment professionals. This structure reduces the costs to institutional investors of building a strong infrastructure investment team, while engaging them at the construction stage.
- **FX hedging tools:** FX hedging products are key to bringing in international lenders. Pure market solutions through derivatives markets are not sufficiently developed to meet the hedging needs of infrastructure projects. Derivatives markets currently lack the depth required to provide such hedges, especially for long-term maturities. While policies to further develop the derivatives market need to be implemented, the effective results of these policies are only expected in the medium and long term. Meanwhile, other FX hedge tools need to be devised to address this market failure. The role of local infrastructure finance institutions and multilaterals may be critical in supporting such structures and several different models are being developed and discussed internationally.

⁷ PT Sarana Multi Infrastruktur (SMI) (BBB-Fitch) is a SOE that is 100 percent owned by the government. In addition to development and advisory services, SMI is able to provide debt, mezzanine and subordinated capital, and equity to infrastructure projects. PT Indonesia Infrastructure Finance (IIF) is a private entity owned 30 percent by SMI and 70 percent by ADB, IFC, DEG and SMBC in varying amounts. In addition to development and advisory services, IIF provides debt, mezzanine and subordinated capital, and equity to infrastructure projects. PT Penjamin Infrastruktur Indonesia (PPI)/Indonesia Infrastructure Guarantee Fund (IIGF) is a SOE that is 100 percent owned by the government. IIGF is mandated to provide guarantees to the private sector to cover the non-financial and certain financial obligations of central and local government counterparties for financially viable PPP projects.

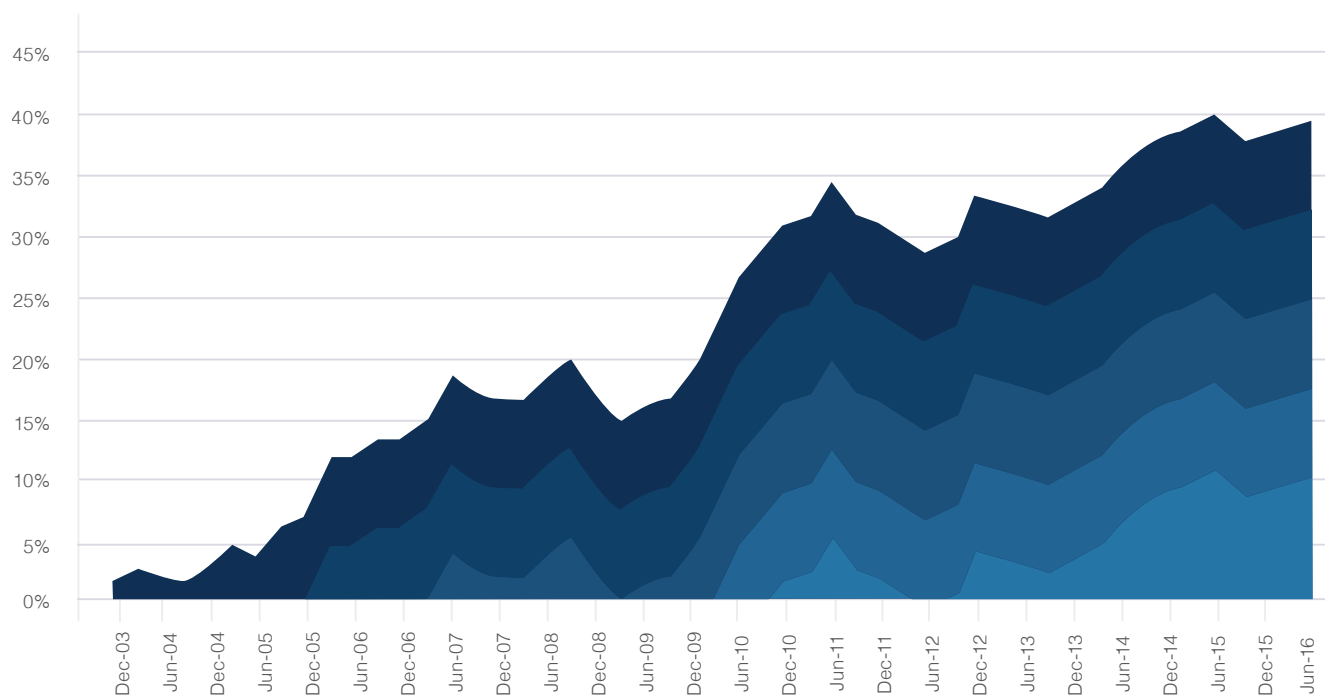
C. International investors

The sheer size of the funding requirements for infrastructure, coupled with the relatively small size of domestic institutional investors, necessitates that foreign investors need to be more active in the non-government bond market. There has been significant interest from foreign investors in exposure to Indonesia. However, to date this has been limited to liquid assets, such as public equity and government bonds. As of 2015, foreign investor holdings

of government bonds represented nearly 40 percent of total outstanding government bonds, nearly doubling since 2010. Similarly, the participation of foreign investors in the public

equity market has been consistently high, as represented by the share of the foreign portfolio in the trading of equities—43.2 percent in 2015, having grown from 31.7 percent in 2010 (Figure 3.18).

Figure 3.17: Foreign holding of government bonds



Source: Ministry of Finance.

Beyond public equity and government bonds, however, foreign investor participation has been extremely limited. This is mainly due to two related issues: (i) segmented markets for foreign and domestic investors; and (ii) a lack of risk mitigation products or mechanisms to unbundle risks.

Outside of IDR government bonds and the public equity market, markets are segmented for foreign and domestic investors. For corporate debt, foreign investors participated relatively actively in bonds issued in hard currencies (particularly USD, but not in IDR), while domestic investors have practically no access to, nor interest in the non-IDR debt market. It is worth noting that around 98 percent of outstanding debt securities issued by Indonesian corporate entities at end-2017 was in foreign currencies. While a significant portion of the bonds issued was driven by a commodity play during the price boom (i.e. coal), a significant portion came from Indonesian SOEs (e.g. PLN) that raised additional funding globally through the bond market given the lack of absorption capacity by investors in the domestic market. Moreover, in the private equity space, foreign investors typically participated

in foreign-domiciled funds, given the lack of efficient mechanisms to set up private equity funds in Indonesia. Similarly, domestic institutional investors do not have access to the international market, even when the foreign-domiciled funds invest in Indonesia.

The difficulty to unbundle various risks associated with local instruments is one of the main reasons for the market segmentation between foreign and domestic investors, and for the lack of foreign investor participation in the domestic market generally. For foreign investors to participate in local currency corporate debt securities, they should be able efficiently to mitigate the unwanted risks that may be embedded in the instruments. It is currently extremely difficult to offer a bundle of IDR currency and rate risks and credit risks to foreign institutional investors, because the investor base that seeks IDR exposures would focus on the government bonds, and those who seek credit risks would not bear foreign exchange risks. The IDR swap market is very thin; and so is the interest rate swap market. Indonesia must therefore deepen the market for risk management, which would allow investors to hedge currency risks

for long-term debt finance. However, there are several challenges to developing these traditional hedging products. First, pure market solutions (i.e. derivatives markets) take a long time to develop. Also, hedging instruments particularly for FX risks can be expensive, or even impossible for longer-term maturities, which is most needed for longer-term financing that is usually associated with infrastructure finance. Furthermore, these type of instruments (depending on the nature of it) may not address the immediate liquidity needs of projects during momentary FX volatility. The availability of such FX liquidity facilities could allow a project to accommodate exchange-rate shocks momentarily, and gradually allow the project's financial standing to recover, as nominal prices move and the real devaluation is partially offset.

Indonesia's recent sovereign credit rating upgrade has presented an opportunity for infrastructure-players to capitalize on the offshore-local-currency bond market. This can achieve a diversification of existing funding sources (without foreign currency risk) by tapping a pool of global investors that are not currently invested through the domestic market.

A promising path emerged for mobilizing foreign investors through international capital markets starting in late 2017 through IDR-denominated bonds issued in the global market by Indonesian corporations, dubbed as Komodo bonds. In December 2017, Jasa Marga, an Indonesian state-owned toll-road operator, issued IDR 4 trillion (USD 295 million) in global bonds, followed by Wijaya Karya, a state-owned construction company, which issued IDR 5.4 trillion (USD 400 million) in January 2018. These issuances attracted strong interest—both were oversubscribed—and opened the way for bringing more funding for domestic infrastructure development. Both bonds were issued with a 3-year tenor, relatively short for infrastructure funding, thus suggesting that there is considerable room for improvement. The most catalytic impact of the Komodo bonds would be through a demonstration transaction to establish a long-term local currency benchmark (8-10 years) for Indonesian corporations in the international market. The market's ability to absorb longer tenors soon may be facilitated through the development of a long-term hedging market or credit enhancement.

III.

Recommendations

This section presents recommendations in two categories: (A) Bank financing of infrastructure and (B) Capital market financing for infrastructure. In addition, for recommendations to improve fund mobilization through the financial sector and to increase efficiency in financial intermediation, please see recommendations provided in the recently completed IMF-World Bank Financial Sector Assessment Program (FSAP) on Indonesia.

A. Bank financing of infrastructure

MoF, OJK, and banking industry associations (i.e. Perbanas) should collaborate on a joint initiative to establish a code of practice for project financing. The code would be to promote and develop consistency in: (i) the allocation, treatment, management and ring-fencing of risk (e.g. guarantees or risk coverage from the government or through PII); (ii) the development of project structures; and (iii) the terms and practice of project financing to achieve bankable projects.

MoF, OJK, and banking industry associations should collaborate on a joint initiative to improve asset-liability management by banks. The peer-to-peer and industry initiative could involve: (i) promoting the recycling of loans through sales to potential long-term investors and other banks, securitization, or encouraging refinancing by sponsors through funds,

infrastructure investment vehicles, or capital markets; (ii) introducing guarantee products to encourage banks to consider longer-term perspectives for credit while alleviating liquidity risk beyond the tenors of current market loans; and (iii) encouraging banks to issue long-term debt securities themselves.

Assess the feasibility of resource pooling instruments for medium-sized local commercial banks, potentially through intermediation of government financial intermediaries. A potential resource pooling instrument – with the support of SMI, IIF, or IIGF, would have the potential to promote greater competition among local banks, expand the number of banks that finance infrastructure, encourage improved lending terms, and stimulate much needed product innovation.

B. Capital market financing for infrastructure

The Government should establish policies to increase incentives for long-term savings, primarily pensions through: (i) amending policies associated with early withdrawals of pension and social security funds so there are penalties for early withdrawal and/or there is a phased withdrawal policy; (ii) easing the process of transferring pension savings when people change employers; and (iii) introducing age-relevant default investment choices for individuals who may not be able to make their own investment choice in defined contribution schemes. This should be implemented through a joint effort by OJK, MoF, and the National

Social Security Council to ensure consistency of approaches in Indonesia's retirement benefit system.

OJK should review and amend existing policies to encourage proper long-term investment by institutional investors. Specifically, OJK should review and amend liability management, performance measurement, and risk management regulations for institutional investors. Effective measurements of performance should be introduced using a long-term portfolio benchmark suitable to the liability structure of

pension or social security funds. This concept should be supported by a reporting framework that primarily measures the growth of portfolio value and not simply realized income, gains, and losses.

OJK should introduce a framework for the issuing of bonds by project companies operating as SPVs. This framework, to be introduced by OJK, should be separate from the common framework for corporate bonds and encourage the issuing of project bonds. This could be achieved through amendments to: (i) OJK regulations covering the issuing of bonds (recognizing non-public offering of bonds to institutional investors); (ii) OJK regulations covering investments by institutional investors (removing the restriction that institutional investors can only purchase listed bonds), as well as Government Regulations covering investment of social security funds; and (iii) Stock Exchange regulations covering the listing of bonds (for example, removing certain requirements related to issuer's financial history or allowing non-public offering of bonds to be listed, perhaps in a special category).

MoF and OJK should collaborate on an initiative to address the legal, regulatory, and taxation issues related to capital market products, including: (i) harmonizing regulations governing the sale and transfer of assets and tax treatments of SPVs in order to encourage the use of securitization; and (ii) regulations governing tax differentials among capital market products, particularly funds and bonds (including withholding taxes).

SMI, IIF, and IIGF should create project and credit enhancement instruments to engage investors and act as catalysts in accelerating project-financing of infrastructure projects. The relatively high aversion to risk of local and international institutional investors can be eased by providing instruments that support projects in the event of temporary adverse events taking place. One example of such an instrument is a risk reallocating facility which improves the credit profile of a project by addressing temporary liquidity constraints (i.e. meeting debt obligations) when a project is temporarily underperforming. Such instruments, once developed, could also be used to encourage entry into the infrastructure market by local commercial banks, as discussed in section A above.

MoF, Bank Indonesia, and OJK should work with the industry to develop risk management instruments, particularly for interest rate and currency risks. Instruments

to be developed include interest rate and currency swaps and derivatives markets. This initiative would address the constraints associated with foreign investor participation in the long-term IDR debt market. However, as derivatives markets take a long time to develop, and hedging currency risks can be expensive or even impossible for infrastructure projects when there is no market for maturities beyond three to five years, authorities could pursue practical solutions for implementation in the shorter term, such as a liquidity facility to address temporary liquidity constraints, possibly with support of institutions like SMI, IIF, or IIGF, specifically for the infrastructure sector. Such a facility would address immediate liquidity needs for debt servicing, and offer a gradual remedial period for a project (or currency) to recover.

MoF should support the development of a long-term global IDR corporate bond market (Komodo bonds). To leverage the current momentum, further development of this market could be achieved through: (i) extension of the bond tenors consistent with infrastructure projects' income profiles, with a demonstration transaction by a credible issuer (including SOEs), and possibly with a credit-enhancement from a reputable international entity such as a multilateral financial institution; and (ii) reduction of transaction costs, including a review of the withholding tax application (20 percent), which is the largest impediment to issuance currently.

The industry should work together with relevant authorities (MoF, Bappenas, OJK, Ministry of SOEs) to develop infrastructure funds (debt or equity) to encourage the broad participation of local and foreign investors. Models implemented or currently being tested internationally could be tailored to suit Indonesia's context. Pilot transactions should be explored and brought to market to serve as demonstration transactions which can be replicated or further refined, especially as recent regulatory constraints have now been removed.

V. Summary Roadmap for Financial Markets

FINANCIAL MARKET ROADMAP			
Activity Pillar	Short-term	Medium-term	Long-term
Pillar 1: Improving and promoting bank financing of infrastructure.	<ol style="list-style-type: none"> 1. MoF, OJK and Banking Industry Associations (i.e. Perbanas) issue a Code of Practice for Project Financing, aimed at promoting and developing consistency in: (i) The allocation, treatment, management, and ring-fencing of risk; (ii) The development of project structures; and (iii) The terms and practice of project financing to achieve bankable projects. 	<ol style="list-style-type: none"> 1. MoF, OJK, and Banking Industry Associations issue a Joint Strategy/ Action Plan on Bank Asset Liability Management to Support Infrastructure Finance, which could include: (i) Promoting the recycling of long-term, infrastructure loans through securitization; (ii) Introducing guarantee products; and/or (iii) Encouraging banks to issue long-term debt securities themselves. 	<ol style="list-style-type: none"> 1. MoF, jointly with SMI, IIF, and IIGF issue a Joint Strategy/ Action Plan on Resource Pooling Instruments for medium-sized local commercial banks, potentially through intermediation of government financial intermediaries
Pillar 2: Mobilizing more capital market financing for infrastructure.	<ol style="list-style-type: none"> 1. OJK issues Regulation or Guideline on Issuance of Bonds by Special Project Companies. 2. MoF and OJK conduct a joint study on taxation related to capital market products, with clear action plan and timeline. 3. OJK, Bank Indonesia, and MoF issue a joint Strategy for the Development of Markets for Risk Hedging Instruments (derivatives). 4. MoF takes actions to support long-term global IDR corporate bond market (Komodo Bonds), including options for leveraging current momentum by: (i) extending bond tenors consistent with infrastructure projects income profile; and (ii) reducing transaction costs, including a review of the withholding tax application. 5. MoF, jointly with SMI, IIF, and IIGF, conducts a study on practical solutions for risk-hedging for infrastructure projects, including a foreign exchange liquidity facility and other credit enhancement instruments. 	<ol style="list-style-type: none"> 1. OJK, MoF, and the National Social Security Council jointly issue a Strategy for the Development of Pension Savings which includes an action plan to increase the incentives for long-term savings by: (i) Amending policies associated with early withdrawals of pension and social security funds so there are tax penalties for early withdrawal and/or phased withdrawal policies; (ii) Making it easier to transfer between pension accounts; and (iii) Introducing an age-relevant, default investment choice for individuals who may not be able to make their own choice in defined contribution schemes. 2. OJK amends policies on long-term investment by institutional investors, including with respect to: (i) Asset-liability management; (ii) Performance measurement; and (iii) Risk management of institutional investors. 3. SMI, IIF, and IIGF launch credit enhancement instruments to engage investors and accelerate project financing of infrastructure projects (e.g., a risk reallocating facility that addresses liquidity constraints when a project is temporarily underperforming). 4. SMI and IIF launch an Infrastructure Fund (debt or equity), or participate in the launch of such a fund—either as investor, co-manager, or credit enhancement provider. 	<ol style="list-style-type: none"> 1. MoF, Bank Indonesia, and OJK jointly issue a Strategy for the Development of Risk Management Instruments, particularly for interest rate and currency risks; to include interest and currency swap and derivatives markets.





Chapter 4

Legal and Regulatory Constraints

I.

Introduction

This section sets out the legal and regulatory constraints to mobilizing private sector investment in infrastructure development in Indonesia.

These constraints include: (i) a complex and inconsistent legal regime, with frequently changing laws and regulations; (ii) restrictions on foreign or private ownership of infrastructure assets; (iii) weak regulators and tariff regulations which do not encourage cost-recovery; (iv) regulations which actively promote state-owned-enterprises rather than private sector participation; (v) environmental and social safeguards regime; (vi) rules governing availability payments; and (vii) civil servant decisions relating to “state loss”. This section considers these constraints in terms of the overarching legal and regulatory framework and the contractual structures and risk allocation of projects that have been tendered.

This section is intended to provide an overview of the issues relating to the legal and regulatory regime for infrastructure.

Certain issues raised here, such as rules around state-owned enterprise participation in infrastructure, sector-specific rules, or rules relating to projects’ institutional and procurement framework, are set out in further detail in other sections of this report. The section concludes with a description of the needed reforms to the legal framework as well as a roadmap of recommendations for addressing the constraints in the legal and regulatory regime.

In discussing the legal framework for infrastructure, it is important to first set out clear definitions, some of which are unique in the Indonesian context.

The main relevant regulation, Presidential Regulation No. 38/2015 on the Cooperation of the Government with Business Entities in the Provision of Infrastructure (“Presidential Regulation No. 38”), uses the term “Government and Business Entity Cooperation in Infrastructure”, or the Indonesian acronym “KPBU” for projects which fall under its scope. While this is frequently translated as “public-private-partnerships” or PPPs, in reality, PPPs in Indonesia have an added connotation as requiring central government support and thus Ministry of Finance approval, which is true of only a subset of projects under Presidential Regulation No. 38. Therefore, this section will use the term “Cooperation Project” or “KPBU” to mean projects in the public interest carried out between a Government Contracting Agency and a private entity, whereby the private entity contributes financially to the project and shares in the risk. The term “PPPs” will be used to mean Cooperation Projects requiring government support such as viability gap funding, availability payments, or guarantees.¹

The remainder of the chapter is organized as follows:

Section II examines constraints in Indonesia’s legal framework governing Cooperation Projects; Section III presents an overview of issues affecting contracting of projects and risk allocation; Section IV describes recommended reforms to the legal framework; and Section V summarizes with a roadmap of recommended steps.

¹ To add to the confusion, state-owned-enterprises (SOEs), which dominate the infrastructure sector, might act as a “Government Contracting Agency” under Presidential Regulation No. 38 (if mandated to do so by the relevant ministry or regional/local government) or might act as the private party (“business entity” is defined in Presidential Regulation No. 38 as including SOEs). Where it acts as a GCA and there is no government support, the transactions are often referred to colloquially as “B2B” transactions (such as these between IPPs and PLN).

II. Constraints in Indonesia’s Legal Framework on Cooperation Projects

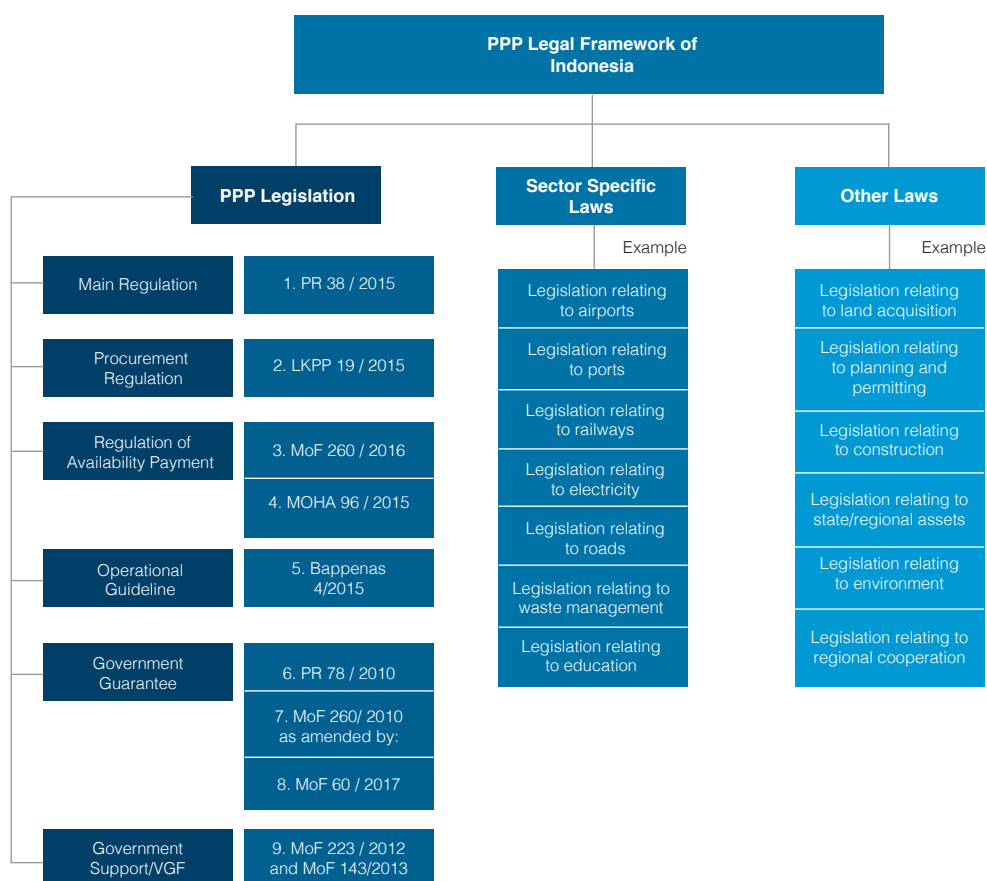
A. Complex, unstable, and inconsistent legal regime

Regulations on Cooperation Projects are fragmented, complex, and inconsistent.

Indonesia’s Legal Framework on Cooperation Projects comprises: (i) main KPBU regulations; (ii) sector specific laws; and (iii) other infrastructure regulations (see Figure 4.1 below and Annex B: Overview of the KPBU legal framework). The amount of legislation falling

under one of these three categories is vast— one recent report commissioned by the World Bank² estimates that there are 158 national laws and regulations which legislate on infrastructure projects (see Annex C: List of Indonesia’s KPBU laws). There is confusion as to the application of these laws, some of which overlap or directly contradict each other.

Figure 4.1: An overview of the KPBU legal framework in Indonesia



² Jones Day and Hermawan Juniarto, Report on Key Legal and Regulatory Constraints on PPP Projects and the Legal Framework in Indonesia, commissioned by the World Bank, January 2018.

Source: Jones Day and Hermawan Juniarto

There is no single, overarching law governing Cooperation Projects; instead, various regulations govern specific aspects within the project preparation and procurement cycle, giving rise to legal ambiguity. The main regulation for implementation of Cooperation Projects in Indonesia is Presidential Regulation No. 38/2015, which mandates various other government entities, such as the National Development Planning Agency (Bappenas), Ministry of Finance (MoF), Ministry of Home Affairs (MoHA), National Procurement Agency (LKPP), and each government contracting authority (GCA) to regulate the Cooperation Projects process in Indonesia. For example, Bappenas is mandated to issue operating procedures on Cooperation Project; MoF is mandated to issue guidelines on availability payments, guarantees, and viability gap funding; MoHA is mandated to issue regulations on availability payments using regional or local state budgets; and LKPP is mandated to issue guidelines on procurement of Cooperation Projects. See Annex D for an overview of the historical development of the regulatory framework on Cooperation Projects.

While it appears that Presidential Regulation No. 38 and its implementing regulations have many of the necessary elements for successful Cooperation Projects, there remain many weaknesses. The decentralized nature of the approvals for projects without government support, where Cooperation Projects only need to be approved by the Minister or Head of the Regional or Local Government or SOE acting as the GCA, means that there is little transparency or quality control in the projects. Loopholes in the procurement regulations, as described later in this chapter, also impede competition. There is a “right to match” provision for unsolicited proposals, which international experience has shown to deter competition. There is little coordination on the determination of the various government support instruments (VGF, AP, and guarantees), partly because they are governed by separate regulations, and only one type of government support may be used at a time, which does not allow optimization of the various tools. The VGF has a hard cap of 49 percent, which may not offer sufficient flexibility for certain projects; the project development facility (PDF) is limited in what it can fund; and the PPP Unit within MoF does not have sufficient authority.³

Furthermore, there is a host of sector-specific laws, and the interplay between those and the more general regulations on Cooperation Projects is often unclear.

For instance, each sector also has their own procurement rules, which do not always align with the procurement rules for Cooperation Projects. The power sector, for example, has its own parallel set of regulations for Independent Power Projects (IPPs), including its own procurement rules and procedure for obtaining a “business viability letter”—a form of government guarantee—even though in theory, IPPs would also fall under Presidential Regulation No. 38 (and indeed have in the past, where certain government support was desired). Exacerbating this issue is that each main regulation on Cooperation Projects (including Presidential Regulation No. 38 and its implementing regulations) has a lower position in the legislative hierarchy than most of the sector-specific laws. If any main regulation on Cooperation Projects conflicts with a sector-specific law with a higher position in the legislative hierarchy, the project is often delayed until the sector-specific law in question is amended or special rulings are issued.

Two examples of inconsistencies between sector laws and regulations on Cooperation Agreements can be found in the power and rail sectors. In power, the Central Java Power Plant project had significant delays in the land acquisition process, which required an extension of the “final completion” period. However, the applicable sector laws did not allow for extensions of the “final completion” period. After an extended process (resulting in further delays to the procurement of the project), the relevant law was amended to accommodate such extensions. In the rail sector, Government Regulation No. 56/2009 on Implementation of Railway Affairs requires the project company undertaking railway Cooperation Projects to acquire the land required for the project. However, the land acquisition is the sole responsibility of the government under Presidential Regulation No. 38/2015 (as is also market practice). This dispute over the responsibility for land acquisition resulted in the cancellation of the Malioboro Pedestrianization Project in Jogjakarta.

³ See Chapter 1 on Bringing Projects to Market for further discussion on government support instruments for Cooperation Projects.

More general infrastructure laws, such as the Construction Law, might also clash with the main regulations on Cooperation Projects. Law No. 2/2017 on Construction Services requires a project company to select and appoint its Engineering, Procurement, and Construction (EPC) contractor using an independent tender process, which effectively means that project sponsors cannot bid on tenders in consortium with an EPC contractor. This requirement is not consistent with either internationally recognized good practice or the principles set out in the regulation on Cooperation Projects. In situations where the Cooperation Project itself has been procured based on competitive tender, it is unnecessary (and indeed unacceptable to investors) to require the EPC contract to be tendered separately. In order to select the winning project company in the first place, a fully priced EPC contract will already have been put forward by each bidder (including details of the EPC contractor with whom the bidder has chosen to partner). It is impossible to select the winning bidder without also accepting that bidder's own EPC contractor, but that would be in violation of the Construction Law.

Moreover, frequent changes add uncertainty to the complexity of the legal regime. As Cooperation Projects are based on long-term (generally 20–40 year) contracts, it is crucial that the private investor feels comfortable that the obligations under the contract will be met, and that the contract will not be rendered invalid. Unfortunately, recent events have raised concerns about the stability of the legal regime and the validity of these contracts.

Often regulations are passed and then amended or revoked on a regular basis, generating uncertainty. In early 2017, for example, the Ministry of Energy and Mineral Resources (MEMR) issued Regulation No. 12/2017 on the Use of Renewable Energy for Electricity Generation (Regulation 12) which set out, among other things, how the tariff for purchasing the electricity generated by renewable projects should be determined. Regulation 12 required that renewable energy tariffs be set with reference to the average electricity generation base cost (*biaya pokok penyediaan pembangkitan*—BPP), which excludes electricity distribution costs and is largely based on coal and other conventional sources of fuel. This benchmarking effectively discourages renewables as it puts a cap on tariffs, making the projects less attractive to the private sector. Perhaps due to negative

feedback, Regulation 12 was first amended and then revoked only a few months after it was passed. MEMR Regulation No. 50/2017 replaced Regulation 12 in August 2017, but concerns remain as to whether it is sufficiently favorable to investors to encourage investment in renewable energy.

Similarly, recent constitutional court rulings have also generated uncertainty as to the stability of the legal regime. The rulings were based on a broad reading of Article 33 in the constitution, which states that the 'land, the waters and the natural resources within shall be under the powers of the State and shall be used to the greatest benefit of the people'. In 2015, the constitutional court invalidated Law No. 7/2004 on Water Resources (Law No. 7/2004), which prompted the annulment of water concessions to PT PAM Lyonnaise Jaya (Palyja) and PT Aetra Air Jakarta. Following the cancellation of Law No. 7/2004, a new set of regulations on water resources (including Government Regulation No. 122/2015 on the Drinking Water Supply System—GR No. 122/2015 and its implementing regulations) was passed. Under these regulations private sector participation in the operation of the distribution network is restricted, and Government Regulation No. 122/2015 mandates that only PDAM firms may act as GCA for water Cooperation Projects. Such an active constitutional court may also invalidate private sector participation in other public goods, creating long-term instability even in the face of an existing law. In the energy sector, Article 33 of the constitution has been invoked several times by the constitutional court to prevent: (i) the establishment of an independent regulator; (ii) the liberalization of markets; and (iii) the privatization of SOEs involved in energy production.⁴

⁴International Energy Agency. 2016. "Indonesia 2015". Pg. 25. https://www.iea.org/publications/freepublications/publication/Indonesia_IDR.pdf.

B. Restrictions on private and/or foreign participation in infrastructure delivery

Restrictions on private⁵ participation in basic services delivery vary by sector. While Article 5 of Presidential Regulation No. 38 has a long list of sectors which permit Cooperation Projects, restrictions often appear in the specific sector laws. For example, as noted above, regulations applicable in the water supply sector restrict private sector participation in the operation of distribution networks. Similarly, while the Regulations on Cooperation Projects allow for educational facility infrastructure to be undertaken by the private sector, Law No. 20/2003 on the National Education System requires that the provision of elementary and secondary educational services only be implemented by a not-for-profit organization. This uncertainty as to the application of restrictions under sector-specific laws adversely affects the appetite of the private sector to invest in social Cooperation Projects in Indonesia.

Restrictions on foreign ownership of infrastructure assets are set out in the negative investment list, although it is slowly liberalizing. Foreign entities are not required to be domiciled in Indonesia for participation in a Cooperation Agreement tender, but they may be required to form a consortium with a local partner to satisfy applicable limits on foreign ownership in the project company. Reforms to the negative investment list in 2016, which stipulates the maximum foreign shareholding limit, are going in the right direction. The current negative investment list is provided in Presidential Regulation No. 44/2016 and has expanded the possibility of foreign participation in certain sectors. For instance, foreign shareholding is allowed up to 95 percent for power plants with capacity greater than 10MW and in the drinking water supply sector. Toll roads are now open to 100 percent foreign ownership. However, ports and airports, some of the most viable projects for private investment, are still only open for up to 49 percent foreign ownership (although the 2016 negative investment list has allowed certain ground logistics companies serving ports and airports to expand foreign ownership to up to 67 percent). A full list of foreign shareholding limits in key infrastructure-related sectors is shown in Annex E. Business sectors not included on the negative investment list are considered open for 100 percent foreign participation.

Indonesia's foreign ownership restrictions combined with the domestic dominance of SOEs leave foreign operators with little choice for local partners. While having restrictions on foreign ownership of strategic assets such as ports and airports is not uncommon in other countries, in Indonesia the difficulty comes from the dominance of the state-owned port and airport operators, which essentially leaves foreign operators with no choice but to partner with them. As in any monopolistic situation, the lack of competitive tension may mean that the Government is not getting full efficiency and value for money from these assets. One way to encourage competition would be to open these foreign ownership restrictions further.

One method of encouraging private sector participation in the sectors that remain dominated by local businesses, such as ports and airports (and increasingly, power), is to permit joint venture structures that give meaningful operational control to the private partner. This operational control would be set out in a shareholders' or joint venture agreement which would allow differentiated voting rights based on the class of shares, allowing even a minority shareholder to still have significant control. Other methods of assuring minority shareholder control include: (i) nomination rights for the Board of Commissioners and Board of Directors; and (ii) a list of reserved and restricted matters requiring approval between the SOE and the private shareholder (e.g. "veto matters" or "supermajority matters"). SOEs should negotiate these rights for the private sector joint ventures where the private sector has a minority share, in order to attract the best possible partner and reap the benefits from their operational efficiency.

⁵In this section, the term "private" is intended to exclude SOEs.

C. The procurement regime does not allow sufficient competition, particularly from the private sector

Existing procurement regulations have the effect of limiting private participation in infrastructure through direct negotiation provisions. Article 39 of Presidential Regulation No. 38 states that direct appointment of the business entity (which includes SOEs) for a Cooperation Project is permitted if: (i) the business entity previously built or operated the infrastructure asset; (ii) the project requires the use of new technology which can be provided by only one service provider; or (iii) the business entity already owns most or all of the land needed to implement the project. While the second condition for direct negotiation, on the use of new technologies, is standard, the first and last points are unusual and favor existing infrastructure operators, which are often SOEs, to the detriment of new and often foreign entities. In order to generate the most value for money, transparent, open, and competitive tender should be used even where there is an existing owner or operator. It is important to note that the concept of direct negotiation where the entity already owns the land is also found in the 2015 Ports Regulation, which effectively gives the Pelindo firms the right of first refusal as they already own most of the foreshore land for legacy reasons.

Furthermore, a regulation issued by the Minister of SOEs on SOE cooperation with business entities also appears to support direct negotiation with other SOEs over competitive procurement. Article 2 of MBU 08/2017 (as amended by MBU 9/2017) states that a principle of this cooperation is that the “cooperation prioritizes synergies between SOEs and / or inter-subsidiaries of SOEs and / or inter-affiliated companies of SOEs and upgrades the role of SOEs through direct appointment, or cooperation directly comprises at least two (2) SOEs, SOE subsidiary companies, and / or an SOE-affiliated company.” The cooperation must also have due regard for the expediency and profits of the SOE, and each SOE is to set out a standard operating procedure (SOP) for how it will select the partner for the cooperation, including the method of direct negotiation. While it is likely that procurement rules under Presidential Regulation No. 38, being higher in the hierarchy than this MBU 08/2017, might override this Ministerial Regulation in the specific case of Cooperation Projects, it is not clear whether SOEs will follow Presidential Regulation No. 38

or their own SOPs, given that central approvals for procuring Cooperation Projects without government support are not required.

The power sector has passed provisions to limit private participation in IPPs. Presidential Regulation No. 14/2017 passed in early 2017 appeared to move away from private investment in IPPs. First, the regulation noted that where PLN must work with foreign business entities, priority shall be given to cooperation with foreign business entities owned by the related foreign Government, which limits the universe of potential bidders. Second, the regulation permits two PLN Subsidiaries (PJB, Indonesia Power) to take up to 51 percent equity stakes in new IPPs. PLN has interpreted Presidential Regulation No. 14/2017 liberally—in 2017, PLN issued a notice seeking tenders to 12 new IPPs, 9 of which were 51/49 percent joint venture structures with PJB or Indonesia Power. However, the terms of this proposed structure (as manifested in some recent geothermal IPPs) are burdensome to the private partner. First, private-sector partners are to contribute 100 percent of the up-front equity capital but only receive 49 percent of the shares. Second, the private-sector partners are also being asked to raise all of the debt financing. Effectively, this regulation, when combined with others recently issued relating to risk allocation in IPPs, deflates the viability of what was previously a relatively successful IPP program.

D. Weak regulators and tariff regulations do not encourage cost-recovery

Revenues provided by tariffs often do not permit cost recovery, making service delivery dependent on direct or indirect government subsidies. In electricity, a recent Electricity Cost of Service and Tariff Review (CSTR) found that tariffs for many customers are below the cost of serving them. In water, tariffs must be approved by local parliaments and are often kept low for political reasons, to the point where most tariffs do not cover PDAM operating costs. As average water tariffs are lower than unit costs, nearly 75 percent of PDAMs run at a loss, with some 50 percent classified by the Government as financially unhealthy or sick. In ports, there is a large gap between the fees charged to domestic and international users, resulting in services being provided at a loss to domestic ships. Finally, in toll roads, tariffs are set at the time of the concession and escalated in an ad hoc manner to compensate the operator for economic losses that are the fault of the government contracting agency. This has sometimes irrational consequences; in Jakarta, for example, the tolls in the center of the city

are lower than the tolls for the outer ring roads, incentivizing users to cluster in the downtown core.

The lack of rational, harmonized tariffs is often due to a combination of: (i) absent or weak central regulators exercising oversight; and (ii) a structure which creates incentives to keep tariffs low. In many sectors, regulators are weak. In some cases, such as in the energy sector, this is due to the dominance of a single SOE which, in its monopolistic role, also takes on certain regulatory functions such as planning. Similarly, in ports, the Port Authorities do not have the influence over the Pelindos needed to implement their regulatory function. In other cases, such as water, the authority to determine tariffs is decentralized. Local governments control water utility boards of directors. As the local government officials are motivated to appease their constituents rather than generate a return, this has resulted in generally low tariffs in the sector.

E. Permits and approvals processes are prohibitive

Any given project is likely to be subject to multiple laws and regulations. The relevant GCA and project company must therefore obtain multiple permits and approvals to be able to implement the project successfully. The GCA is mandated under the regulations on Cooperation Projects to secure multiple permits, including the environmental and site approval licenses. Some key project licenses (e.g. raw water intake permits) are also usually the responsibility of the GCA. Other licenses for project development, construction, and operation, such as building construction permits, rights of way, excavation permits, import licenses etc., are usually the responsibility of the project company. Permits and approvals are often delayed by technical issues, uncertain procedures, or slow responses from the government agencies reviewing and approving the applications.

Despite attempts to streamline the permits and approvals, the permitting regime is still cumbersome for investors. In 2016, the Investment Coordinating Board (BKPM)

developed a one-stop integrated services center (OSS), and launched an online permit application system. For example, approval to use right of way on a national road requires at least four permits, including an in-principle license from the Ministry of Public Works and Housing (MPWH), a technical recommendation from the Major Road Implementation Agency, a road utilization permit from MPWH, and a lease agreement with MoF.

Presidential Regulation No. 3/2016 tasks the Committee for Acceleration of Priority Infrastructure Delivery, or KPPIP, with a “debottlenecking” function for projects with national and strategic importance.

Such priority projects are permitted to avoid requirements such as the requirement that the project be included in the local spatial plans in the region where it will be sited. However, this debottlenecking service only applies to the 245 projects on the list.

F. Environmental and social safeguards

Environmental and social safeguards are improving but inconsistently applied. Sound management of environmental performance and firm guarantees on compliance are important in attracting leading financiers from international markets into infrastructure development by ensuring that they have access to reliable and well-managed frameworks and procedures that reduce risk and liabilities (i.e. adverse impacts on communities, livelihoods, workers, and the environment). Providing this type of risk mitigation for potential investors would greatly assist the creation of large-scale infrastructure financing platforms for the private sector.

While extensive and rapid infrastructure development is a top priority for Indonesia's leadership, awareness of greener and more environmentally and socially sustainable infrastructure models is growing. 'Green banking' or 'green infrastructure investment' concepts are gaining momentum and becoming important in decision making. Examples are: (i) the recent release of a draft policy on sustainable financing by OJK; and (ii) the

deployment of an environmental and social framework (ESF) governing all investments by the government-owned PT SMI. This ESF is broadly compliant with international good environmental and social (E&S) practice and standards.

However, much more could be done to decrease E&S risk in infrastructure projects through the legal and regulatory framework.

This is particularly true for projects that do not involve a government financing entity that has already been exposed to international best practices through its shareholders, such as PT SMI. For example, while environmental impact assessments (EIAs) are required under the legal framework on Cooperation Projects, there is no set methodology governing how they are to be undertaken and it is not clear that they are always carried out. Similarly, further analysis is needed on whether the existing E&S regulations are sufficient and enforced.

G. The rules governing local government availability payments are unclear

Long-term Cooperation Agreements that involve local and regional governments must have certainty of payment over the life of the agreement. In particular, the introduction of the Availability Payment (AP) scheme has triggered legal questions on how it works in practice at the local level. For example, the process of obtaining local parliament approval for APs under regional Cooperation Projects is unclear. Government Regulation No. 50/2007 on Guidelines for Regional Cooperation provides a legal basis for regional and local governments to cooperate with private sector entities on public service management. Government Regulation No. 50/2007 requires regional governments requiring regional budget funding or support to obtain prior approval of the relevant local parliament before entering a Cooperation Agreement with a private sector entity. As part of the process of obtaining such approval, a draft Cooperation Agreement must be submitted to the local parliament for review. However, MoHA Regulation No. 96/2016, covering APs, requires that local parliament approval of the availability payment mechanism needs to be obtained in

the relevant fiscal year of payment. By their very nature, availability payments form part of a multi-year budgeting process. Thus, for Cooperation Projects receiving APs from regional budgets, it is not certain whether the initial approval given by the local parliament before the Cooperation Agreement commences includes a long-term regional budget commitment for the life of the Cooperation Agreement, or whether budgetary approval needs to be obtained for either the first or each fiscal year of payment. Securing local parliament approval after the completion of construction work, and potentially each year of operations under the concession term, is a considerable risk for Cooperation Projects. Several projects have been suspended due to the failure to secure local parliament approval, such as the Bandung Waste-to-Energy Project. Private sector bidders will be wary of entering bids if they cannot be sure that the proposed payment mechanism will remain valid.

Similarly, it is unclear whether the head of a region, which is a GCA under Presidential Regulation No. 38/2015, has legal capacity to enter into long-term Cooperation Agreements beyond the term of his or her office.

MoHA Regulation No. 21/2011 (Second Amendment to MoHA Regulation No. 13/2006 on Guidelines for Regional Financial Management) allows for multi-year contracts provided that the relevant head of region enters into a memorandum of understanding detailing the name of the project, its duration, budget commitment, and yearly allocation. It states, however, that such multi-year contracts should not extend beyond

the term of office of the head of the region (up to 5 years). MoHA Regulation No. 96/2016, governing AP payments for Cooperation Projects, however, is silent on whether the heads of the regions could enter multi-year contracts beyond the term of their tenure. Therefore, MoHA Regulation No. 96/2016 should be amended to: (i) remove the budgetary approval for each fiscal year of an availability payment; and (ii) authorize the head of region to enter into multi-year contracts, committing the government to funding an availability payment over the life of the project.

H. Civil servants' decision making regarding state loss

One potential cause of long approval periods for Cooperation Projects is the state loss provisions under the internal audit rules for civil servants. According to these provisions, wherever any civil servant makes any decision which results in a "state loss", that civil servant may be subject to an investigation. If it is then proven that the civil servant's decision was not made in accordance with relevant procedures, the civil servant can be personally prosecuted. While these provisions form important protections against bribery or corruption, the required procedures are not always clear, which could prevent officials from making decisions in a timely fashion.

In recognition of this, some regulations have protected civil servants from the "state loss" requirements for business risk related decisions. MoF Regulation No. 03/PMK.011/2012 on Guidelines and Accountability of Geothermal Fund Facility ("MoF 3/PMK11/2012") requires the government to consider the following losses as "business risks": (i) loss resulting from any breach of contractual obligation by any debtor; (ii) loss resulting from any failure in tender procurement; and / or (iii) loss resulting from any unreliable data, provided that the management of any geothermal fund has acted in compliance with MoF 3/PMK11/2012. Similar clarifications could be applied to Cooperation Projects in Indonesia more generally.



III.

Overview of Contracting Issues and Risk Allocation

Certain tendered projects have failed to attract the interest of foreign financiers due to inadequate risk allocation. The way risk allocation is handled in Cooperation Project contracts is not consistent with international standards, specifically with respect to land acquisition risk, termination, and a general lack of contractual standardization.

Land acquisition is a critical risk for many Cooperation Projects, but especially for road projects. Although Presidential Regulation No. 38/2015 and the Land Acquisition Law No. 2/2012 both state that land acquisition is the responsibility of the government—consistent with international best practice—more recent regulations have allowed the private party to use their own funding to acquire the land, sometimes backstopped by a government guarantee issued by the Indonesia Infrastructure Guarantee Fund (PII).

The toll road sector, led by the toll road authority (BPJT), is the only sector that has developed model agreements, and those concession agreements, now in their fourth generation, are evolving toward a model consistent with global standards. However, there remains some challenges. For example, toll road concession agreements still require the private investor to take on land acquisition risk. The remedy for failure to provide land is monetary compensation. However, in the event that such compensation is not paid, the toll road operator must accept either an extension of the concession or a raising of tariffs. This provision fails to address the operator's immediate funding gap risk. Similar issues arise with other government events (such as if the GCA decides to widen a road)—compensation is not monetary, but is only addressed by increasing the tariff or extending the concession life. Generally, foreign investors will not take land acquisition risk in Indonesia, but state-owned enterprises will. This deters foreign investor interest in bidding for projects.

The termination mechanisms set out in the 4th generation toll road concession agreement raise several issues. These issues include short cure periods for rectification of the default and automatic termination in case of project company default (without any action by either party), as well as 'hair trigger' default events without materiality thresholds (such as failure to submit reports on time). Compensation on termination is not linked to the amount of senior debt, but is instead subject to a discount or 'haircut', and, more worryingly, must be paid by a third party, the new toll road operator, rather than the GCA. This constitutes considerable risk for the private party.

Further, recent regulations on power purchase agreements (PPAs) significantly changed the risk allocation structure to the detriment of the private investor. In February 2017, the MEMR issued Regulation No. 10/2017 on Power Purchase Agreement Principles between the state electricity company PT PLN (Persero) as the off-taker, and independent power producers (IPPs). The regulation covered issues normally left to contract provisions, and for which standard practices had already been established in the market through the financial closure of recent IPPs, such as Central Java. Among other changes, the regulation created shared risks relating to force majeure, government events, and take-or-pay provisions, causing much concern in the market. Perhaps due to private sector feedback, by August 2017 another amendment had been issued, Regulation No. 49/2017 removes the shared responsibility for government events that existed under Regulation 10. While this amendment provided some relief to the market, such instability might have been prevented had proper market consultations been conducted and the issues carefully considered prior to the issuing of the regulations.

More generally, Cooperation Agreements are approved by each relevant Minister or Head of the Region or Local Government, which means there is a lack of standardization of risk allocation even within a sector. Many of the Cooperation Agreements being put to market are not “bankable” by reputable, large private investors due to inadequate detail and risk allocation. While there have been certain piecemeal efforts at standardized contracts—most notably as discussed above, by BPJT, and

also by LKPP with support from the Millennium Challenge Corporation (MCC)—these efforts are aimed only at specific projects or sectors. Outside of toll roads, other sectors do not have standardized documentation, even where, as in the case of IPPs, bankable precedents have been set. Model standardized concession agreements by sector should be issued, possibly by presidential regulation, to encourage and guide GCAs to tender projects with appropriate risk allocation.



IV.

Recommended Reforms to the Legal Framework

While it is not necessary to have a perfect legal and regulatory regime for Cooperation Projects to be successful, it is important that the regulatory regime in place is clear and stable.

While Indonesia's current regime has resulted in some successful Cooperation Projects, and while the Government has been steadily filling in the gaps, such as through new land regulations or rules on VGF or APs, there are still too few projects in the pipeline, and too few interested bidders of an international standard. The legal and institutional framework for Cooperation Projects is fragmented at sector and central/region government levels, and PPPs are treated very differently from Cooperation Projects without government support.

Procurement, sector, and SOE regulations favor established players over new or foreign private sector participants who might bring additional capital and expertise to infrastructure projects in Indonesia. The result is that there is not a coherent set of incentives for the GCAs to pursue private sector financing. In short, from a private sector perspective, conflicts between the various rules and the uncertainty around the existing regulations, as well as the lack of competitively tendered projects with appropriate risk allocation, dampen interest in investing in Indonesia.

Existing rules should be consolidated and standardized along the project cycle through a Government Regulation that elevates and clarifies the provisions of Presidential Regulation No. 38.

This would improve the flow of projects going to market, reassure investors and create more competition. Like the current Presidential Regulation No. 38, the proposed Government Regulation should set out a comprehensive system of project identification at GCA level, where the projects most attractive to the private sector (or the projects that would most benefit from private sector involvement) would be put through a Cooperation Project process regardless of the need for government support. This process should include steps

for project preparation, including the use and payment of transaction advisors to conduct adequate feasibility studies, as well as guidelines for government support mechanisms and approvals if applicable (thus centralizing the various implementing regulations). The regulation should also set out a project procurement process based on principles of competition, transparency, and open tender, removing the current loopholes for direct negotiation that favor existing entities. Properly framed and introduced, a comprehensive and investor-friendly Government Regulation would signal a certain level of stability in the legal regime, which has been lacking to date.

The scope of the proposed Government Regulation should encompass all public interest infrastructure development with private sector participation.

While currently Presidential Regulation No. 38 appears to also regulate all forms of Cooperation Projects, including PPPs and B2Bs involving provision of public infrastructure, it is not clear that it is always applied for projects without government support. Clarifying the scope of the Government Regulation would address the current fragmented approach to project identification and allocation and bring all types of infrastructure projects involving private participation under one cohesive regime. It would also allow commercially viable projects that do not necessarily need central government support to be procured as Cooperation Projects, which is not currently the case.

It will be important for one single ministry to take the lead on issuing the Government Regulation, acting as the sponsoring ministry.

This ministry will need legitimacy and support from the other ministries involved in Cooperation Projects. As Government Regulations need to be authorized under a Law, and as the proposed Government Regulation is relatively broad, the appropriate Law might be the State Budget Law

which would fall under the Ministry of Finance. Since many of the implementing regulations of the current Presidential Regulation No. 38 are MoF regulations, this would also allow a consolidation of the secondary legislation into one place. For example, passing a Government Regulation under the State Budget Law would facilitate provisions that allow: coordination of VGF and AP in the same project, expansion of scope for the project development fund to support outline business cases (OBCs) as opposed to only full business cases, addition of an exception to the 49 percent cap on VGF, and elevation of the MoF PPP Unit to Echelon 1.

Furthermore, there are specific legal bottlenecks that will need to be addressed through amendments or clarifying regulations outside of the main Cooperation Projects legal regime. These include the uncertainty of local government approvals for the AP regime, the tendering rule under the Construction Law, and clarifications on land acquisition among others. Certain sector regulations, such as the 51/49 joint venture structure for IPPs, might also need to be reviewed. The Government should take a targeted approach to select clarifications or amendments that cannot be otherwise addressed in the proposed Government Regulation discussed above.

With regard to tariffs, regulations should be passed or implemented on a sector by sector basis that harmonizes and rationalizes tariffs, as well as provides guidelines on affordability concerns. For example in energy, a recent Electricity Cost of Service and Tariff Review provides a number of key recommendations for enhancing revenues, including: (i) consolidating the customer tariff categories; (ii) introducing average tariffs that reflect costs of service, subject to adjustments for affordability and other objectives; (iii) setting a return on equity for PLN equal to the cost of funds at a minimum; and (iv) introducing efficiency benchmarks as part of a multi-year, incentive-based regulatory framework. In the water sector, more must be done to enforce existing guidelines and directives on tariffs. These include MoHA Regulation No. 71/2016, which sets out directions on how to ensure affordability, set cost-recovery tariffs, and utilize cross-subsidies to balance the two objectives, as well as the MoHA directive that local governments that set tariffs below cost recovery must set aside funding from their local budgets to cover the deficit. To this end, the Government must continue to pursue new mechanisms to incentivize or compel politically unpopular tariff increases at the local level, as has been attempted in the context of MoF debt restructuring for PDAMs. At the same time, changes to the legal regime affecting investors should undergo proper consultation. While many amendments to laws and regulations are warranted (as noted above), any changes should undergo careful consultation, including with the private sector, to avoid unnecessary and frequent changes soon after the regulations are issued.

V.

Summary Roadmap for Legal and Regulatory Constraints

LEGAL AND REGULATORY CONSTRAINTS ROADMAP		
Activity Pillar	Short-term	Medium-term
Pillar 1: Establishing a consistent and unified legal framework for infrastructure development and delivery.		<ol style="list-style-type: none"> 1. Government issues Presidential Regulation 38/2015 as a Government Regulation, sponsored by MoF. The elevated regulation would, at minimum: <ol style="list-style-type: none"> (i) Address inconsistencies in the current Cooperation Project regulatory framework, to the extent possible (including sector regulations where applicable); (ii) Provide a comprehensive, consistent framework for all private/SOE investment in public infrastructure, including projects otherwise assigned to or under the direction of SOEs; (iii) Set out a clear project cycle with responsibilities of each institution with sufficient authority; (iv) Coordinate the use of government support instruments (i.e. VGF, guarantees, and AP) to integrate all applications for government support within a single entity (i.e. the PPP Unit) and permit complementary instruments in one project; (v) Create a procurement framework that defaults to and prioritizes competitive bidding and limits opportunities for direct negotiations; (vi) Sets out what constitutes a “business risk” in the context of Cooperation Projects, similar to the Geothermal Fund Facility regulations.
Pillar 2: Enacting targeted reforms to address key constraints on private sector participation in infrastructure delivery.	<ol style="list-style-type: none"> 1. MPWH amends Law No. 2/2017 on Construction to provide exemptions, for Cooperation Projects, to the requirement that project companies select and appoint their EPC contractor on a competitive tender basis. 2. MoHA amends Ministerial Regulation 96/2016 to provide that any necessary local parliament approvals must be obtained prior to entering into (and preferably before tendering) the Cooperation Projects, and to expressly confirm the legal capacity of SNG heads to enter into long-term Cooperation Projects. 	<ol style="list-style-type: none"> 1. MPWH, MoT and MEMR issue reports on their respective sectors concerning harmonizing and rationalizing tariffs, including Guidelines on Setting Tariffs, that address how to balance cost-recovery and affordability. 2. MoF issues Guidelines on Environmental and Social Safeguards for Cooperation Projects to facilitate compliance with international standards.

3. BKPM, MoF, CMEA, MOHA complete a comprehensive review of the Sector-Specific Laws and the necessary permits and approvals in each sector, with a view to identifying and understanding the key constraints on private sector participation and to streamlining them so that private companies can navigate the process more easily.

4. MSOE amends MBU 08/2017, as amended by MBU 9/2017, on SOE Cooperation with Business Entities, to clarify that in the case of Cooperation Projects, Presidential Regulation 38/2015 (or ensuing iteration) shall prevail and that priority should be given to mobilizing commercial capital and efficiencies.

3. MoT, MPWH, and MoHA issue standard, Model Cooperation Project Agreements (or model contractual provisions) and other transaction documents, in consultation with MoF, in order to expedite projects and ensure consistency. The model contracts should be developed through consultation with the private sector, including foreign investors.



Part II

***Sector
Assessments***





Chapter 1

Energy

I.

Introduction

This chapter explores ways of maximizing finance for development (MFD) in the electricity sector in Indonesia. The report focuses on electricity (power generation, transmission and distribution), but also discusses how changes in Indonesia’s gas supply arrangements—focusing mainly on gas pipelines and liquid natural gas (LNG) facilities—could facilitate greater use of this abundant energy source to provide cleaner and potentially more affordable power supplies.

Indonesia announced an ambitious 35 GW program in early 2015, shortly after President Joko Widodo took office. As originally announced, it involved (i) 36.6 GW of new generation capacity (of which 70 percent was to be delivered by private sector independent power producers (IPPs), and the balance by the state-owned power utility, Perusahaan Listrik Negara (PLN)); (ii) 42,159 km of new transmission lines; and (iii) 112,164 MVA of new transmission transformer capacity. The latest 10-year national electricity expansion plan, “Rencana Usaha Penyediaan Tenaga Listrik” (RUPTL 2017–2026) foresees electricity sector investment requirements totalling USD 180.6 billion in nominal terms. Of that total, PLN’s own investment needs are expected to be USD 87.6 billion (48.5 percent of total), while investments by IPPs are expected to total USD 93.1 billion (51.5 percent of total) over the same period. This leads to the share of IPP-owned capacity rising from 25 percent in 2016 to 55 percent in 2026, and presumably sets the stage for a significant IPP pipeline in the years to come.

However, structural, fiscal, and regulatory constraints may impede the ability to mobilize sufficient financing to meet the targets set out in the 35GW program and 10-year national electricity expansion plan.

The structural framework of how electricity is delivered in Indonesia, characterized by complex institutional and policymaking and the dominance of PLN, creates conflicts of interest and other challenges. In addition, the large capital expenditure needs of the investment

program, coupled with non-cost recovery tariffs and PLN’s continued, although decreasing, reliance on public service obligation (PSO) subsidies, is not sustainable. A re-assessment of the demand for electricity (which currently assumes a very optimistic growth scenario), a rational tariff, and a concerted effort to mobilize private finance through the IPP program are needed to keep the sector financially healthy.

Recent regulatory changes in the sector have caused concerns about the future financial feasibility of IPPs in Indonesia. Changes to (i) tariffs levels and risk allocation under power purchase agreements, (ii) the shareholding structures of IPPs, wherein PLN subsidiaries are permitted to take up to 51 percent of the ownership of new IPPs, and (iii) the procurement rules which now favor less competitive methods of selection for IPPs, among others, have raised questions as to whether the Government of Indonesia is truly committed to having a robust IPP program. While some of these regulations have since been amended or retracted (likely due to adverse market feedback), the intent behind these recent changes, as well as their volatility, will continue to affect the success of the IPP program.

This chapter is structured as follows. Section 2 provides a sector overview covering structure, supply, demand, performance, and investment plans. Section 3 discusses key constraints to investment in the sector. Section 4 looks at various methods of financing the electricity investment plan. Finally, section 5 and 6 set out, respectively, recommendations and a roadmap for policy actions that can leverage more private investment in the electricity sector in the future.

II.

Electricity Sector Overview

A. Structure

Indonesia's electricity sector is dominated by PLN, which was established in 1965 as the national electricity company. PLN is the major provider of all public electricity and electricity infrastructure in the country, including power generation, transmission, distribution, and retail sales of electricity. PLN is primarily responsible for achieving the government's electricity capacity expansion targets under the two Fast Track Programs (FTP-1 and FTP-2) and the 35 GW Program. Under the Electricity Law 2009 (Law No. 30/2009), PLN no longer has a legal monopoly over electricity generation, transmission, and distribution; but it retains a right of first refusal over any activity in the electricity sector and, in many cases, this is an effective deterrent for private enterprise.

PLN owns and operates nearly all the electricity transmission and distribution networks in Indonesia and in 2014 had 39,910 km of transmission lines, and 925,312 km of distribution lines. Until 2009, PLN had a total monopoly on the ownership and operation of the power transmission and distribution system throughout Indonesia. The 2009 Electricity Law reaffirmed that private power utilities outside PLN's service areas could generate and sell electricity to end-users and included a clause obliging PLN to purchase electricity from renewable energy producers. Despite this liberalization, and although the private sector has made inroads in negotiating licenses with local governments for electricity supply and distribution for isolated mini-grids, PLN remains by far the dominant force in transmission and distribution in Indonesia.

There are other major stakeholders in the electricity sector, in addition to PLN. These include: (i) IPPs, which sell electricity to PLN; (ii) Captive Generation, which self-supplies electricity to industrial facilities, such as Special Economic Zones (SEZs), factories, mines, and smelters; (iii) electricity consumers; (iv) fuel suppliers; and (v) the government, as policy maker, regulator, and owner.

The Ministry of Energy and Mineral Resources (MEMR) is the government's principal agency governing the Indonesian energy sector. It comprises several directorates-general, each with its own specific responsibilities within the sector, specifically: (i) coal and other minerals; (ii) oil and gas; (iii) electricity; and (iv) new and renewable energy and energy conservation. In addition to its legal responsibilities, MEMR also oversees and regulates the activities of the state-owned utilities and energy service companies, and conducts research relevant to Indonesia's mandated energy sector goals. As there is no independent regulator in Indonesia, MEMR also largely fulfills that function.

Other government ministries and agencies play significant roles in the electricity sector and the broader energy sector. These include the Ministry of Finance (MoF), the Ministry of National Development Planning (Bappenas), the Ministry of State-Owned Enterprises (MSOE), and the Ministry of Environment and Forestry (MoEF). The Coordinating Ministry of Economic Affairs (CMEA) and the Coordinating Ministry for Maritime Affairs (CMMA) also have jurisdiction over energy projects (in coordinating across MEMR and other ministries), though their roles have yet to be clearly defined. The National Energy Council (DEN or NEC), chaired by the President of Indonesia, also provides strategic advice on energy sector issues and policy. Table 1.1 sets out the institutional mapping of the Indonesian energy sector.

Table 1.1: Institutional mapping of the Indonesian energy sector

	Coal	Oil and Gas	New and Renewable Energy	Electricity
Policy Making	MEMR (DG MINERBA)	MEMR (DG MIGAS)	MEMR (DG EBTKE)	MEMR (DG Electricity)
	CMMA, CMEA, BAPPENAS, MoF, MOEF, MOI, MOT, BKPM	CMMA, CMEA, BAPPENAS, MoF, MOEF, MOI, MOT, BKPM	CMMA, CMEA, BAPPENAS, MoF, MOEF, MOI, Ministry of Public Works and Housing (MPWH)	CMMA, CMEA, BAPPENAS, MoF, MOEF, MOI, MOT, MSOE
	DEN			
	Commission VII House of Representatives (MPR-C7)			
Licensing	DG MINERBA	SKK MIGAS, BPH MIGAS, DG MIGAS	NA	DG Electricity
	Local Government	Local Government	Local Government	Local Government
Contract Making	NA	SKK MIGAS (Upstream)	NA	NA
Regulator	DG MINERBA	DG MIGAS (Upstream and Technical), BPH MIGAS (Downstream and Business)	DG EBTKE, DG Electricity, DG MIGAS	DG Electricity
Operation	SOEs, PSCs, Local Companies, Cooperatives, Communities	SOEs (PT Pertamina, PGN), PSCs (International and Local Companies)	Local Companies, Cooperatives, Communities	SOE (PT PLN), Captive Power, IPPs, Cooperatives, Communities

Source: Asian Development Bank 2016, "Indonesia: Energy sector assessment, strategy, and road map", Mandaluyong City, Philippines: Asian Development Bank, 2016, p. 6.

Key: BAPPENAS = Ministry of National Development Planning, BKPM = Indonesia Investment Coordinating Board, BPH MIGAS = Regulatory Agency for Upstream Oil and Gas, CMEA = Coordinating Ministry of Economic Affairs, CMMA = Coordinating Ministry of Maritime Affairs, DG = directorate general, EBTKE = New and Renewable Energy and Energy Conservation, MIGAS = Oil and Gas, DEN = National Energy Council, MINERBA = Minerals and Coal, MEMR = Ministry of Energy and Mineral Resources, MOEF = Ministry of Environment and Forestry, MoF = Ministry of Finance, MOI = Ministry of Industry, MPWH = Ministry of Public Works and Housing, MOT = Ministry of Trade, NA = not applicable, PGN = State Gas Company, PT PLN = State Electricity Company, PSC = production sharing contract, SKK MIGAS = Special Task Force for Upstream Oil and Gas Business Activities, SOE = state-owned enterprise.

In addition to the executive branch of government and the civil service, the Indonesian parliament also plays a crucial role in setting a broad range of energy policies that affect the electricity sector directly or indirectly. Commission VII of the House of Representatives is responsible for energy, mineral resources, research and technology, and the environment. Commission VII's remit includes oversight of government activities in the electricity sector, reviewing and approving the National Energy Policy (NEP), as well as any change in the level of Indonesia's electricity and fuel subsidy regimes.

The NEC was established in 2007 as the principal energy coordination body. It brings together the seven key ministries indirectly involved in the energy sector: the MoF, CMEA, Bappenas, the MoEF, the Ministry of Transport (MoT), and the Ministry of Industry (MoI). The NEC is chaired by the President and Vice President. The Minister of Energy and Mineral Resources serves as Executive Chairperson. The NEC is composed of members from the seven ministries and eight representatives from stakeholders. The NEC designs and formulates the National Energy Policy (NEP), agrees on measures to manage energy crises and

emergencies, and monitors the implementation of energy policy. Ministerial members are appointed by the President, while the others are selected by the House of Representatives.

Over the last thirty-five years, the principal laws governing the electricity sector have evolved to allow private sector participation.

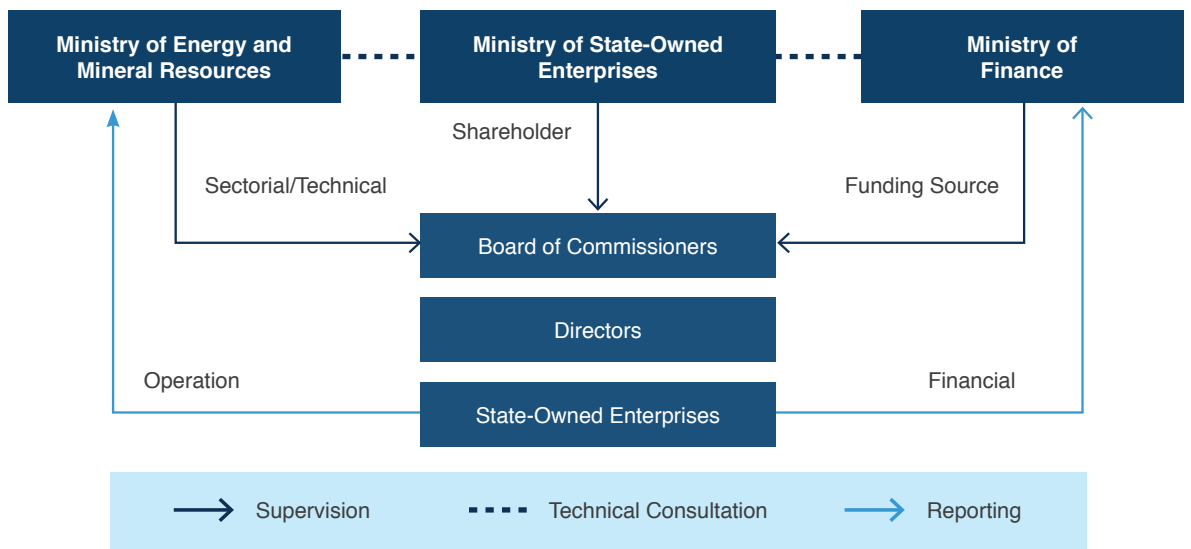
The 1985 Electricity Law (Law No. 15/1985) granted PLN exclusive control over the provision of electricity in Indonesia. In 1989, the government opened-up the electricity supply business to the private sector and in 1990 PLN became the exclusive owner of Indonesia’s electricity generating business. In July 1994, PLN had its status changed from a ‘public service company’ to a limited liability state-owned enterprise, becoming PT PLN (Persero). At present, PLN is primarily governed by the Law of State Enterprises (19/2003) and the 2009 Electricity Law (Law No. 30/2009), which replaced the 1985 Electricity Law.

An overview of the three key relationships between SOEs and the national government is presented in Figure 1.1, illustrating ministerial authority to appoint the directors of a SOE to monitor and formulate technical policies.

Specifically:

- The Minister of State-Owned Enterprises serves as a shareholder at general meetings of shareholders of SOE companies. The minister is authorized to manage the SOE’s operational and managerial affairs, including the appointment of directors based by decree.
- The Minister of Finance serves as state asset manager, authorized to provide public capital as one of the SOE’s sources of funding. The minister advises parliament on the budgeting of electricity subsidies, provides guarantees on SOE debts, and finances government capital injections into SOEs.
- The Minister of Energy and Mineral Resources is authorized to formulate, establish, and put in place policies on energy and mineral resources, including economic regulation; setting fuel prices; and approving the 10-year power sector development plan. The MEMR is also responsible for developing the National Electricity Plan (RUKN), which is responsible for, among other things: (i) a 10-year projection of electricity demand and supply; (ii) investment and funding policy; and (iii) targets for new and renewable energy. The RUKN informs the preparation of the RUPTL.

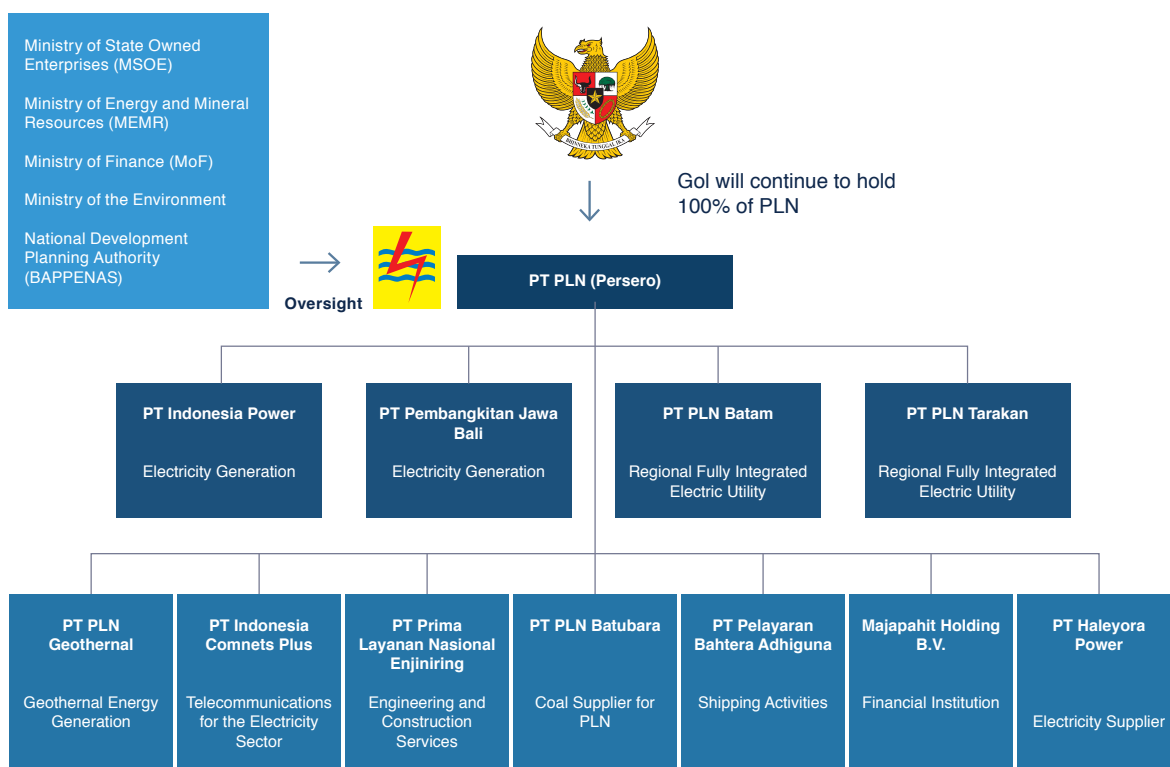
Figure 1.1: The general relationship between SOEs and the government



Source: Law No. 19/2003

Figure 1.2 illustrates the high-level relationship between Government of Indonesia (GoI) and PLN, and PLN's main subsidiaries (excluding PLN's JV companies).

Figure 1.2: PLN's corporate structure and its relationship to GoI



Source: PLN.
Note: Excludes Joint Ventures.

In summary, the national government has a multiplicity of relationships and roles within the electricity sector. These are, specifically: (a) as shareholder (100 percent owner of PLN shares), and equity provider; (b) as lender and provider of subsidies via: (i) on-lending of concessional debt from bilateral and multilateral development banks and agencies; (ii) providing loans to finance capital expenditure; (iii) providing Business Viability Guarantee Letters (BVGL) for contracts entered into by PLN with IPPs; and (iv) providing subsidies to cover any PSO payments arising from the costs of providing services to customers exceeding the revenues PLN can collect through its government regulated tariffs; (c) as regulator; (d) as supplier of petroleum products (through Pertamina), gas (through Pertamina and PGN), and coal (PT Tambang Batubara Asam); and (e) as a customer, involving both direct sales to government and sales to other SOEs.

The institutional roles are unclear and there is potential for overlapping of roles/responsibilities and for conflicting objectives among the key agencies involved in the power sector: the MSOE, the MEMR, the MoF, Bappenas, and the MoI. Specifically, the processes for developing, prioritizing, and structuring projects are not clear, and the multiplicity of decision points may extend the time required to approve, license, procure, negotiate, financially close, and then construct new infrastructure. In addition, while some government policies seem to support increased private sector financing as a means of achieving much of the capital expenditure program, other recent policies seem to be working against that by making the public sector the main driver for investment. These seemingly contradictory positions reflect divergences of view across key government ministries with stakes in the electricity sector: MoF, which provides financial support to sector; MEMR, which largely sets sector policies and acts as regulator; and MSOE, which acts as the government's shareholder in PLN and other SOEs.

B. Performance

(i) Operating efficiency

In terms of efficiency, overall system losses compares favorably with other well-performing entities, but there are large regional disparities. The difference between power sent out from PLN's power stations, plus energy purchases and final sales to consumers average about 11 percent. However, this 11 percent average masks substantial differences among PLN's many disparate systems that are not interconnected because of the remoteness of some the locations and the archipelagic character of the country. Thus, in some areas the system losses are high due to the configuration of the network involving long distribution lines, with some of these losses resulting from less than optimal distribution system planning.

(ii) Reliability of supply

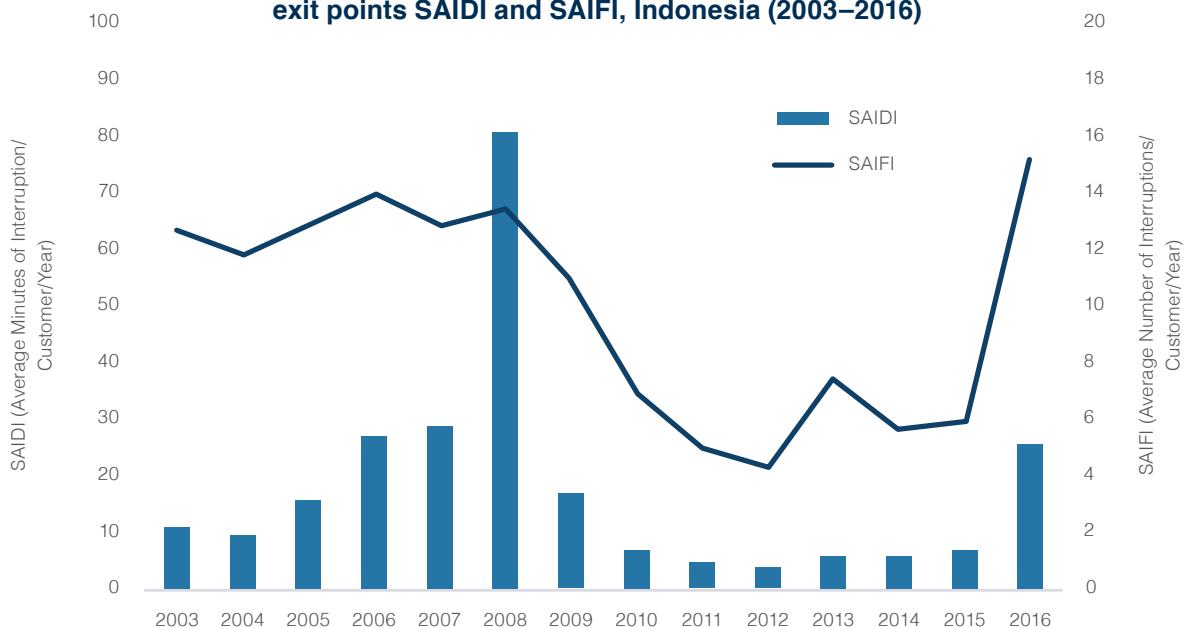
The quality and reliability of electricity supply depend on how the power system is built and operated. There has to be sufficient capacity to cover: peak loads (MW); energy demands (MWh); and the loss of critical elements of the power system, such as generation units, power lines, and transformers. In addition, the power system must be operated so that loads placed on equipment do not exceed their physical limits.

Overall, PLN's past performance in terms of the accuracy of its demand forecasting and the delivery of its investment plans has been over-estimated. However, to a large extent, these have offset each other so that over-forecasting of demand growth has led to larger investment needs being identified than are required in practice. Despite the under-delivery of investment plans, therefore, PLN has been able to maintain reserve margins close to, or in excess of, target levels in most years and quality of service does not seem to have suffered.

Indonesia's installed generation capacity increased from 21 GW in 2001 to 39 GW by 2014 – an average annual increase of 1.4 GW, with most of the increase taking place between 2010 and 2014 (13 GW). The rising level of generating capacity resulted in the nationwide system reserve margin increasing from 24 percent in 2010 to 40 percent in 2015.

This large capacity expansion program has enabled PLN to deliver an improving quality of supply over the period 2003 to 2015. Specifically: (i) the System Average Interruption Duration Index (SAIDI) fell from 10.90 minutes per customer in 2003 to 6.94 minutes per customer in 2015, and the System Average Interruption Frequency Index (SAIFI) also improved from 12.51 outages per customer per year to 5.82 outages

Figure 1.3: Quality of electricity supply, transmission exit points SAIDI and SAIFI, Indonesia (2003–2016)



SAIDI: Duration of Interruptions (minutes/customer/year)
 SAIFI: Frequency of Interruptions (number of interruptions/customer/year)
 Source: PLN Statistics, various years.

per customer per year over the same period. However, 2016 saw a reversal of the gains made in the quality of supply. Furthermore, the slowdown in capacity expansion during 2008 and 2009 led to deterioration in these indices, resulting in the perception that PLN's slowness in delivering the capacity expansion program had led to service quality issues (see Figure 1.3).

Unlike most utilities, PLN publishes SAIDI and SAIFI data measured at the transmission exit points and not at the distribution levels, which is where most of the output quality issues are likely to occur. PLN's statistics ignore the impacts of outages in the distribution system, which may be very significant given that most supply interruptions occur in the medium- and low-voltage parts of the supply chain—i.e. in distribution—rather than at the high-voltage transmission level. This practice understates the true level¹ of reliability concerns and makes quality of supply comparisons with other regional utilities difficult.

(iii) Access to electricity services

Increasing household access to electricity is a key GoI objective for the sector, yet critical challenges remain. Based on the MEMR data, Indonesia had a household electrification ratio (ER) of 80.4 percent in 2013 and 88.2 percent in 2016, lagging behind the GoI target of 90.2 for the same period. The national electrification ratio masks substantial regional disparities with some provinces in Eastern Indonesia, which have much lower ER. For example, Papua has the lowest electrification ratio at 43.5 percent, followed by Nusa Tenggara Timur (NTT) at 58.9 percent. In contrast, provinces such as DKI Jakarta, Bangka Belitung, and Banten have electrification ratios of more than 90 percent. Connecting the remaining 12 percent of households and 2,519 villages will be challenging, given that most are in remote areas. This needs a clear, well-coordinated national strategy and plan for meeting the 99.7 percent by 2020 access target.

(iv) Financial performance and government subsidies

PLN's financial performance had until recently been improving and its reliance on government subsidies declining. PLN's financial performance is largely driven by: (i) its operating costs, particularly generation; (ii) the level of tariffs set by government; and (iii) the level of PSO subsidy payments by government. However, PLN has not been able to sustain

improved financial performance in the face of higher fuel costs and its inability to pass these on to customers.

Historically, government subsidies have formed a large share of PLN's operating income—almost half in some years. Electricity subsidy payments increased through the 2000s as GoI held power prices below the cost of service and as fossil fuel prices rose dramatically – particularly oil and gas prices. The government's policy response was to pay PSO subsidies and then to switch fuels from expensive oil to 'cheap' coal.

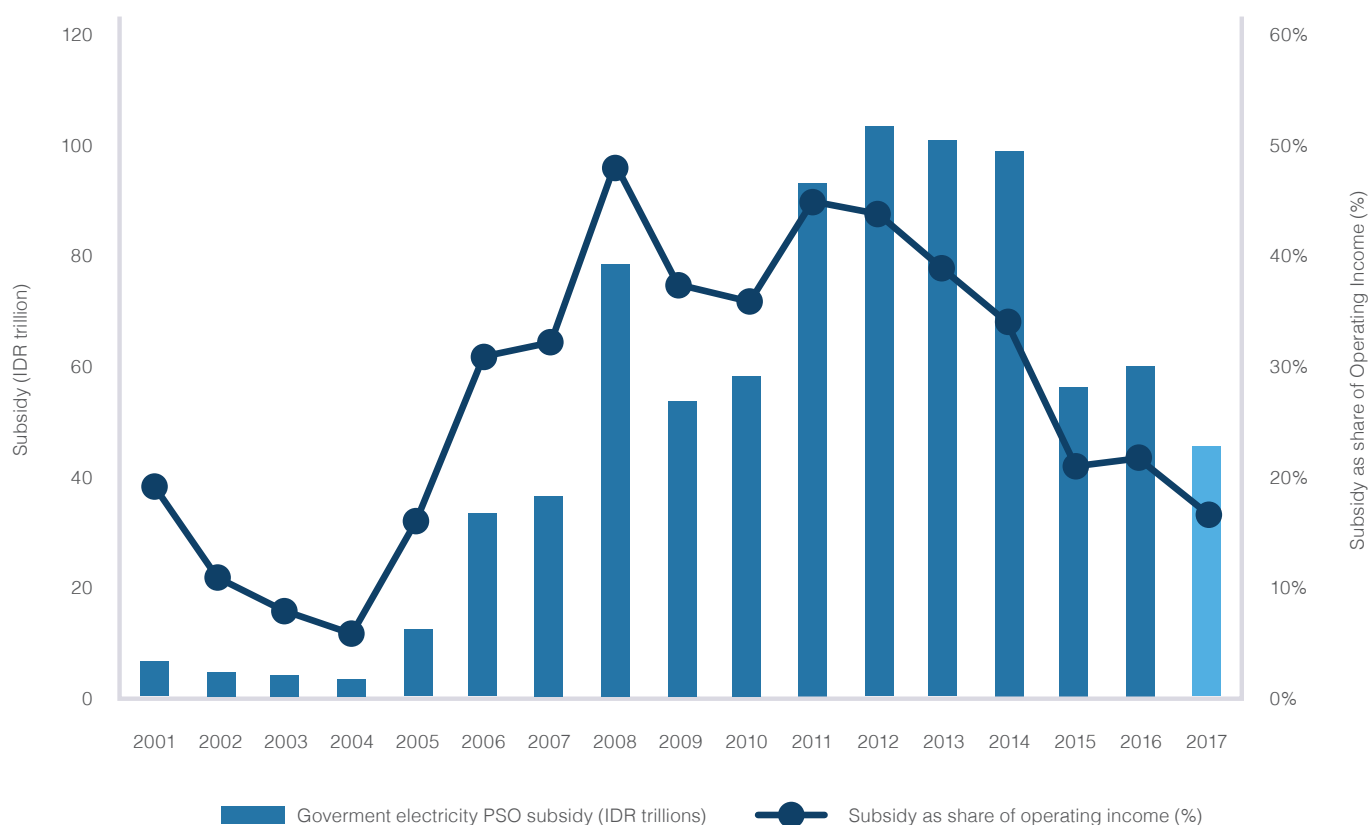
Since 2014, major progress has been made in reducing subsidies and moving customers towards economic prices. PLN's reliance on government subsidies has declined from a peak of 45 percent in 2011 to 17 percent in 2017, as a result of a number of factors: (i) falling fuel prices; (ii) decreasing reliance on oil-fired generation; and (iii) tariff increases for non-residential and for larger residential customers. Figure 1.4 below charts the government's PSO payments to the electricity sector between 2001 and 2017 and the percentage of operating income represented by those subsidies over the same period.

In coming years the electricity sector's enormous capital expenditure requirements, rather than its operating costs, will be the main cost driver — especially if the current capital expansion plan is not adjusted to better match the reduced growth in electricity demand.

Serious areas of concern remain. Firstly, tariffs have still not recovered, in real terms, to their levels of 14 years ago and PLN is still dependent on government subsidies to be able to cover its operating costs and debt service needs. Secondly, PLN's profitability (measured as the return on capital employed) is low (averaging just 2 percent in recent years), leaving it largely dependent on borrowing and equity injections from government to finance future investment. Furthermore, PLN's ability to raise user tariffs is limited by GoI interference. For example, in 2017 PLN was ordered not to raise user tariffs until the end of the first quarter of 2018. Finally, Rising coal prices are also a contributing factor to PLN's increased fuel and power purchase costs, so much so that recently MEMR headed an effort to allow PLN to purchase coal below market prices and to renegotiate recently signed PPAs that were seen as too generous in pricing.

¹ It is possible to compare PLN's SAIDI and SAIFI with Thailand's utility EGAT. EGAT publishes information on transmission exit-point SAIDI and SAIFI, which is comparable to PLN's published information. In 2016 EGAT's transmission exit-point SAIDI was 1.97476 minutes and its SAIFI was 0.14394 times. Relative to Thai customers, in 2016 PLN's customers experienced both more frequent outages (105 times more) and, on average, much longer outages (13 times longer).

Figure 1.4: GoI PSO payments to the electricity sector, 2001–2017



Source: 1) PLN Statistics and PLN Financial Statements; 2) Ministry of Finance, APBNP 2017, (URL https://www.kemenkeu.go.id/sites/default/files/l-Account_APBN_31%20Juli%202017.pdf).

Notes: Operating Income = Electricity Sales Revenue + Subsidy. The 2017 electricity subsidy of IDR 45.4 trillion is an estimate, drawn from the 2017 Revised Budget Estimates (APBNP) published on 27 July 2017. The estimated share of 2017 subsidies in PLN's Operating Income (shown in green), is based on: (i) the 2017 APBNP estimate of IDR 45.4 trillion; and (ii) an assumed increase of 5 percent in electricity sales revenue from 2016 to 2017, yielding projected electricity sales in 2017 of IDR 224.847 trillion.

C. Electricity supply and demand

The total installed power generation capacity in Indonesia at the end of 2015 was 55.5 GW, of which 38.9 GW (70 percent) was owned by PLN, 11.7 GW (21 percent) by IPPs, and the balance by private power utilities and captive generation. Nearly 78 percent of installed capacity is in Java and the remaining capacity is on unconnected grids on major islands, and hundreds of isolated mini-grids in rural, remote areas on Java-Bali and on other islands.

The fuel mix of installed generation capacity for 2015 was dominated by coal plants (49 percent) and natural gas (28 percent), with a low proportion of renewables (9 percent hydropower and other renewables only 3 percent). In 2014 the National Energy Council revised Indonesia's energy policy and introduced several important changes, including re-

establishing Indonesia's energy independence by re-directing energy resources from export to the domestic market, aiming to rebalance the energy mix towards indigenous energy supplies. The policy effectively means minimizing oil consumption, increasing the exploitation and consumption of coal and renewable energy (RE) sources, optimizing gas production and consumption, and transforming the energy mix by raising the share of new and renewable energy (NRE) sources to 23 percent by 2025. To meet the country's energy mix target for 2025, natural gas and coal use will have to more than double and renewable energy increase nine-fold.

The 234 TWh of electricity generated in 2015 had a fuel mix that mirrored the installed capacity — with coal accounting for 56 percent of total output, natural gas 24 percent, fuel oil and diesel 9 percent, hydropower 6 percent, and other renewable energy 5 percent.

PLN supplies consumers from both its own generating capacity and purchases from IPPs under long-term Power Purchase Agreements (PPAs). It acts as the single buyer for IPPs. Total electricity sales in 2015 were 198.6 TWh, which were shared across industrial customers (33.2 percent), households (42.3 percent), businesses (18.3 percent), and others (6.2 percent).

Electricity consumption per capita in Indonesia is well below that of its economic peers.

Indonesia's annual per capita consumption is estimated to be 787 kWh in 2015. This is only 44 percent of the 2012 average of middle income countries (latest WDI data), 18 percent and 32 percent of the corresponding level for Malaysia and Thailand respectively, and 1/10th that of OECD members. The relatively low electricity

consumption per capita in Indonesia reflects a range of factors, including: (a) electrification rates; (b) energy intensity of the economy — largely arising from the composition of its commercial and industrial sectors and their efficiency of energy usage; (c) electricity supply reliability; (d) size of national population; (e) household income levels; and (f) the volume, mix, use, and efficiency of household electricity appliances and air-conditioning.

The assumed 8.4 percent annual growth rate in electricity demand underpinning the 10-year investment plan (including the 35 GW program) is higher than recent history would suggest, and the rate of demand (or load) growth has fallen in recent years. Electricity consumption grew at an average of 7.1 percent per year from 134.6 TWh in 2009 to 202.8 TWh in 2015. More recently, load growth was only 3.1 percent year-on-year (yoy) ending September 2017 and 5.94 percent yoy ending September 2016 — reflecting the impact of a gradual increase of electricity tariffs throughout 2015 and a less vibrant domestic economy.

D. Electricity sector investment plan

(i) Indonesia's 10-year power system expansion plan

The 2015–2019 National Medium-term Development Plan (Rencana Pembangunan Jangka Menengah Nasional, RPJMN) defines specific, near-term objectives for the energy sector. They include: (i) reliably and efficiently meeting rising energy demand by expanding domestic, primary energy supply — to the maximum extent through increased domestic oil and gas production — to address energy security concerns; (ii) transitioning toward a sustainable energy sector through increased use of domestic gas, renewable energy, and by scaling up energy efficiency measures; (iii) achieving a more efficient and competitive energy sector; and (iv) achieving nearly universal access to electric power. As part of its efforts to achieve these objectives Indonesia is currently undertaking one of the world's largest, single-country electricity infrastructure development programs.

The latest 10-year national power expansion plan (RUPTL 2017–2026), released in May 2017, forecasts a large increase in generation, transmission, and distribution capacity.

The plan, which draws together the three Fast

Track programs, as amended, predicts electricity sector investment requirements to total USD 180.6 billion, in nominal terms. IPP capital expenditure is estimated to be USD 93 billion, with the resulting electricity being sold under long term contracts to PLN. PLN is obliged to invest heavily in upgrading its distribution networks (USD 21.3 billion), in addition to its large capital expenditure on generation (USD 36.1 billion) and transmission (USD 30.2 billion).

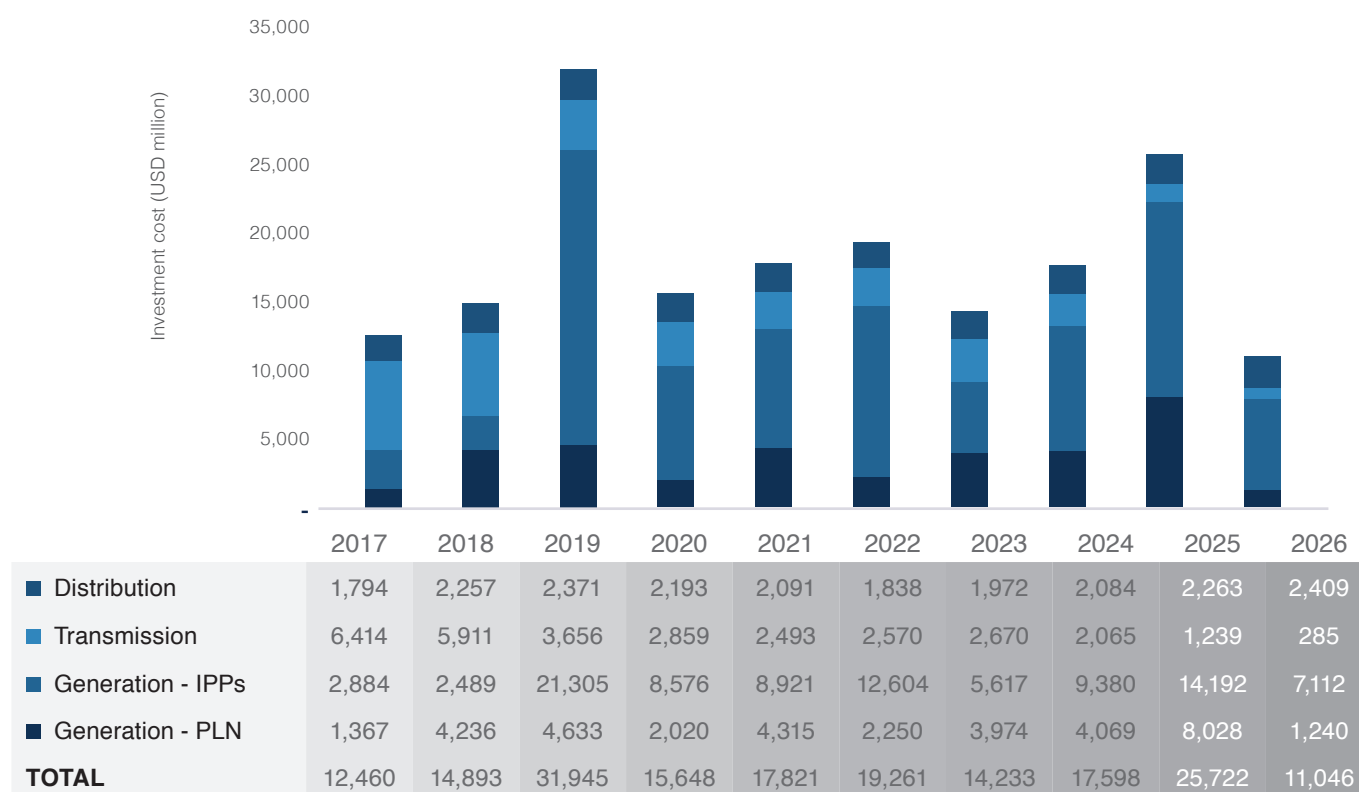
The 10-year capital expenditure program is front loaded. Approximately USD 92.8 billion (or 51.4 percent of the total) will be spent in the five years to 2021, resulting in an average annual expenditure during those five years of USD 18.6 billion for both IPPs and PLN, or USD 9.7 billion for PLN alone (see Table 1.2). The USD 9.7 billion per annum capex by PLN would be almost triple its annual capex in the five years to 2015, requiring massive debt financing by PLN, as well as generation of sufficient funds for its equity contributions to its new investments in generation, transmission, and distribution. Figure 1.5 summarizes the projected investment requirements by type, owner, and year in the period 2017 to 2026.

Table 1.2: Summary of electricity sector capex requirements, 2017-2026

	Capital expenditure requirements			Share of 10-year capex to be disbursed (2017-2021)	Share of 10-year capex to be disbursed (2022-2026)
	TOTAL 2017-2026	2017-2021	2022-2026		
	(USD mill)	(USD mill)	(USD mill)	(percent)	(percent)
Generation - PLN	36,132	16,572	19,560	45.9	54.1
Generation - IPPs	93,081	44,175	48,906	47.5	52.5
Transmission	30,162	21,333	8,828	70.7	29.3
Distribution	21,272	10,706	10,566	50.3	49.7
TOTAL	180,647	92,787	87,860	51.4	48.6

Source: ECA 2017 "Indonesia Electricity Cost of Service & Tariff Study", based on RUPTL 2017-2026.

Figure 1.5: Projected investment requirements summarized by type, owner, and year in the period 2017 to 2026



Source: ECA 2017 "Indonesia Electricity Cost of Service & Tariff Study", based on RUPTL 2017-2026.

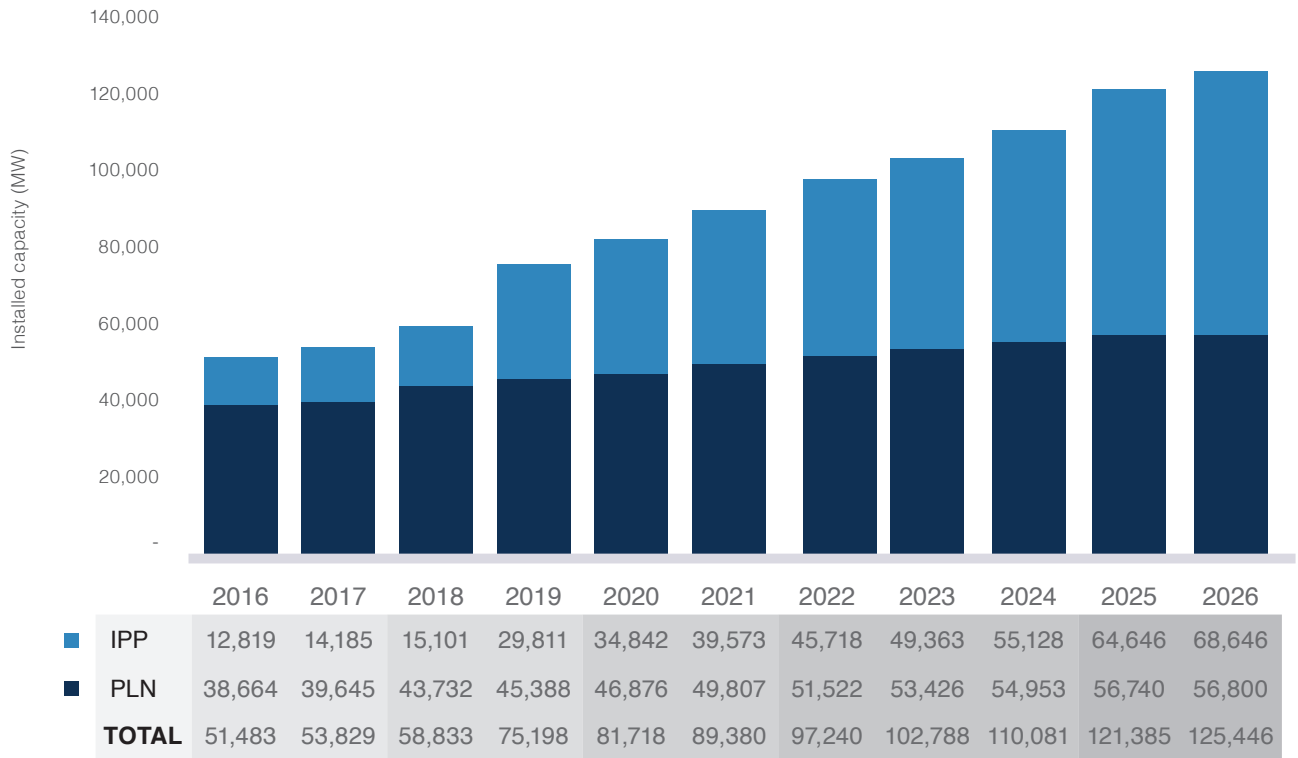
The RUPTL defines three types of generation capacity additions: PLN, IPP, and Unallocated.

Unallocated generation refers to those projects that have not yet been committed and may therefore be added either through PLN or IPP. For the purpose of cost analysis, the 'Unallocated' generation in the RUPTL has been split across PLN and IPPs, assuming that all 'Unallocated' large hydro and simple-cycle gas-fired generation will be delivered by PLN, and that all other unallocated generation will be delivered as IPPs. This results in total generation costs of USD 36 billion for PLN and USD 93 billion for IPPs.

The assumed split of PLN and IPP generation investments has significant impact on PLN's need to finance new investments.

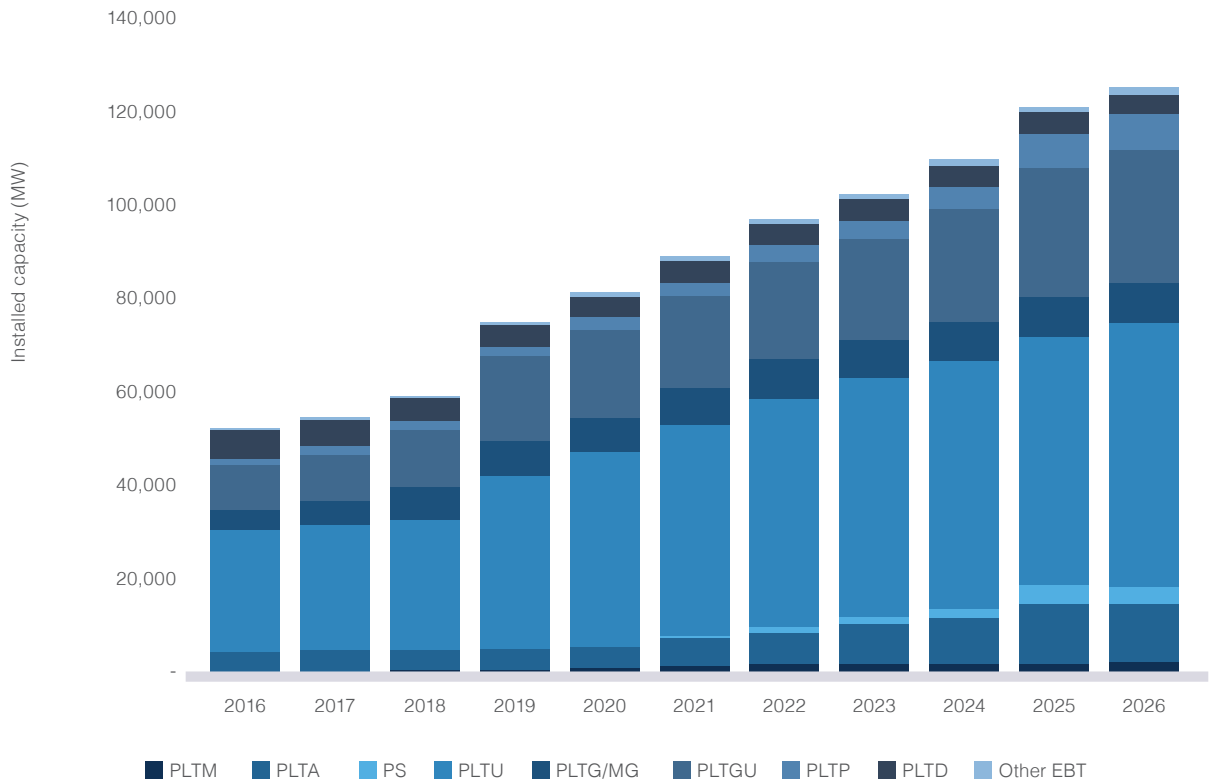
RUPTL 2017-2026 assumes that 72 percent of the total generation investment costs will be borne by IPPs. This leads to the share of IPP-owned capacity rising from 25 percent in 2016 to 55 percent in 2026. The resulting generation investment costs and split of generating capacity are summarized, respectively, in Figure 1.5, Figure 1.6, Figure 1.7, Figure 1.8, and Table 1.3.

Figure 1.6: Generating capacity, by ownership, 2017–2026



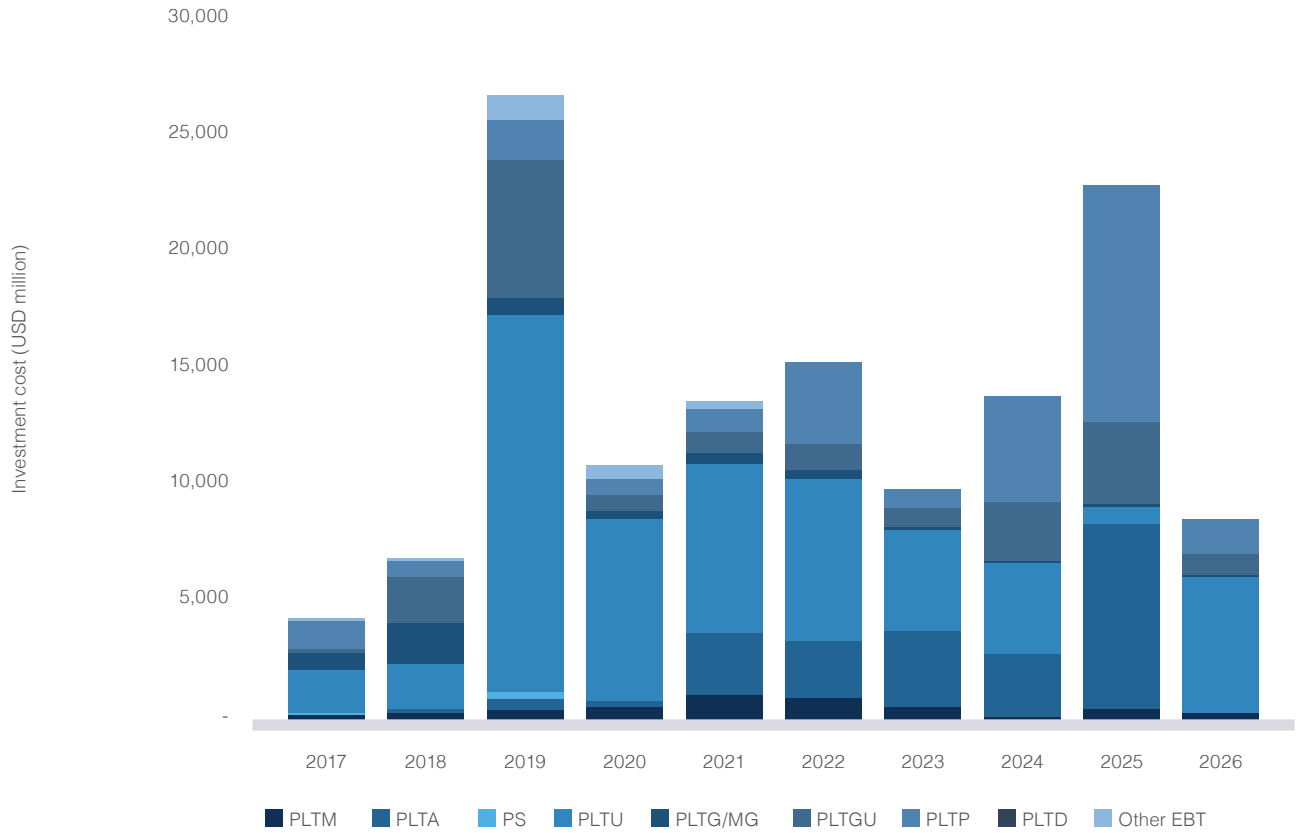
Source: ECA 2017 "Indonesia Electricity Cost of Service & Tariff Study", based on RUPTL 2017-2026.

Figure 1.7: Installed generating capacity (MW) by technology, 2016–2026



Source: ECA 2017 "Indonesia Electricity Cost of Service & Tariff Study", based on RUPTL 2017-2026.

Figure 1.8: Generation investment costs (for both PLN and IPP), by technology, 2017–2026 (USD millions)



Source: ECA 2017 "Indonesia Electricity Cost of Service & Tariff Study", based on RUPTL 2017-2026.

Table 1.3: Generation investment costs (for both PLN and IPP), by technology 2017–2026 (USD millions)

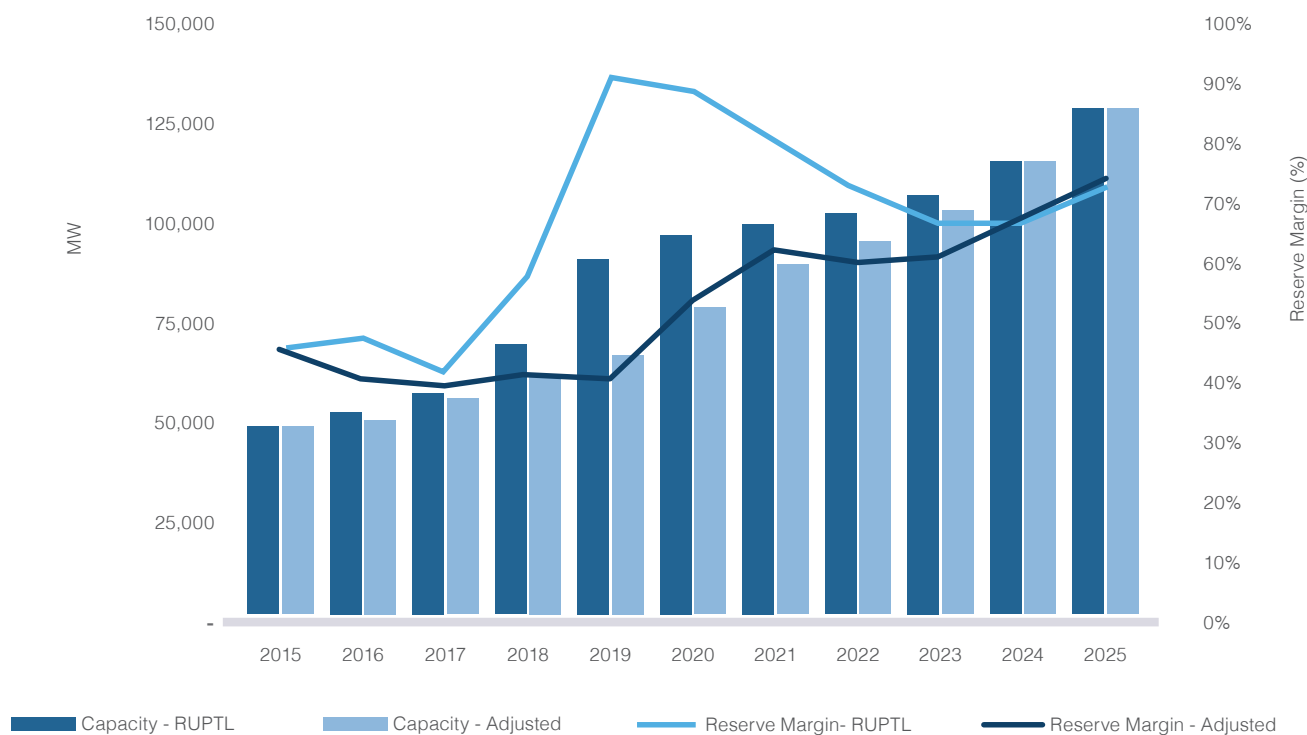
Symbol	Description	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	TOTAL
PLTM	Hydro-mini	167	283	436	524	1,050	902	504	88	427	247	4,629
PLTA	Hydro-conventional	28	137	607	255	2,553	2,385	3,231	2,694	7,755	-	19,644
PS	Hydro-pump storage	54	44	76	-	-	-	-	-	-	-	174
PLTU	Coal-fired steam turbines	1,840	1,860	15,718	7,527	7,078	6,759	4,213	3,718	641	5,707	55,061
PLTG / MG	Gas turbines / engines	715	1,703	665	367	361	340	30	103	153	104	4,540
PLTGU	Gas Combined Cycle	123	1,940	5,748	709	909	1,044	823	2,428	3,410	809	17,943
PLTP	Geothermal	1,236	677	1,606	598	957	3,424	790	4,419	9,834	1,486	25,027
PLTD	Diesel	-	-	-	-	-	-	-	-	-	-	-
EBT Lain	New & renewable energy	89	81	1,082	617	328	-	-	-	-	-	2,197
TOTAL		4,252	6,725	25,938	10,597	13,236	14,854	9,591	13,449	22,220	8,352	129,214

(ii) Critical assessment of the plan

The current investment program shows a Reserve Margin projection for Indonesia that is well above what is normally considered prudent (see Figure 1.9). Power systems require a level of spare capacity (i.e. reserve margin) to cover peaks in demand (MW), taking into account risks of generation and network plant outages, in order to minimize power supply interruptions. A reasonable level of generation reserves is typically 25-35 percent. An excessive reserve margin is indicative

of over-investment. The current electricity sector plan envisages very large additions to generating capacity, which result in reserve margins that are closer to 70 percent- well above PLN's own estimates of the margins necessary to meet its target Loss of Load Probability of <0.274 percent (equivalent to one day per year). PLN estimates that this requires a reserve margin of 35 percent of installed capacity for the Java-Bali system and of 40 percent for other systems.

Figure 1.9: Projected reserve margins for electricity generation in Indonesia, 2015–2025



Source: ECA 2017 “Indonesia Electricity Cost of Service & Tariff Study.”

Note: (a) The “Reserve Margin - RUPTL” is based on RUPTL 2015-2025 and reflects the aggressive timelines in the original announced plans for 35 GW Program, made in early 2015. (b) The “Reserve Margin - Adjusted”, shows a more realistic delivery schedule for the 35 GW program’s capacity additions, and is almost identical to that in RUPTL 2017-2026.

Some further prudent adjustments to the original 35 GW investment program (i.e. RUPTL 2016–25) could deliver the total planned new capacity over a longer period, but reduce the high financial and economic costs and risks arising from having excessive reserve margins. In 2017, some adjustments were made to Gol’s original 35 GW program announced in 2015. These sought to deliver the same volume of total generation capacity additions (80,544 MW), but spread them out over 10 years—rather than unrealistically front-

loading 42,464 MW in generation capacity additions (i.e. 35 GW + 7 GW), along with the related transmission investments, into the 2016–2019 period. Adjusting the 2016-2025 RUPTL generation capacity expansion plan to deliver the 35 GW over 10 years but pushing back some of the new capacity additions from before 2019 to later years, results in reserve margins around 30 percent up to 2020 but well above that from 2020 forward (see Figure 1.9). In addition, if load growth is less than assumed (which seems to be the case based on growth in 2016–2017),

Table 1.4: The 35 GW program – Generation projects, as of 31 December 2016

Phase	Region					TOTAL (MW)	% of Total
	Sumatra	Java-Bali	Kalimantan	Sulawesi & Nusa Tenggara	Maluku & Papua		
	(MW)	(MW)	(MW)	(MW)	(MW)		
Operation	392.6	22.5	112.4	163.4	15.6	706.5	1.98%
Construction	722.0	8,278.0	400.0	640.0	50.0	10,090.0	28.27%
Pre-construction	3,030.0	4,595.0	835.0	190.0	14.0	8,664.0	24.27%
Procurement stage	2,154.0	6,400.0	511.0	1,045.0	300.0	10,410.0	29.16%
Planning stage	2,094.0	1,800.0	300.0	1,600.0	30.0	5,824.0	16.32%
TOTAL	8,392.6	21,095.5	2,158.4	3,638.4	409.6	35,694.5	100%

Source: PLN 2017b, "2016 Annual Report", p. 245.

the reserve margins will be even higher. The original generation mix under the 35 GW was also altered in 2016 and 2017, to reduce the volume of coal-fired generation and increase the share of renewable energy.

The huge generation and transmission expansion efforts represented in the 35 GW program have fallen well behind the overly ambitious schedule set by Gol in January 2015. Progress with the 35 GW program's generation capacity development is summarized in Table 1.4 below. At the end of 2016, 54.5 percent (19,460.5 MW) of the total planned capacity under the 35 GW program had been contracted, with 1.98 percent (706.5 MW) in operation, 28.27 percent (10,090 MW) under construction, and 24.27 percent (8,664 MW) in pre-construction. A further 10,410 MW (29.16 percent) was under procurement, and 5,824 MW (or 16.32 percent) was at the planning stage.

Progress with the 35 GW program's transmission line development and transmission substation capacity expansion is also falling behind the government's ambitious schedule. At the end of 2016, some 52 percent of transmission lines were still in the pre-construction phase, along with 60 percent of the substations.

Given that transmission line and substation projects in Indonesia typically take between 7 to 12 years to complete after EPC contract signing, PLN and the IPPs face two key risks.

Firstly, transmission lines may not be ready to connect new generating capacity, with the result that power cannot be sent out across the network. Secondly, constraints to transmission capacity may limit power deliveries to consumers. How those risks are shared between PLN, IPPs, Indonesia's electricity customers, and the government is a crucial financial and political issue.

In light of these infrastructure development delays and the lower than projected growth in electricity demand, some adjustments to the original power system expansion plan announced in 2015 are already being made – but more need to be considered.

In early 2017, the construction of several power plants, with combined capacity of 9 GW, was postponed because of lower than projected demand growth. On Java, the signing of PPAs for the 2,000 MW Java 5 coal-fired power plant, the 600 MW Java 10 power plant, and the 1,600 MW Java 13 power plant, were put on hold indefinitely. The USD 3 billion Java 5 project, in Banten, is one of the largest single projects in the 35 GW program, and it was at the center of controversy in mid-2016 when PLN unilaterally decided to disqualify the winning bidder over what it called "governance issues." In Sumatra, two large mine-mouth coal-

fired generation projects were also removed from the RUPTL 2017-2026 — the South Sumatra 9 (1900 MW) and South Sumatra 10 (600 MW). In addition, in early 2017, Gol adjusted the target completion dates and capacities under the 35 GW program, by extending the overall delivery date of the program from 35GW in 2019 to having 29 GW by 2019 and the full 35 GW by 2021. Those changes were incorporated into the RUPTL 2017-2026 (see above).

These adjustments in scheduling and timing were a recognition of several things. These include: (i) the fact that actual economic and electricity growth rates were substantially lower than the optimistic assumptions in the original plan, so less new capacity was required so soon; (ii) the time required to tender, select, award, negotiate, sign, and financially close contracts in Indonesia; (iii) more realistic construction timetables; (iv) the financial risks to PLN and the government of entering into an excessive volume of IPP contracts with large fixed capacity payments and take-or-pay obligations; and (v) financing limitations on PLN arising from: a) PLN's stretched balance sheet; b) power prices being below the costs of service; c) the government's tight fiscal situation limiting its ability to increase PSO subsidies or provide massive capital injections into PLN; and d) PLN loans having reached or approaching the prudential lending limits of the largest domestic banks.

It is recommended that the current electricity investment program be reassessed under lower demand growth scenarios, in line with recent experience, and that consideration be given to slowing down the volume and pace of investment delivery. Less additional capacity might be required, or the same new capacity might be delivered over a much longer timeframe, in line with actual changes in growth rates.

(iii) Challenges in financing the electricity capacity expansion plan

The large capital expenditures involved in the current plan pose significant financing challenges — to PLN, the government, and private IPPs. The USD 9.7 billion per annum capex by PLN would be almost triple its annual capex in the five years to 2015, requiring massive debt financing by PLN, as well as sufficient funds for PLN's equity contributions to its new investments in generation, transmission, and distribution. In order to achieve the projected increase in IPP capex to an average level of USD 8.8 billion per year over the next 10 years, policy and regulatory changes will need to be made to

improve the business environment and address the key hurdles faced by private investors (i.e. sector dominance by PLN, opaque bidding processes and allocation of projects, regulatory uncertainty, unfair sharing of risks in PPAs) as further explained below.

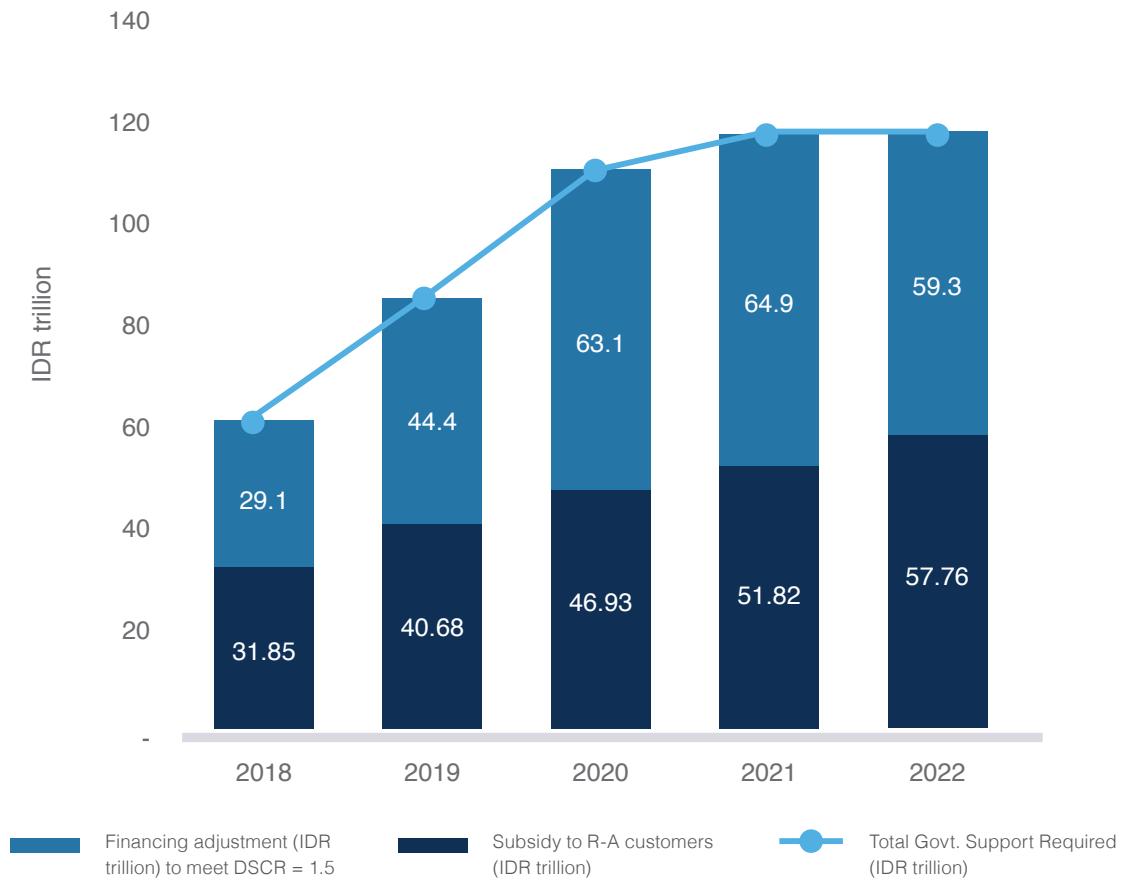
The current “cost + margin” methodology used to set PLN's revenue requirement and tariffs has some weaknesses.

In particular: (1) there is no clear link between the margin and Gol's cost of capital; and (2) depreciation will usually not match debt repayments. The current 7 percent margin that is applied to PLN's costs translates to a return on equity of around only 2 percent on average. If PLN's revenue requirement continues to be set using a low return on equity (2 percent), PLN will be unable to finance its investment program without continued support from Gol. This support takes the form of a direct subsidy or equity injections.

Proceeding unchanged with the current electricity investment plan in this environment of low electricity demand growth would impose large economic and financial burdens, with serious fiscal implications.

Recent rises in fossil fuel prices could, if sustained, exacerbate these issues. The combination of the large capital expenditure program with rising operating costs caused by fossil fuel price rises and no change in tariff levels could result in the need for a very large increase in government support to the sector, thereby reversing the gains made since 2012 in reducing and better targeting electricity subsidies. Under the “business-as-usual” scenario, there will be a growing shortfall between PLN's projected operating cash flows and those required to meet its operating costs, capital expenditure needs, loan repayments, and its Debt Service Coverage Ratio (DSCR) covenants with financiers (i.e. DSCR = 1.5 times), as shown in Figure 1.10 below. PLN's DSCR falls dramatically to around 1.1 with the result that it will struggle to raise additional financing and have to pay high risk premiums as prudent financiers become reluctant to lend more to the company. Consequently, the required annual government financing adjustment will reach around IDR 65 trillion (USD 4.73 billion) per year by 2021.

Figure 1.10: Projected cost of Gov support to PLN, including PSO subsidies and financing adjustments, 2018–2022 (IDR trillion)



Source: ECA 2017 "Indonesia Electricity Cost of Service & Tariff Study."



III.

Key Constraints to Investment in the Electricity Sector

This section sets out some of the main constraints affecting investors, both public and private, in Indonesia's electricity sector. The constraints include: (1) PLN's incentives, size, and conflicts of interest; (2) tariffs for electricity consumers being below the full economic costs of supply; (3) a changing regulatory framework; (4) shortcomings in the supply and pricing of gas for power generation; (5) bankability of PPAs; and (6) specific issues with renewable energy IPPs.

A. PLN incentives

PLN's size and its dominant role in the power sector complicate and sometimes impede the flow of commercial financing into the sector.

This is due to the conflicts of interest that arise from PLN's multiple roles as system planner, procurer (single buyer), executing agency, system operator, as well as a profit-making enterprise with a mandate to maximize profits for its shareholders.

(i) PLN as a commercial entity

PLN's position is currently capital constrained, affecting its ability both to fund its own capital investments and to enter into long-term PPAs with private sector IPPs.

PLN is close to its borrowing limits with domestic banks, many of which are state-owned and have been directed to provide additional loans to PLN, and this is crowding out domestic debt financing for private IPPs, which instead rely largely on foreign bank loans.

As a "for profit" SOE, PLN is expected to operate commercially but can be constrained from doing so by external factors (e.g.

government regulatory decisions on allowed revenues and tariffs). PLN is expected to execute large-scale government policies such as the completion of the 35 GW Program by 2026, the delivery of 23 percent of electricity supply from new and renewable sources by 2025, the completion of the 2,500 Electrified Village Program by 2019, and the increase in the national household Electrification Ratio to 99.7 percent by 2025.

Further tariff rises are unlikely in the near term.

Recent ministerial statements have confirmed that, following a series of tariff rises between 2014 and 2016, further increases are unlikely to take place in coming years, despite the fact that the average tariff continues to be below cost-recovery level and that tariffs for many customers remain below the cost of serving them. In addition, PLN faces constraints on budget subsidies and/or equity injections.

For understandable, sound commercial and corporate governance reasons PLN's actions are guided by commercial necessities, which can lead to PLN pushing back against government policies and directives in order to protect its commercial interests.

For example, in 2016 PLN suspended the construction of the Sumatra-Java high-voltage, direct current (HVDC) cable, which had been discussed for decades and was seen as an economically efficient investment that would electrically link Indonesia's two most populated islands — energy resource rich Sumatra and the country's industrial hub of Java. But looked at through the lens of commercial self-interest, the development of the Sumatra-Java HVDC cable and power generation capacity on Sumatra might expose PLN to at least four types of financial risks: (a) the displacement of IPP generation in Java by lower-cost generation in Sumatra, as part of least-cost, security-constrained dispatch, resulting in PLN having a large volume of take-or-pay obligations through PPAs with generators on Java whose dispatch volumes (MWh) are reduced; (b) the displacement of PLN's own generation on Java by generation in Sumatra, including that of its subsidiaries PJB and Indonesia Power, adversely

affecting PLN's total revenues and overall financial position; (c) the potential displacement of PLN's own generation on Java by IPP generation on Java, as PLN seeks to minimize the financial losses arising from long-term PPAs with IPPs on Java, as well as any long-term power stations leases—such as that which PLN has with the Tanjung Jati B power station (Units 1-4, 2640 MW); and (d) additional uncertainty about the government's financial backing of PLN, arising from government decisions on electricity prices, PSO subsidy payments, capital injections, and returns on equity.

However, PLN's protection of its commercial position might come at the cost to Indonesia of having higher capital and operating costs in the power and gas sectors. Such costs would be higher than would be the case with: (i) improved energy system planning; (ii) the least-cost and efficient execution of those plans (via competitive tendering, financing, and timely delivery of infrastructure); and (iii) efficient operation and pricing of energy services.

(ii) PLN's corporate governance

In accordance with Indonesian law, PLN has both a Board of Commissioners (BOC) and a Board of Directors (BOD). The two boards are separate and no individual may serve as a member on both boards. The rights and obligations of each member of the BOC and BOD are regulated by PLN's articles of association (the Articles) and by the decisions of its shareholders in general meeting. Under the Articles, the BOD must consist of one or more members, one of which will be appointed as the President Director. The President Director is entitled to act for and on behalf of the BOD, provided that his/her actions have been approved in the meeting of the Board.

The BOC must consist of one or more Commissioners, one of which will be appointed as the President Commissioner.

The principal function of the BOC is to supervise the policy of the BOD in running the Company and to give advice to the BOD. Members of the BOC are appointed and removed at a general meeting of shareholders. The BOC comprises seven members, including the President Commissioner. PLN's BOC currently has two independent commissioners, out of a total of seven commissioners. One of the BOC members is the Director-General of Electricity (DJK) from MEMR, who is also largely responsible for the regulation of PLN — which could be perceived as presenting a potential conflict of interest.²

PLN's BOD appears to have considerable leeway in determining the direction of the company, with the BOC operating in the background. The authority of PLN's BOC and its level of oversight of PLN's BOD could be reassessed, as part of efforts to increase the commercialization of PLN, its accountability to the shareholder and the public, and PLN's performance and sustainability.

A strong BOC — with highly qualified members and a greater number of independent commissioners — could have an enormous influence on PLN's performance by ensuring strategic planning, availability of sufficient resources, monitoring effective compliance with internal and external controls, and holding PLN's senior management accountable for critical operating and financial performance. Given the increasing commercialization of PLN, its capital constraints, and the long-lasting commercial impacts and risks of the current investment cycle and IPP program, it is essential that PLN's corporate governance is modernized, streamlined, and strengthened. It is recommended that MSOE — in consultation with MEMR and MoF — conduct a quick governance study to review the prevailing governance model in PLN, assess how effectively it is functioning, and propose measures for improvement.

(iii) PLN as a single buyer of electricity from IPPs

PLN's position as the single-buyer of electricity generated by IPPs raises a number of challenges, including: (1) potential conflicts of interest, arising from PLN balancing its commercial imperatives against wider public good considerations; (2) counterparty credit risk; (3) PLN seeking to maintain its dominance in the power sector; and (4) contingent liability risks arising from PPA obligations.

PLN is the sole procurer of IPPs, as well as currently owning and operating the majority of power generation in Indonesia — either directly or via its subsidiary generation companies. The 35 GW program, as originally announced, would have led to a decline in PLN's dominance of power generation as IPPs gradually built most of the new generation capacity.³

² Further details of PLN's Corporate Governance arrangements are set out in the 2016 PLN Annual Report and its 2017 Bond Issue Memorandum.

³ The key procurement regulations affecting the electricity sector include: MEMR Regulation No. 3/2015; Presidential Regulation No. 14/2017; Investment Law No. 25/2007, which aims to provide an overarching investment framework, including: business licensing, repatriation of earnings in foreign currency, investor incentives, corporate obligations, and the Negative Investment List (Presidential Regulation No. 44/2016), which proscribes business activities that are either closed to foreign investment or subject to limitations on foreign ownership.

When the 35 GW program was launched in 2015, three main forms of procurement were specified for the new generation capacity: (i) direct appointment; (ii) direct selection; and (iii) open tender (see MEMR Regulation No. 3/2015). At that time, 27.4 GW of the new generation capacity was intended to be procured via open tender, 7.2 GW by direct appointment, and only 2.0 GW by direct selection. See Figure 1.11, which provides an overall schematic of the generation procurement decision tree, based on MEMR Regulation No. 3/2015.

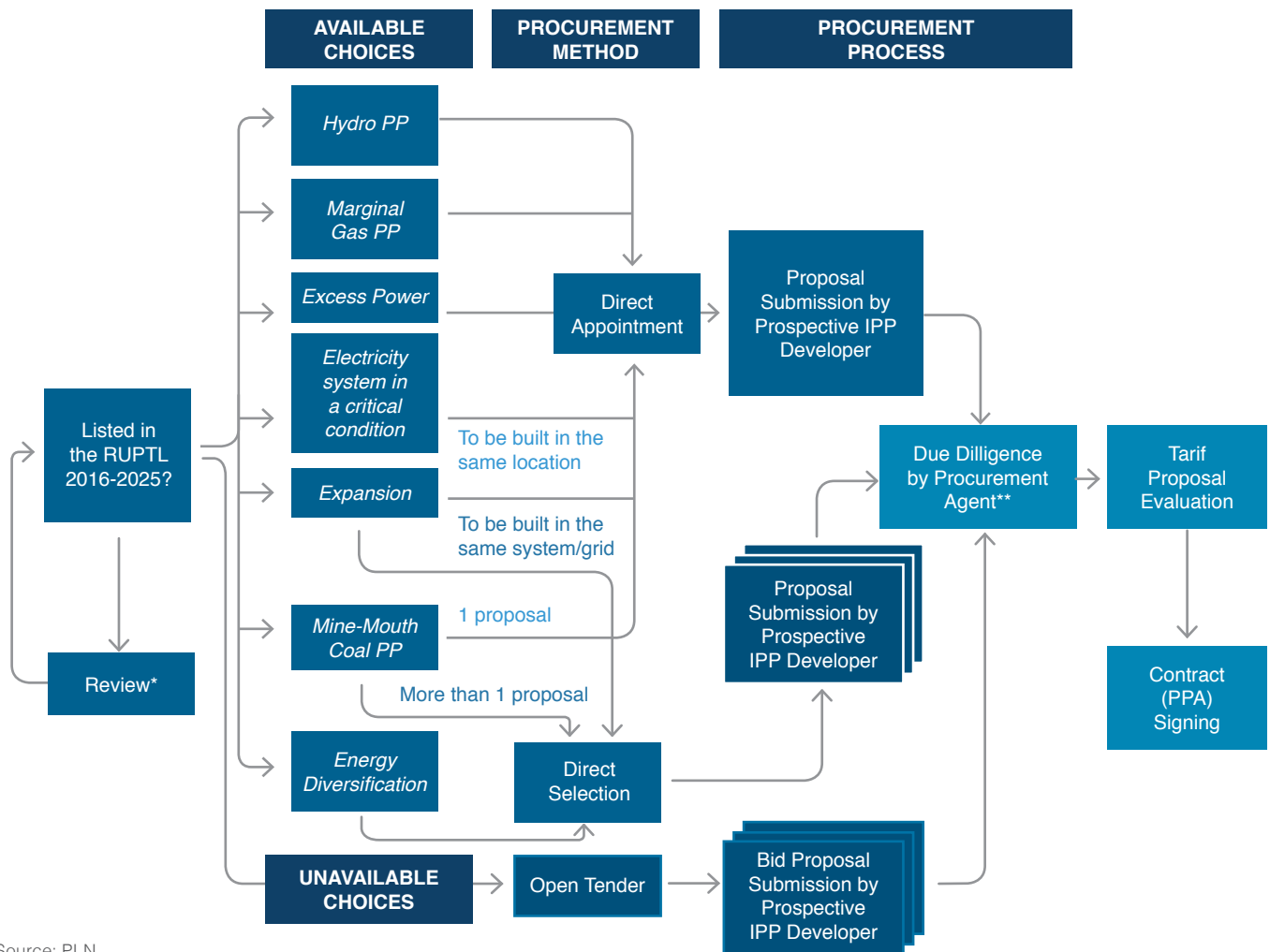
Nearly all new power generation projects are executed as IPPs or as PLN projects.

PLN is responsible for running the IPP selection program and for calling for its own projects using public procurement processes, typically using Engineering, Procurement, Construction (EPC) contracts.

In Indonesia, the execution of power generation projects as Public Private Partnerships (PPPs) is generally limited to projects requiring government support.

This means that there is a gap in commercial viability or a government guarantee from the Indonesia Infrastructure Guarantee Fund (IIGF) is sought. Otherwise if a power project is seen as commercially viable, it does not have to be screened in the same way that a designated PPP project would be, but is instead executed as a standard IPP or PLN project. Among other things, PPP projects are governed by Presidential Regulation No. 38/2015 and Ministry of Finance Regulation No. 190/PMK.08/2015. The differences between IPPs and PPPs in Indonesia are illustrated in Figure 1.12

Figure 1.11: Decision tree showing the decision-making process for procurement of electricity contracts under direct appointment, direct selection and open tender methods



Source: PLN

Note:

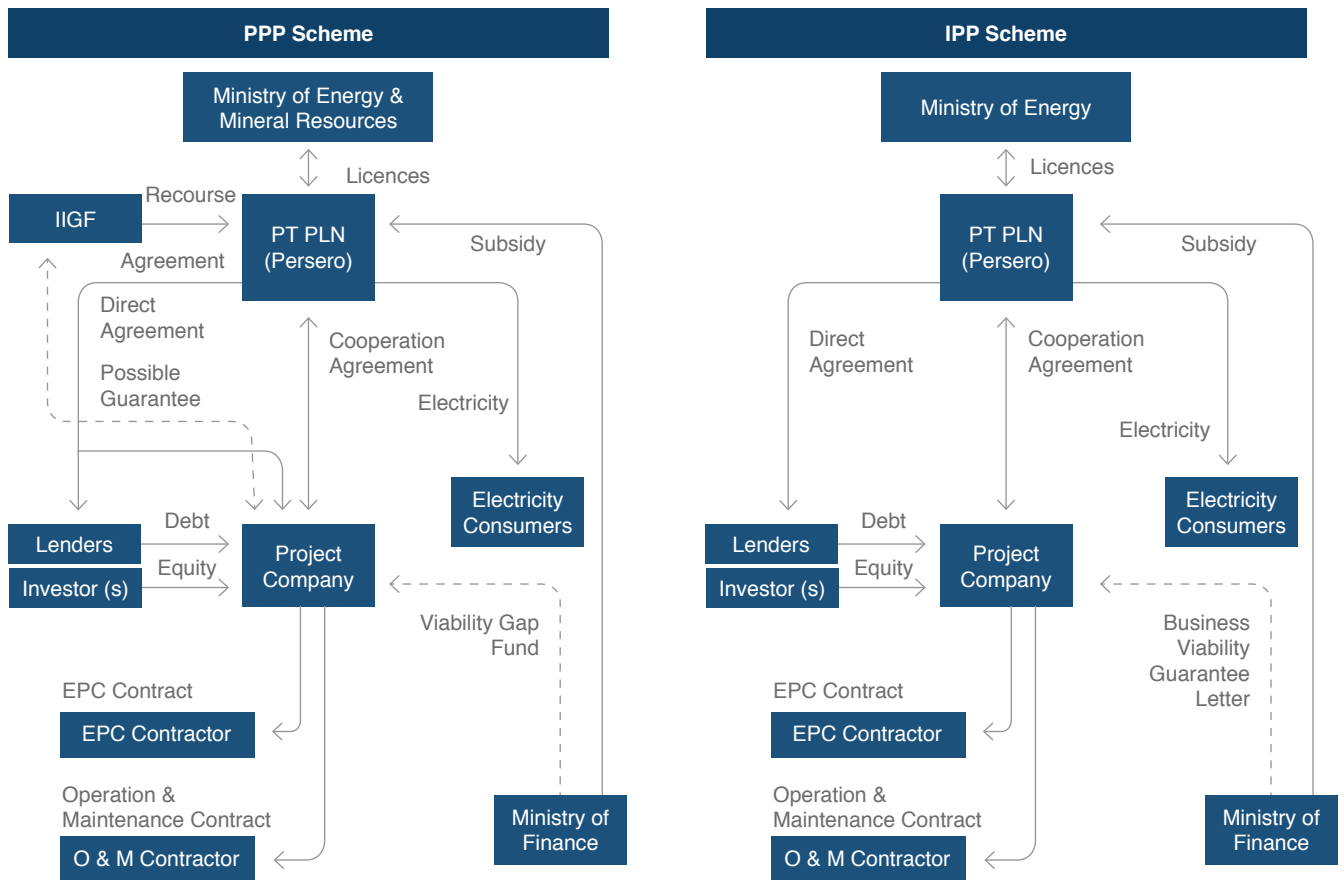
* Mid programme evaluation after > 2 years

** Financial and technical evaluation

• The IPP procurement process will be conducted by procurement committee of PLN or procurement agent

• This table is adapted from MEMR Regulation No. 03/2015

Figure 1.12: The differences between PPP and IPP schemes in Indonesia



Source: PT SMI (Infrastructure Investment 2014).

Over the last few years only a small number of power generation projects have been listed in the annual PPP project book. These include: (i) the Central Java Power Station (2000 MW); (ii) Sumsel-9 mine-mouth power station (1200 MW); (iii) Sumsel-10 mine-mouth power station (600 MW); (iv) Batang-Toru Hydropower project (510 MW); (v) the 450 MW Karama Hydro Electric Power Project (Karama HEPP), in West Sulawesi; (vi) the Legok Nangka Final Waste Disposal Site (TTPAS), which proposes to generate 320000 kWh/day of electricity; and (vii) the 400 MW Tebo Mine-Mouth Coal-Fired Steam Power Plant.

The allocation of projects between PLN and IPPs has changed in the last two years. In early 2015, when the 35GW program was first announced, 70 percent of new generation projects were to be executed as IPPs. Presidential Regulation No. 14/2017 effectively increases the share of new generation projects by PLN by allowing PLN subsidiaries to take a 51 percent equity stake in IPP generation projects

that would otherwise be expected to have a 100 percent private (or majority private) ownership structure (see below).

Recent regulations appear to signal a shift away from open tendering and towards more restricted procurement. Specifically, Presidential Regulation No. 14/2017: a) increases the role of PLN subsidiary companies in the development of power generation projects; b) authorizes PLN subsidiary companies to take a 51 percent equity holding in new IPP project companies; and c) favors PLN subsidiary companies entering into IPP projects with IPP companies owned by foreign state-owned enterprises, rather than pure private-sector companies. That may work counter to the goals of creating efficiencies and commercial capital flows. Similarly, MEMR Regulation No. 50/2017 on renewable energy projects moved away from previous regulations that supported auctions with price caps and feed-in tariffs and towards only direct selection methods.

B. Tariffs

The MEMR is responsible for the methodology used to set power tariffs. The current methodology is based on cost plus a 7 percent margin and therefore does not provide any incentive for PLN to improve efficiency, since the company is compensated for its costs irrespective of whether they are efficiently incurred. The PSO calculation compensates PLN for the excess of costs over revenue allowed using this methodology.

According to a recent Electricity Cost of Service and Tariff Review, the implied return on equity (ROE) arising from the 7 percent operating cost margin is only 2 percent. With the burgeoning capital investment program underway, PLN's ROE and its revenues from asset depreciation are increasingly proving insufficient to generate the available cash needed to: (i) inject equity into new investments; (ii) service its growing debt servicing obligations; (iii) meet its PPA payment obligations; and (iv) meet its DSCR requirements under loans with multilateral banks without government capital injections.

While PLN was successful in raising additional capital in 2017, with an oversubscribed global bond issuance attracting over USD 2 billion, in future years it will have to issue more global bonds and for larger amounts. PLN's ability to borrow more funds within Indonesia is restricted by the fact that many local banks are at their lending limits with PLN or with the electricity sector. Even though bondholders probably rely on an implicit backing from Gol that would prevent PLN from defaulting on bond obligations, future bond issuances will likely be more and more difficult as PLN's leverage increases, unless additional equity is raised by the SOE.

The ability of PLN to finance the capacity expansion program hinges critically on its overall financial strength. At present, bondholders, lenders, investors, and IPPs seem satisfied with the implicit guarantees offered by Gol, but the government's fiscal situation is stretched, and its ability to inject capital into SOEs, such as PLN, and to make large PSO payments is limited. One way of addressing these constraints, improving PLN's financial position and enabling the financing of the government's 10-year electricity sector capacity expansion plan, would be to implement a package of reforms covering the setting of PLN's allowed revenues and the tariffs used to collect them.

According to the Electricity Cost of Service and Tariff Review, PLN's revenues could be enhanced by:

- Introducing cost covering average tariffs, reflecting costs of service provision to users in each category, and consolidating PLN's 37 customer tariff categories to arrive at just 12 types. Adjustments will also need to be made to address affordability and achieve other objectives, e.g. financing of access.
- Setting a ROE of 7.6 percent as a minimum (versus a fully commercial ROE of 12 percent); a 7.6 percent ROE would be the equivalent of the opportunity cost to the government arising from treasury bonds.
- Moving to a "cash-needs approach," whereby the annual debt service obligations are explicitly included in PLN's required revenue allowance to ensure that those payments are made; this would replace depreciation revenues in the allowable revenues, as depreciation cannot be included in the calculation of allowed revenues.
- Setting multi-year regulatory periods that provide incentives to PLN to improve efficiency in its operations, by allowing the company to achieve and retain additional profits if it exceeds efficiency benchmarks during the regulatory period—this is known as incentive-based regulation. Efficiency benchmarks ensure that tariffs only cover efficient costs, as opposed to the current cost-plus methodology, which promotes cost inflation because PLN gains a 7 percent margin on costs.
- Introducing a comprehensive public consultation process to improve transparency in tariff setting and improve public understanding of: (i) electricity costs; (ii) quality of service and reliability; (iii) required investments and their costs; (iv) costs of service; and (v) financing constraints.

Tariff reforms would enable PLN to increase revenues substantially by 18 percent (assuming a return on equity of 7.6 percent), or by 34 percent (assuming a commercial return on equity of 12.1 percent). These changes would have a significant impact on PLN's finances, enabling it: to cover its working capital requirements without having to depend on short-term loans from commercial banks; to cover its debt service with a healthy DSCR over 1.5; and to contribute to the financing of its capital expenditure program.

A financially stronger PLN, which is less reliant on government support than at present, would deliver a number of advantages. Such a strengthened PLN would: (i) be a credible off taker of power under PPA arrangements with IPPs; (ii) reduce the fiscal burden on GoI that would otherwise arise from higher PSO subsidy payment requirements and capital injections into PLN; and (iii) reduce the risks associated with contingent claims on the government arising from explicit and implicit guarantees to PLN.

There continues to be downward pressure on generation tariffs. Under recent regulatory changes, the price of electricity purchases from all technologies (i.e. fossil fuels, hydro, renewables) have to be set with reference to the previous year's average cost of generation (Generation BPP) by location. In addition, the previous year's average Generation BPP plays an important role in determining the procurement method used for selecting new project developers, be it by competitive tender, direct assignment, or direct selection.

This has particular implications for procurement of renewable energy generation capacity. The modified BPP pricing strategy is dependent on whether the Regional General BPP is higher or lower than the National General BPP. Where it is higher, the maximum electricity purchase price for renewable energy, payable by PLN, must be 85 percent or 100 percent of the Regional Generation BPP, depending on the specific type of renewable energy. Where the Regional Generation BPP is less than or equal to the National Generation BPP, the electricity purchase price for renewable energy, payable by PLN, is negotiated and agreed directly between PLN and the relevant IPP. Similar Generation BPP pricing strategies apply to electrical energy created from fossil fuels—coal, mine-mouth coal (low grade/lignite), and gas.

The consequences of using Generation BPP pricing are not yet known. It is uncertain whether Generation BPP will help accelerate the development of power generation projects in Indonesia — in particular in the case of renewable energy projects — or promote improved economic efficiency in power system capital investments and operations. The transition to using historic Generation BPP prices by location provides some rules of thumb or practical guidance for assessing new generation projects, replacing earlier approaches that used feed-in-tariffs, competitive auctions with price caps, and business-to-business negotiations. Importantly, the new regulations allow for

negotiations around the electricity contract sale price under a range of circumstances, thereby providing some flexibility.

However, there are certainly some fundamental weaknesses and shortcomings with using historic Generation BPP. First, Generation BPP fails to capture entirely the full economic value of new generation at particular locations on a power network. The full economic value is forward looking and includes: (i) the system-wide value of changes in the pattern of dispatch to meet changes in electricity demand; (ii) changes in network congestion costs; (iii) changes in the cost of providing spinning reserves; (iv) changes in the value of unserved energy; (v) generation capacity rents arising from binding constraints on existing generator capacity and/or output; and (vi) the value of any environmental externalities arising from changes in the levels of emissions from power generation (i.e. greenhouse gases (carbon dioxide (CO₂), methane (CH₄), etc.), sulphur oxides (SO_x), nitrogen oxides (NO_x), particulates). The full economic value can be calculated using economic-engineering models to simulate both capacity expansion planning and the dispatch and operation of a power system.

Second, Generation BPP could effectively distort the process of choosing new generation capacity. By excluding key facets of the future full economic value, the simple backward-looking Generation BPP is biased towards installing more and more base-load, coal-fired generation, which often has the lowest Short Run Marginal Cost (i.e. Fuel Costs plus Variable O&M Costs) per unit generated.

Third, the distortion in favor of base-load coal-fired generation is occurring even though, from a purely engineering point of view and apart from any economic and environmental considerations, it is both desirable and necessary for power systems across Indonesia to have a mixed generation fleet, with different costs and operating flexibilities. Such a mixed fleet would comprise: (a) base-load generation plant that operates relatively inflexibly and across time (e.g. coal-fired plant, geothermal plant); (b) mid-merit generation plant, whose output can be adjusted to meet changing demand across the day; (c) peaking generation plant, used to meet peak-load periods that might last a few hours per day or a fraction of the year; and (d) highly flexible generation plant (such as hydropower, pump-storage, and gas-turbines) that can regulate frequency and provide various forms of ancillary services that support the reliable and

secure operation of a power system. In short, Indonesia would benefit from having a better-balanced generation fleet, spanning a range of technologies and not dominated by inflexible base-load, coal-fired generation that has higher capital costs than other types of more flexible, mid-merit, and peaking generation.

Finally, past average generation costs are not a good basis for determining future electricity generation costs, investments, and prices. The use of past Generation BPP to cap the prices of new generation projects appears to be premised on the assumption that the future costs of generation capacity and operation would always be lower than in the past. That assumption is open to question on three grounds.

- If it is assumed that the existing power system was developed on the basis of least-cost planning—and unless dramatic technological changes materially reduce future costs—it follows that the existing installed generation capacity was cheaper than any capacity that has not yet been built. Consequently, in the absence of significant technological changes, any additions of new capacity would be more expensive than the capacity already installed, and thus have costs and prices that are higher—not lower—than existing generation.

- Again, assuming that the existing power system was developed on the basis of least-cost planning—and in the presence of rapid technological changes that reduce costs (such as has been seen in the past few years with wind and, in particular, Solar PV technology)—there is a risk that mandatory price caps set by government regulators will rapidly become obsolete. Moreover, their continued use could result in higher electricity purchase prices under long-term PPA contracts than would be the case if market forces and robust competition were used to establish the PPA energy sales prices.
- Generation BPP will vary in response to fuel price volatility. A more long-term (or even counter cyclical) approach to installing sources of generation could mitigate the impact of such volatility on the tariff.

C. Regulation

There are a range of legal instruments (laws, regulations, and decrees) that influence the structure of Indonesia's power sector, the pricing of inputs and outputs, its operating procedures and processes, and its performance.⁴ During the course of 2016 and 2017, Gol issued multiple new regulations affecting the energy sector. These included: (i) general PPA contract terms and the allocation of risk within those contracts; (ii) gas supply and pricing arrangements; (iii) renewable energy pricing and contracting arrangements; (iv) supervision of energy and mineral resource business activities; (v) coal pricing for mine-mouth power plants; (vi) the price of energy sales from coal-fired IPPs; and (vii) the allocation of projects to IPPs and PLN.

The key regulations passed in early 2017 have been subjected to multiple revisions (see Table 1.5), following extensive criticisms from industry concerning a variety of regulatory shortcomings. These

criticisms include: (a) the failure of the MEMR to introduce a transparent, pre-consultation process with stakeholders; (b) flaws, contradictions, omissions, and unintended impacts of the new regulations; (c) regulatory uncertainty; (d) increasing the difficulty of doing business by adding red-tape, complexity, and new approval and reporting requirements; and (e) the potentially negative impacts on the bankability of IPP projects. The below section provides a general overview of the key laws and regulations affecting the energy sector in Indonesia. However, more specific regulations, such as those relating to tariffs, PPAs, gas, and renewable energy, are also discussed throughout this chapter in the relevant sections.

The Constitution: Article 33 of the Indonesian Constitution states that the “land, the waters and the natural resources within shall be under the powers of the State and shall be used to the greatest benefit of the people.” Different

⁴ For a comprehensive discussion of the overall legal and regulatory framework, as of November 2016, see PWC's “Power in Indonesia: Investment and Taxation Guide”. The report also provides an overview of the challenges of developing thermal energy projects and renewable energy projects in Indonesia.

Table 1.5: Key regulatory changes in 2016 & 2017 affecting Indonesian power generation projects

Regulation	Revised regulations first issued in 2016 or 2017	Subsequent revisions	Comments
PPA Principles	MEMR 10/2017	MEMR 49/2017	Amended provisions around government force majeure.
Utilization of Gas for Power Generation	MEMR 11/2017	MEMR 45/2017	MEMR 45/2017 replaced MEMR 11/2017 to fix pricing issues.
Utilization of Renewable Energy Resources for Provision of Electricity	MEMR 12/2017	MEMR 43/2017 MEMR 50/2017	MEMR 43/2017 attempted piecemeal reforms of MEMR 12/2017. MEMR 12/2017 was finally revoked and replaced by MEMR 50/2017.
Supervision of Energy and Mineral Resource Business Activities	MEMR 42/2017	MEMR 48/2017	Attempted MEMR approval for BOD/BOC changes, but then revoked by MEMR 48/2017.
Pricing of Coal for Mine Mouth Power Plants	MEMR 9/2016	MEMR 24/2016	Prior to 2016 the regulations on the pricing of coal for mine mouth coal power stations had been altered in 2014 (MEMR 10/2014) and in 2011.
Coal-fired IPP tariffs	MEMR 19/2017		Sets out the maximum electricity sales prices that can be paid by PLN to IPPs generating electricity using coal as the primary fuel.
The Allocation of Projects to IPPs and PLN	PERPRES 4/2016	PERPRES 14/2017	Now allows 51 percent equity stakes by PLN subsidiaries in IPPs.

Source: World Bank analysis of regulations.

interpretations of this article create uncertainty around the legality of energy sector reforms that: (i) introduce regulatory structures separate from policy-making functions normally assumed by a sector ministry; (ii) create markets with liberalized prices based on market competition; and (iii) pursue privatization or other forms of monetization of assets (such as solar auctions). These uncertainties constitute a significant constraint on the flow of commercial financing into the sector.

Electricity Law (30/2009): Although this law allows for private sector utilities, in practice private investment has been limited mostly to power generation, with only a few cases of non-PLN utilities providing services in this area. For this reason, expansion of the network, especially into remote areas with high service costs, has been limited by PLN's

financial capacity. There is therefore a need to increase private investor investment in these areas through appropriate fiscal support that compensates for the high cost of service, so that investors can achieve adequate rates of return to cover the cost of their capital.

Law of State Enterprises (19/2003): This law contains an important clause relating to the government's PSO payments to SOEs and establishes SOEs as profit-making enterprises. PSO payments have been a crucial source of income to PLN.

Geothermal Law (21/2014): Issued on 14 September 2014 and replacing the Geothermal Law of 2003 (Law No. 27/2003), this law aims to increase the use of geothermal energy for power production. The most significant change it introduced is that geothermal operations and

activities are no longer classified as mining activities. Another important change is that geothermal activities can be carried out in forest areas (production forests, protected forests, or conservation forests), where a large proportion (an estimated 42 percent) of Indonesia's geothermal resources are located. Previously, geothermal activities were classified as mining and geothermal working areas were restricted under the Forestry Law.

Presidential Regulation No. 4/2016: This regulation seeks to address a range of issues that have delayed power projects under Indonesia's fast-track programs, including: (i) government loan guarantees to PLN, PLN subsidiaries (including joint-ventures with IPPs), and IPPs; (ii) licensing; (iii) land acquisition; and (iv) spatial planning and zoning. The regulation also has provisions regarding: (v) new and renewable energy projects; and (vi) local content. The regulation has many provisions that are positive to foreign investors, such as the stipulation that MoF guarantees will be available upon application by PLN. Licensing of power projects is to be streamlined via the use of a one-stop-shop and there are new mandated time limits on the issuing of licenses. The regulation states that land acquisition for electricity infrastructure development should be carried out using the shortest time possible under the law (versus the maximum time of 583 days allowed for acquiring land for public use). Land acquisition can be done by PLN, PLN subsidiaries, or IPPs in accordance with Land Acquisition Law 2012 and its implementing regulations. Presidential Regulation No. 4/2016 directs the central and regional governments to give priority to electricity infrastructure projects when allocating government-owned land. There is a stipulation that power infrastructure projects — in particular hydropower, geothermal, and wind-power projects and transmission lines — are allowed in nature reserve areas and nature conservation areas. International investors following environmental and social safeguards frameworks will have a hard time investing in such projects.

Ministerial Regulations MEMR No. 12/2017 and MEMR No. 50/2017: The new regulation on renewable energy pricing and tendering is part of the strategy that is aiming for the sector to contribute to Gol's target of 23 percent of energy production coming from new and renewable sources by 2025. The regulation requires renewable energy to be priced at or below the regional production costs (BPP) set by PLN. In effect, however, the price ceilings currently limit any significant potential

renewable generation in areas where there is high demand; this is especially the case with geothermal in Sumatra and Java-Bali, where its potential is greatest. The regulation opens the door to competitive auctions for solar PV—a commendable provision—but also allows for more direct appointments and selections that cannot guarantee lowest-cost and high-quality outcomes. The regulation also requires that small hydropower projects have a 65 percent annual capacity factor, effectively limiting small hydropower investments, despite the fact that small hydropower could make a substantial contribution to increasing access to affordable electricity across Indonesia. MEMR No. 12/2017, issued in January 2017, was amended and replaced by MEMR No. 50/2017 in July 2017 (see also Issues in Renewable Energy below).

Ministerial Regulations MEMR No. 10/2017 and MEMR No. 49/2017: This attempts to standardize the provisions of PPAs, which have been subject to excessive negotiation in the past. However, concerns have been raised over PPA bankability under some provisions, putting at risk the plan for greater reliance on IPPs to deliver power generation. The clauses that cause most concern are those that state that PLN is not to be held responsible if it cannot take power due to force majeure (no availability payment) and that both government force majeure risk and natural force majeure risk is shifted to developers. Other clauses causing concern relate to transfer of ownership restrictions, which now need PLN approval, and tougher penalties for construction delays. While it will not be clear how these changes actually affect the PPAs until a model PPA is issued, these changes, even if somewhat mitigated by subsequent regulations (which put government force majeure risk back to PLN), still caused much investor concern (see also the Bankability of PPAs discussion below).

Presidential Regulation No. 44/2016: This negative investment list places restrictions on foreign ownership in various sectors. Of note in the power sector, small power plants between 1 MW and 10 MW can only be 49 percent foreign owned. However, IPPs can be 100 percent foreign owned.

Various regulations requiring local involvement in electricity sector investments: Under the Electricity Law 2009, electricity operating and support services businesses are required to prioritize the use of domestic content and services. Ministry of Industry Regulations No. 54/2012 and No. 5/2017 outline the minimum local content

requirements for electricity infrastructure projects: (i) for generation, by type of technology; (ii) construction of power plants; and (iii) construction and development of transmission and distribution networks. Failure to comply with these local content requirements can result in administrative and financial sanctions. Imported goods are allowed if: a)

the goods cannot be produced locally; b) the technical specifications of the local goods do not meet the requirements; or c) the volume of local goods available is insufficient. In general, the smaller the capacity of a generation project, the higher the level of local content required.

D. Gas-to-power constraints

Structural constraints on gas supplies within Indonesia limit the availability of gas for power generation. Until around 2010, the bulk of Indonesia's gas production was exported as LNG to markets in Asia, under long term supply arrangements indexed to international oil prices. There was a policy of using gas for LNG exports over domestic supply, which limited the volume of gas available for domestic industries, including power generation. That LNG export policy was based on maximizing the sales revenue and income from Indonesia's gas-fields and resulted in Indonesia being the world's largest LNG exporter for a time. The domestic energy intensive industries of oil production (i.e. enhancing oil recovery by injecting gas), petrochemicals, steel, and fertilizer were historically favored by government allocations of gas for domestic consumption. This was sometimes at the expense of the power sector, which at times was forced to run combined-cycle power stations and gas turbines on expensive diesel rather than gas. With Indonesia's declining gas production and reserves — and changes in LNG markets and pricing — the government has mandated that a greater share of the country's gas production be used to meet domestic demand.

A combination of shortcomings in the domestic gas sector have resulted in PLN's building its own gas supply infrastructure to contest Pertamina and PGN, the duopoly national gas suppliers. These shortcomings include policy, structures, issues around pipeline and LNG infrastructure development and access, competition, regulation, and pricing. PLN is now establishing its own gas supply and storage arrangements using LNG and Floating Storage Regasification Units (FSRUs). PLN has to secure the volumes of gas it needs at reasonable prices to run the combined-cycle and peaking plants required efficiently and flexibly to meet swings in electricity demand and provide the reserves needed to ensure reliable electricity supplies.

There are indications that, from a national point of view, PLN's gas strategy might represent a 'second-best' (or even 'third-best') approach. This is compared to what could occur with structural reforms in the gas sector, combined with improvements in the joint planning of Indonesia's gas and power systems. In the absence of major reforms in the gas sector, there appears to be few options for PLN other than to invest in its own gas infrastructure and secure its own gas in order to contest the entrenched market dominance exercised by Pertamina and PGN.

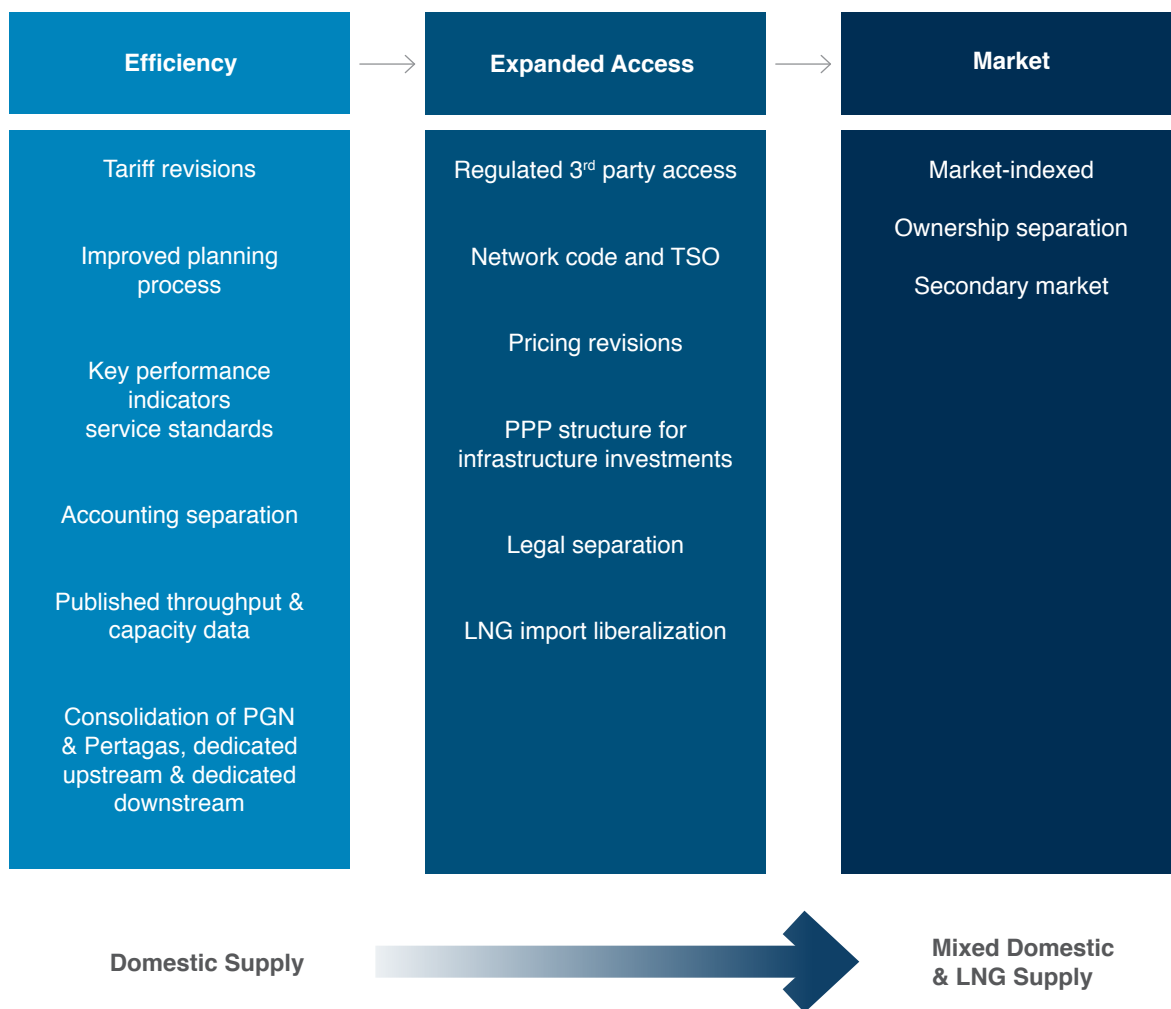
Furthermore, recent regulations appear to be creating incentives that do not give gas-to-power generation companies the flexibility to find their own least-cost gas. For example, MEMR No. 11/2017 as later replaced by MEMR No. 45/2017 force gas for power generation to come from domestic sources (well-head, pipeline, LNG), rather than using imported LNG, even if imported LNG is available at cheaper delivered prices than domestic gas and LNG. Imported LNG appears to be being treated as a last resort source of gas supply, to be used only when domestic gas supply volumes are insufficient to meet power generation needs over 20 years.

Capacity constraints and the point-to-point configuration of Indonesia's current pipeline system make gas transportation complex and costly. A 2017 study by the World Bank on "Gas Infrastructure Optimization and Investment Framework" noted that these constraints create major bottlenecks in linking gas supplies (domestic and imported) to new gas users, including gas-to-power. As a result, the delivered cost of gas is often not competitive and PLN, in particular, is incentivized to develop its own import facilities — again on a point-to-point basis. Thus, there is a need for DG MIGAS to carry out a centralized planning role that is coordinated with, but independent from, the

planning by Pertamina, PGN, PLN, and other stakeholders. DG MIGAS's capacity in areas such as infrastructure planning, network design, financial analysis, and tariff design needs to be enhanced by moving toward a network-based

planning philosophy, through which a potential capital investment savings of USD 5 billion could be achieved.⁵ A possible roadmap for gas sector reforms is shown in Figure 1.13.

Figure 1.13: Possible roadmap for reorganizing the gas sector of Indonesia



E. Bankability of IPPs

Over the last 27 years since the first large-scale PPA was signed with the Paiton-1 IPP consortium, Indonesia's PPA contract terms and conditions have evolved. The first set of PPA contracts, signed in the early to mid-1990s, had a range of conditions that made them attractive to private investors and their financiers, including: explicit government guarantees; denomination in foreign currency (typically USD); conversion of IDR payment into foreign currency; repatriation of contract payments overseas; price escalation; cost-pass through arrangements;

and a process for allocating risks based on the principle of allocating risks to the party best able to manage or mitigate the risks.

Most of the 1990s PPA contracts had to be renegotiated in the early 2000s following the Asian Financial Crisis and its aftermath (see Box 1.1). In general, the renegotiated contracts extended the tenor of the existing PPAs in exchange for a reduced energy sales price, in effect rescheduling the contract payment commitments.

⁵ MJM Energy 2017, "Indonesia: Gas Infrastructure Optimization and Investment Framework", Final report to the World Bank and DG MIGAS, MJM Energy, Witney, Oxfordshire, 16 January 2017.

Box 1.1: Are the electricity sector lessons of the 1990s being heeded?

There is a real risk of Indonesia repeating some of the mistakes of the 1990s with its current electricity capacity expansion plan and the way in which it is being delivered. Indonesia's 1990s experience with rapidly expanding its installed power generation capacity contains some hard lessons, including:

- Too much capacity was contracted in too short a space of time, even in the absence of the economic downturn.
- No competition took place in selecting bidders and in numerous cases capital costs were inflated, with inevitable consequences for the tariff.
- All developers were granted quasi-sovereign guarantees by Gol of off-take and payment obligations by PLN.
- Too much base-load, rather than peaking plant was built.
- Fuel choices and plant locations were suboptimal.
- Transmission links were not commissioned in time, forcing PLN to back down its own plant in order to dispatch IPP production.

The aftermath of the 1990s' ambitious electricity investment program included:

- Many of the 1990s IPP projects were severely and adversely affected by the Asian Financial Crisis and a number had their construction delayed until well into the 2000s.
- PLN was especially hard hit by the macroeconomic crisis, due to its fuel costs, loans, and PPA agreements being largely denominated in foreign currency.
- It took over five years to renegotiate 27 PPA contracts, with lots of arbitration and litigation.
- PLN's debt service increased massively and all its other costs (including PPA obligations) rose far more rapidly than the rate at which it could raise its tariffs. During 1998-2000 PLN stopped making debt service payments on loans on-lent to it by Gol.
- The government was forced to bail PLN out. About USD 900 million had to be provided to PLN in cash subsidies, USD 3 billion of overdue interest on loans was converted to equity, and USD 500 million of unpaid principal has been rescheduled as new debt.
- PLN was technically insolvent for many years afterwards and remained highly dependent on the GOI for financial support, including PSO subsidies, capital injections, and guarantees.
- By the mid-2000s, reserve margins had eroded and there were electricity supply crises across different parts of Indonesia, with supply rationing and power cuts. These supply crises triggered the first two Fast Track Programs in 2006 and 2010.

To minimize or eliminate the risk of repeating the mistakes of the 1990s and early 2000s, the three most important things to do now are: (a) critically review the current investment plan; (b) comprehensively analyze the financial and fiscal impacts and risks of pursuing the current investment plan versus alternative plans that better align planned capacity expansion under different load growth scenarios; and (c) implement reforms in the economic regulation of the power sector and continue efforts to adjust tariffs to levels that ensure the sustainability of the sector and that are cost-reflective.

Source: [1] World Bank 2003, "Indonesia Power Sector Thematic Overview & Project Performance Assessment Report for Suralaya Thermal Power Project and Sumatera and Kalimantan Power Project", Project Performance Assessment Report, Report No. 25960, Sector & Thematic Evaluation Group, Operations Evaluation Department, Washington, DC: World Bank, 21 May 2003. [2] Louis T. Wells & Rafiq Ahmed 2006, Making Foreign Investment Safe: Property Rights and National Sovereignty, Oxford University Press, Oxford. [3] Yong Hee Kong 2007, "PT Paiton Energy: A Case Study in Renegotiation", PPP Resource & Research Centre, Kuala Lumpur, in PPP Cross-Border Infrastructure Toolkit, PPIAF.

Historically, PPA contracts in Indonesia had many key features which were proven to be bankable. These included: (i) contract tenors of 30–42 years for coal-fired power plants, 30 years for geothermal power plants, and 20–25 years for other types of power plants, (ii) the private party was responsible for securing primary fuel supplies, such as coal, gas, geothermal steam, (iii) electricity sales Take-or-Pay commitments lasted the life of the PPA — except for large hydro PPAs, where the Take-or-Pay obligation applied only for the period covering IPP debt repayments, after which Take-and-Pay applied for the remaining period of the PPA, and (iv) the allocation of risks was negotiated between PLN and IPP, taking into account principles of efficient allocation of risks and past precedents established by earlier PPA contracts.

In the period from around 2005 to 2015, PPA contracts and their terms and conditions gradually evolved, but were generally based on the principles of the earlier PPA contracts that had proven to be bankable. There were some adjustments to the allocation of risks, with efforts made to shift some more of the risks on to the private sector or to better define or cap the risk exposure of PLN under the contracts. For example, there were adjustments to the “grace periods” following a network force majeure event to provide PLN with a longer and pre-defined period of time to rectify the network issue that is constraining the utilization of an IPP, thereby changing the amount of “take-or-pay” contract payments required under the PPA.

Since 2015, with the huge scale up in IPP power investments, PLN has been adopting an increasingly harder negotiating position on the formulation of PPA contracts, including on the allocation of risks. During 2017 the government has released a large number new regulations or amendments to existing regulations that fundamentally change the structure of PPA contracts, including especially MEMR Regulation No. 10/2017 and MEMR Regulation No. 49/2017. The changes seek to place much a greater amount of risk onto private sector financiers — both equity holders and debt providers — and raise serious concerns about the “bankability” of the proposed new PPA contracts. In addition, and among other things: (i) all new PPA contracts are to be executed using BOOT schemes (which can add to total contract costs versus a BOO scheme); (ii) PPA contract tenors are now limited to a maximum of 30 years from the Commercial Operating Date (COD); and (iii) fuel supplies to IPP power projects can be highly dependent on PLN, in particular gas supplies.

Further exacerbating the attractiveness of IPPs, under a new presidential regulation (Presidential Regulation No. 14/2017) passed in early 2017, PLN Subsidiaries (PJB, Indonesia Power) may take up to 51 percent equity stakes in new IPPs. PLN has interpreted Presidential Regulation No. 14/2017 to mean that most new IPP projects must have a 51 percent shareholding by a PLN subsidiary company, either PJB or Indonesia Power. In 2017 PLN issued a notice seeking tenders to 12 new IPPs, 9 of which were to have a PLN subsidiary generation company (either PJB or Indonesia Power) take a 51 percent equity stake in the IPP Development Company. However, there are early indications that this proposed structure will not be workable because PLN is asking the private-sector partners to provide 100 percent of the up-front equity contribution but get only 49 percent of the shares.

PLN’s proposed Joint Venture (JV) structure for new geothermal IPP projects illustrates some of the fundamental difficulties with its proposed new approach. It identifies a reasonably typical 30 percent equity/70 percent project finance structure based on commercial lenders’ recourse only to the project. It appears to charge the private investor with having to fund PLN’s equity tranche (51 percent of the 30 percent equity stake in the project total cost) while also making the private investor responsible for any cost overruns occurring above a proposed budget that must be approved by PLN. In addition, it appears that the JV structure is devised so that any cost overruns experienced by the JV that could normally result in a call to increase partner equity cannot serve to decrease PLN’s 51 percent equity position if PLN refuses to honor the call.

Thus, the proposed structure creates a set of conditions under which the private investor takes 100 percent of the project risk and funds 100 percent of the project equity requirements. Instead of these requirements resulting in a 100 percent project return, the private investor is only allowed a 49 percent JV shareholding through which it earns only 49 percent of the project return. These conditions reduce the private investor’s ROE by 51 percent, which can only be corrected by increasing the market PPA tariff price by 51 percent (or by PLN foregoing its share of dividends until its 51 percent share has been paid for with a reasonable ROE). Such an increase is diametrically opposed to the public utility’s interest. With PLN (as energy buyer) being granted an absolute right to approve the tariff price, the private investor has no assurance that a viable tariff price will be forthcoming before

the private investor has committed the total cost of “at risk” exploration.

The proposed structure also indicates that commercial financing for the project must be borrowed by the private investor and granted to the 51 percent PLN JV as opposed to being borrowed by the JV based on a proportional commitment of the JV partners. By using this type of financing arrangement in combination with a market-based PPA tariff price, it is unlikely that commercial financiers will be supportive.

It is interesting that Gol and PLN are seeking to increase PLN’s ownership of new generation assets and exacerbate PLN’s equity financing challenges, rather than seeking to reduce both. The reasons behind this move might be motivated by concerns about PLN taking on too many PPA obligations. One way of mitigating future contingencies around the non-payment of PPA contract payments is by having PLN as the majority shareholder in IPPs. Another feature of Presidential Regulation No. 14/2017 is a bias toward the private partner in new IPPs being a corporation owned by a foreign government, possibly in the belief that foreign SOEs might be more accommodating in the event of any PPA contract payment difficulties in the future than foreign-owned fully private companies. As bidding for an IPP is costly, this policy will further deter private players from participating.

Prior to these latest changes coming into effect, private IPP investors already had concerns about investing in IPPs in Indonesia. A recent survey of IPP developers⁶ conducted in January 2017 identified a number of major barriers to investing in new large-scale generation. These were listed as: regulatory

uncertainty (83 percent of those surveyed); lack of coordination between ministries/other government institutions (73 percent); obtaining finance (67 percent); timely conclusion of PPAs and permits (63 percent); standard bankable PPAs with appropriate risk allocation (57 percent); and the availability of government guarantees (57 percent). Other major concerns centered on: renewable energy pricing; a lack of transparency in the procurement and bidding of new projects; access to primary energy; and the timely availability of information on transmission and distribution networks.

The greatest source of concern, shared by over two-thirds (70 percent) of those surveyed, is the management of the 35 GW expansion program. Several key risks may hold back progress, including land acquisition, restrictions on foreign ownership for <10 MW projects, tender delays, uncertainty around guarantees, pricing of power, as well as regulatory trends. More than half of survey respondents (57 percent) view cost-reflective tariffs as a big challenge. Tariffs to electricity end-users typically do not reflect the actual cost of its generation and supply, thus directly inhibiting investment by PLN and indirectly providing cause for concern to IPPs. Some 63 percent of respondents view this as being a big challenge in the next five years.

The government’s efforts to establish a “One-Stop-Shop” for developers to streamline the processes for approvals and licensing are commendable but may be less effective than intended. It is possible that the initiative has become a case of ‘one door, many locks;’ project developers need all the keys to open the door, but different ministries have control over different keys.

⁶ PWC 2017, “Powering the Nation: Indonesian Power Industry Survey”, PWC Indonesia and Asosiasi Producent Listrik Swasta Indonesia (APLSI), PWC Indonesia, Jakarta, May 2017. (URL <http://www.pwc.com/id/en/energy-utilities-mining/assets/power/power-survey-2017.pdf>).

⁷ PT INCO is a subsidiary of the global mining company Vale (Brazil). PT INCO’s three hydropower stations operate along a river cascade and were commissioned into service in 1979, 1999, and 2011. (<http://www.vale.com/indonesia/EN/business/energy/our-hydro-power-plant-in-indonesia/Pages/default.aspx>).

⁸ PT. Indonesia Asahan Aluminium (INALUM) is a joint venture company owned by Gol 41.12% and Nippon Asahan Aluminium Co., Ltd (NAA, 58.12%). The original shareholding in 1976 was Gol 10% and NAA 90%, but the Gol has increased its shareholding over time. (<http://www.inalum.id/en/article/brief-history.html>).

⁹ PT INALUM power plant information: (<http://www.inalum.id/en/article/power-plant.html>).

F. Issues in renewable energy

To date, there is relatively little scale in renewable energy IPPs in Indonesia compared to thermal generation, be it hydropower, solar PV, or wind. Historically, most of the large-scale hydropower developments in Indonesia have been made by PLN, with technical and financial support from the World Bank, ADB, JICA, and other development partners. This is despite: (i) the falling costs of many forms of renewable energy technology; (ii) Indonesia’s abundance of renewable energy resources; and (iii) the government’s stated policies to achieve greater

contributions from new and renewable energy.

Hydropower in Indonesia has had the most experience with private investment. Currently, the largest privately owned hydropower projects in Indonesia provide dedicated electricity supply to nickel and aluminium smelters,⁷ rather than to PLN. Examples include: (i) three hydropower stations in Sulawesi owned by PT Inco (Lahrona (165 MW), Balambo (110 MW), Karebe (90 MW)) provide energy to PT Inco’s nickel smelters; and (ii) two hydropower stations owned by PT Inalum⁸ for its aluminium smelting operations (Siguragura

¹⁰ PT. Poso Energy is owned the Kalla Group, the family controlled company of Indonesia's Vice-President, Jusuf Kalla. Poso-2 (195 MW, 3 x65 MW), in Central Sulawesi, was commissioned into service on 22/12/2012, with the main EPC contractor being Shanghai Ever International Corporation Ltd (www.everhydro.com). PT Poso Energy is currently building Poso-1 (120 MW, in two stages: 2 x 30 MW (est. COD 2018) and a second 2 X 30MW later). In addition, PT Poso Hydro has plans to expand Poso-2 with an additional 180 MW, and to eventually build Poso-3 (630 MW). (www.posoenergy.com).

¹¹ PLN 2016 Annual Report.

¹² IFC Press Release "IFC Supports Indonesia's BSN to Supply Affordable and Reliable Hydroelectric Power," International Finance Corporation, Jakarta, Indonesia, October 13, 2014.

¹³ World Bank. 2016. "Indonesia - Asahan hydroelectric power plant (English). Public-Private partnerships briefs. Washington, D.C. : World Bank Group (<http://documents.worldbank.org/curated/en/143671468179099705/Indonesia-Asahan-hydroelectric-power-plant>).

¹⁴ (http://www.n-koei.co.jp/english/international_operations/se-asia/indonesia-asahan.html).

¹⁵ See Asahan-1 project video (https://www.youtube.com/watch?v=FGK_ARUaKyU) and UNFCCC Clean Development Mechanism (<https://cdm.unfccc.int/Projects/DB/RWTUV1289918532.4/view>).

(286 MW), Tangga (317 MW)).⁹ However, some large private hydropower projects have PPA contracts with PLN; for example Poso Hydro (195 MW)¹⁰ in Sulawesi has a 30-year PPA running from 2012-2042, for the sale of 845.12 GWh/year of energy.¹¹

One current hydropower IPP project, the Batang Toru Hydropower Project (510 MW), has encountered a range of challenges,

mostly relating to environmental and social safeguards issues, which then had a downstream impact on land acquisition and financing. Specifically, it was found that the project might have negative impacts on endangered Sumatran orangutans and tigers, by either directly damaging the animals' habitats or by opening up the forest areas near the project and facilitating further loss of habitat in the future. This case shows that it is important for IPPs, in particular hydropower IPPs, to have in place a robust environmental and social safeguards system, and for Gol to enforce the same.

The Asahan-1 hydropower project (180 MW) is a positive example of a recent hydropower IPP development.

After initially being awarded in the 1997-98, Asahan-1 encountered financing difficulties during the Asian Financial Crisis, which stalled its development and led to the plant finally being commissioned into service in 2011. In October 2014, the IFC finished arranging the re-financing of Asahan-1.¹² The project sponsor, PT Bajradaya Sentranusa (BDSN), is an IPP whose principal shareholders are Fareast Green Energy Pte. Ltd. and PT Pembangunan Jawa Bali (PJB), a subsidiary of PLN. Asahan-1 is a run-of-river hydroelectric power plant located in Indonesia's North Sumatra Province. The plant has been operational since January 2011 and sells electricity to PLN in accordance with a long-term power purchase agreement expiring on December 31, 2040. The contract stipulates an annual "take-or-pay energy level" of 1175 GWh of electricity. To improve the financial sustainability of BDSN and the Asahan-1 HPP, IFC acquired a minority stake in the company and provided it a \$280 million loan facility. The financing agreements comprise IFC loans of \$75 million as well as syndicated and parallel loans of \$205 million. The parallel loan lender is PT Indonesia Infrastructure Finance, a private financing institution, and the syndicated-loan lenders are KDB (Korea Development Bank), Maybank International Labuan Branch, Natixis Singapore Branch, Societe Generale, and Sumitomo Mitsui Banking Corporation.¹³ The development of Asahan-1 was made easier because no new dam was required. Instead, Asahan-1 makes use of the existing regulating dam from Lake Toba

that feeds water into the Asahan River and the Asahan-2 hydropower scheme. As noted above, Asahan-2 was built by PT Inalum in the 1970s and 1980s (a 603 MW cascade, comprising Siguragura HPP (317 MW) and Tangga HPP (286 MW)),¹⁴ and is located downstream of the new Asahan-1 powerhouse.¹⁵

Solar PV IPPs in Sumatra are being tendered by PLN.

In late May 2017, PLN launched a tender for 168 MW of Solar PV capacity for Sumatra, which will contribute to the country's ambitious renewable energy target of 23 percent renewable energy by 2025. The Sumatra Solar PV sub-projects comprise:

- Package 1 – Aceh region (20 MWp);
- Package 2 – North Sumatra region (35 MWp);
- Package 3 – Riau and Riau Island & Bangka Belitung region (38.68 MWp);
- Package 4 – West Sumatra region (16 MWp);
- Package 5 – South Sumatra, Jambi and Bengkulu (S2JB) region (33 MWp);
- Package 6 – Lampung region (24.9 MWp).

These sub-projects will be implemented on a BOOT basis, with 20-year PPAs.

The Solar PV tender has attracted considerable interest from developers, with 116 registering interest according to PLN. Pre-qualification has commenced, with three key criteria: (i) ability to develop IPP projects; (ii) power generation experience; and (iii) financial strength. An international competitive bidding (ICB) process will be used to select the winner from a short-list of pre-qualified bidders. The electricity sales price for these Solar PV sub-projects will be set in line with MEMR Regulation No. 12/2017, and developers will have to satisfy local content requirements. PLN plans to conduct similar tenders for solar PV in other parts of Indonesia, especially Eastern Indonesia.

In addition, wind farms are being developed by private investors, including the Sidrap Wind Farm (75 MW) in South Sulawesi.

The Sidrap Wind Farm (75 MW, USD 150 million estimated cost) is located in Sidenreng Rappang (Sidrap) Regency, South Sulawesi. It reached financial close in 2016. The project developer is PT UPC Sidrap Bayu Energi, whose shareholders are UPC Group (90 percent) and PT Binatek Reka Energi (10 percent). The debt:equity ratio is 80:20. Equity financing is USD 30 million, and debt financing USD 120 million. Debt finance is from foreign sources: OPIC (USD 60 million) and SMBC (USD 60 million). The Sidrap Wind Farm was an unsolicited proposal. It is a greenfield project, which is being executed on a Build, Own and Operate (BOO) basis.¹⁶

During 2017, two important new regulations on renewable energy were released — MEMR Regulation No. 12/2017 and MEMR Regulation No. 50/2017 — that largely revoked and replaced the previous regulatory framework governing renewable energy.

These new regulations have received a mixed response from stakeholders. The largely negative sentiments of stakeholders concerning MEMR Regulation No. 12/2017 resulted in: (i) partial revisions to MEMR Regulation No. 12/2017 via MEMR Regulation No. 43/2017 (in May 2017); and (ii) the revocation and replacement of MEMR Regulation No. 12/2017 by MEMR Regulation No. 50/2017 (in August 2017). One main outcome of these regulations is the setting of renewable energy tariffs to the previous year's average generation cost of the region, as discussed in the Tariffs section above.

MEMR Regulation No. 50/2017 changes the procurement of renewable energy IPPs, with a move away from auctions with price caps and feed-in tariffs and towards direct selection.

Three methods are to be used for appointing IPPs to develop renewable energy projects: (a) direct selection; (b) direct selection with a capacity quota; or (c) direct appointment. This contrasts with the revoked MEMR Regulation No. 12/2017, which had three methods: (a) capacity quota auctions; (b) reference prices (i.e. Feed-in-Tariffs (FiTs)); and (c) direct selection. This in effect means that allocations may be made on the basis of 'beauty parades,' whereby exploration and development licenses are granted on: (a) a first-come-first-served basis; or (b) a competitive but highly subjective basis, taking into account proposed work plans and budgets, and other criterion that are subject to negotiation and change through the selection process. Such 'beauty parades' are opaque compared to selection processes that have transparent objectives, clear selection criteria, a rigorous pre-qualification process, and a

competitive and transparent selection process. It is unclear therefore the effect it will have on the ongoing solar auctions and any future planned ones.

These recent regulations also introduced a condition that arguably limits the attractiveness and/or feasibility of small hydropower projects. Specifically, there is a requirement that small hydropower projects have a 65 percent annual capacity factor; this may be impossible for run-of-river projects which are subject to seasonal rainfall and river-flow conditions and therefore may have annual capacity factors in the range of 50–64 percent.

Furthermore, PPA contracts for geothermal IPPs can now only be signed by PLN after geothermal exploration has proven the resources of a field. This might further limit the ability of geothermal IPP developers to raise equity and debt financing due to the increased level of risk arising from having to conduct expensive exploratory drilling without a PPA in place and with no certainty that a PPA might be signed after the field's resources are proven (see Box 1.2 on the Geothermal Fund).

Under MEMR Regulation No. 50/2017, PLN is required to develop and publish further guidelines. These include: (i) technical guideline(s) on how the Direct Selection process will be implemented to appoint IPPs; (ii) new standard PPAs for Renewable Energy; and (iii) procedures for purchasing renewable energy, possibly including new dispatch arrangements. These measures aim to accelerate the process for the purchase of renewable energy under the revised regulatory framework. It will not be fully clear what is the effect of these regulations until these additional guidelines are issued.

¹⁶ <http://ppi.worldbank.org/snapshots/project/sidrap-wind-farm-8848>.

IV.

Financing the Electricity Sector

Over the last few years PLN has sought to overcome its financing constraints through a range of measures. These measures include reevaluating its assets to allow it to leverage additional debt financing and changing the way it treats PPAs in accounting terms, treating them as power sales contracts rather than operating leases so that the debts associated with PPA contracts do not have to be booked as PLN debts.

PLN is also experimenting with innovative new financing products in 2017, such as syndicated loans, international bond issuances, and asset-based securities. In May 2017, PLN launched a USD 2 billion IDR-denominated international bond. PLN also launched its first USD 340 million asset-backed security in September 2017, repayable over 4 years, with another similarly sized product

Box 1.2: Geothermal Fund

Geothermal projects typically require significant up-front equity contributions by developers. Geothermal power projects have long lead times to commercial operations due to expensive and risky exploration drilling to delineate and to prove-up the steam production potential of the site. Project financing is usually only available for the last few years of this process. However, equity is scarce and costly, especially for risky drilling.

To address this, GoI established the Geothermal Fund in the 2011 State Budget and allocated IDR 3 trillion (equivalent to USD 300 million) by the end of 2013. The objective of the Fund was to make geothermal projects financially viable and bankable by providing high-quality information on greenfield geothermal sites verified by reputable international institutions to investors during the tendering process of new work areas to assist in mitigating the exploration risks of developers. Pursuant to the revised 2015 State Budget, responsibility for management of the Fund was transferred to PT SMI from Pusat Investasi Pemerintah ("PIP"). However, it is understood that, as of 2016, no funds have been disbursed from the Fund due to the inability of the MoF and PIP/SMI to decide upon an operational model.

Following the transfer of responsibility to PT SMI, the MoF has given policy directives stating that the current so-called Geothermal Support Fund (GSF) should now be able to finance both the exploration and exploitation phases of geothermal projects. It has also been stipulated that PT SMI should leverage the funds with other sources of funds from the private sector or international multilateral agencies.

Under the Indonesian model of geothermal development, the developer shoulders the exploration risk and hence the obligation to fund the exploration phase. Whilst this may be tolerable for larger investors with strong balance sheets who are pursuing large projects, the approach is less likely to incentivise the development of smaller fields (below 30 MW), such as those in eastern Indonesia. The alternative approach, used in certain countries, is to assume part of the upfront exploration risk by providing support for this phase of activity by way of drilling insurance, direct grants, or the use of revolving funds.

In early 2016 the Director for Geothermal Energy, Yunus Saifulhaq, indicated that the MEMR would be introducing a Ministerial Regulation directed at reducing exploration risk, with the aim of attracting further geothermal investment. It was suggested that GSF would now also support a Government Drilling Scheme. The drilling results and associated data would be independently certified and then used by the MEMR to conduct a bidding process, with the winning bidder to make a payment for the data to the MoF, which would in turn reimburse PT SMI. The World Bank is currently seeking to assist geothermal power development in Indonesia by setting up a new risk sharing facility that would seek to promote geothermal exploration by both private and state owned geothermal developers.

expected to follow in early 2018. This asset-backed security was pitched at institutional investors within Indonesia, such as banks, pension funds, and the public via an Initial Public Offering (IPO) on the Indonesia Stock Exchange (IDX). Finally, in October 2017 PLN secured a IDR 16.3 trillion (USD 1.2 billion) two-tranche syndicated loan, comprising a 10-year IDR 12 trillion loan and a IDR 4.3 trillion sharia tranche. These new syndicated loans are largely being provided by state-owned domestic banks and other state-owned financiers; it appears that Gol has directed these state-owned financiers to increase their lending to PLN and raise their lending limits, thereby increasing off-budget financing to the electricity sector.

However, it is not certain that these actions alone (and follow up actions currently planned) will solve the financing challenges facing the electricity sector and PLN, or that the existing capital-raising initiatives are structured in a holistic manner that will minimize the long-term financial costs and risks to Indonesia. Therefore, a rigorous examination of the sector's financing needs and the development of a new financing strategy would help to make Indonesia's policy makers and PLN's Board of Commissioners and Board of Directors aware of the potential improvements in sector policy and financial structuring that could deliver the desired results at lower financial cost.

A. Equity

PLN's equity contributions are financed through a combination of instruments: (i) internal cash flows, primarily from depreciation on existing assets and the regulated margin on its operating costs under the existing 'cost plus margin' regulatory approach; (ii) government PSO subsidy payments arising from the government's requirement that PLN sell electricity to many customers at prices below the cost of service; and (iii) capital injections into PLN by the government.

The Law of State Enterprises (19/2003) provides a legal basis for Gol to provide PLN with a PSO subsidy. The provision states, "Where the Government tasks a State-owned Enterprise to fulfil a public service obligation, the Government shall provide timely compensation." This appears to have been interpreted by lenders as a commitment to make PLN whole whenever revenues from customers do not meet its operating costs requirements. This understanding appears to be the basis on which PLN is able to secure an investment grade rating and to raise funds on international capital markets and from local commercial banks as well as to enter into PPAs with some IPPs with nothing stronger than a business viability guarantee letter.

There has been strong appetite by foreign and domestic equity investors in new power generation projects in Indonesia, but recent changes seem to be dulling that appetite. Indonesia's capacity expansion program is one of the largest on a global scale and there is interest in the projects available. The government's ongoing backing of the sector — through financial support for PLN and various guarantees — is a key factor supporting investor sentiment. Much of the planned new capacity is coal-fired generation and the biggest international investors come from China, Japan, Malaysia, Singapore, and Korea. Companies from the USA, Europe, and other OECD countries generally avoid investments in new coal-fired power projects.

There is also robust international investor interest in gas-fired generation projects, with participation of large energy companies from USA, Europe, and Japan, in particular. In addition, gas and LNG suppliers (e.g. Pertamina, Qatar) are seeking to be equity partners in gas-IPP project companies, as well as being the fuel supplier.

Geothermal power projects also attract domestic and foreign equity investors. Successful developers have strong geothermal expertise, patience, and deep pockets of equity to fund exploration drilling and development. Firms from Japan, USA, and Indonesia are among the largest equity investors in recent private sector geothermal projects, but a firm from Iceland is also active.

Box 1.3: Efforts to shift transmission financing costs from PLN on to EPC contractors

In perhaps another sign of PLN's constrained finances, PLN is asking state-owned EPC contractors to finance the construction of new transmission assets. Although PLN is tasked with all network expansion, since 2014 the MSOE has encouraged the participation of business entities (SOE or private sector) in the development of transmission lines, in order to reduce the financial burden on PLN for transmission investments needs.

The 500kV transmission line in Sumatra was selected as the pilot project for this initiative, which transfers the financing costs during construction fully on to PLN's EPC contractors. In 2015, PLN and PT. Waskita Karya (a large SOE in the construction industry) signed two contracts for development of two 500kV transmission lines in Sumatra: (i) Transmission line 500kV New Aur Duri (Jambi) to Pranap (Riau), 250 kms, IDR 3.8 trillion; and (ii) Transmission line 500kV Pranap (Riau) to Perawang (Riau), 160 kms, IDR 2.8 trillion. There is no clear information available on how Waskita was selected for these projects, either through competitive tender or by direct appointment. In July 2017, PLN and Waskita signed a second contract for the development of Muara Enim (South Sumatra) to New Aur Duri (Riau) transmission line 500kV, 554 kms. Waskita subsequently issued bonds to help finance the construction of these transmission lines.

The contract terms include: (a) 3-year construction period; and (b) Waskita being responsible for financing, land acquisition, construction, and commissioning. Waskita obtained financial support from Bank Rakyat Indonesia (BRI, a state-owned bank) for these projects. Under the terms of the contract, payment by PLN to Waskita is only to be made after the commissioning and hand over of transmission line to PLN.

In summary, a state-owned construction firm is being asked to fully fund transmission projects (i.e. equity and debt financing) in a way that temporarily relieves PLN's balance sheet during the period of construction, testing, and commissioning, with PLN obliged to pay for the assets after they begin commercial operations. The result is to temporarily increase financial flows to the power sector beyond the borrower and sector limits set by banks. Assuming that PLN's financial constraints do not markedly improve before these projects reach commercial operation, this should be a concern, since it has the effect of extending the power sector risks to other sectors, primarily construction.

B. Debt financing

The debt financing contributions for new power sector investments are coming from a mixture of sources. These include: (i) loans (commercial banks, state-owned banks, export import banks, export credit agencies, bilateral financiers, multilateral financiers); (ii) bonds; and recently (iii) asset backed securities.

There still appears to be relatively strong appetite for financing Indonesia's power projects, based on perceptions of strong government backing of PLN. PLN has an investment grade credit rating. That sentiment might moderate or reverse if perceptions about PLN and Gol change, especially as new IPP projects seek financial closure under the regulations promulgated in 2017 and as the overall level of PLN's debt and PPA obligations grows.

(i) Loans

Loans for power sector investments come from commercial banks, domestic state-owned banks, export-import banks, and export credit agencies. Table 1.6 provides a summary of PLN's debt position as of 31 December 2016.

Table 1.6: Summary of PLN's existing debt, as of 31 December 2016

Currency	Outstanding amount (IDR million)			Weighted average interest rate (percent) ^a			Weighted average remaining years		
	IDR	Foreign	Total	IDR	Foreign ^b	Total	IDR	Foreign	Total
Loans	100,601,719 ^c	73,855,325	174,457,044	8.77%	3.04%	6.34%	6.9	11.8	8.9
Bonds	11,733,000	67,180,000	78,913,000	10.84%	6.80%	7.40%	3.4	9.0	8.1
Total	112,334,719	141,035,325	253,370,044	8.98%	4.83%	6.67%	6.5	10.4	8.7

Source: CSTR Proposals Report, Table 6, p. 51.

a) Calculated based on the current prevailing rates for debt with floating indexes (LIBOR, JIBOR, etc.).

b) Excludes foreign exchange losses. For example, if the IDR is expected to depreciate against the dollar by 1.8 percent per year, this will increase the effective cost of foreign debt by the same amount.

c) The summary of debt provided by PLN did not exactly match the values shown in the audited financial statements (after removing the working capital loan). There was a difference of 2 percent. An additional loan was added to the PLN summary to bring it in alignment with the financial statements.

PT SMI, a state-owned financing intermediary tasked with catalysing infrastructure development, has supported several electricity projects.

These include coal-fired power plants, gas-fired power plants, hydro and mini-hydro, waste to energy, wind, and biogas. IIF has supported hydro and mini-hydro projects, including the 180 MW Asahan 1 hydro-electricity plant in North Sumatra, a gas-fired power plant, a 2 MW solar PV power generation facility in Gorontalo (Bantas Adya Surya Energi), and temporary power solutions, such as Navigat Energy.

Many of the financings to date are not truly “non-recourse” or project finance, as they usually come with a guarantee.

Guarantees

are provided by: export credit agencies, such as Nippon Export and Investment Insurance (NEXI); the Indonesia Infrastructure Guarantee Fund (discussed in Part 1, Chapter 1); and the MoF.

Between 2008 and 2017 the government provided three types of infrastructure guarantees: i) Credit Guarantees; ii) Business Viability Guarantees; and iii) PPP Guarantees.

Guarantees associated with power sector projects under the first two Fast Track Programs (FTP1 and FTP2) account for 72.6 percent of Gol's present total guarantee amount and 81.25 percent of its total current outstanding exposure. Most of these were guarantees for commercial corporate loans to PLN.¹⁷

¹⁷ Gol IRU 2017, "Republic of Indonesia: A Resilient & Progressive Economy", Investor Relations Unit, Government of Indonesia, July 2017, p. 96 (URL <http://www.bi.go.id/en/iru/presentation/red/Default.aspx>).

Table 1.7: Infrastructure guarantees and exposure, by type, July 2017

No.	Central Government Guarantee for Infrastructure Programs	Guarantee Documents (Number)	Committed Guarantee Amount (USD billion)	Exposure Outstanding (USD billion)
1	Coal Power Plant 10,000 MW Fast Track Program 1 (FTP1)	36	6.98	3.47
2	Clean Water Supply Program	10	0.02	0.01
3	Direct Lending from International Financial Institutions to SOEs	2	1.10	0.23
4	Sumatra Toll Road Development	3	0.20	0.07
5	Renewable energy, Coal, and Gas Power Plants 10,000 MW (FTP2)	12	11.91	1.47
6	Other Public Private Partnerships (PPPs)	5	5.81	0.83
TOTAL		68	26.03	6.08
As percent GDP			2.8	0.7

Source: Gol IRU 2017, "Republic of Indonesia: A Resilient & Progressive Economy", Investor Relations Unit, Government of Indonesia, July 2017, p. 96. Note: USD 1 = IDR 13,360, as at 14 March 2017.

The ongoing scale-up in power generation capacity could substantially increase the overall level of government guarantees, the level of its contingent liabilities associated with PLN, and its exposure to contingent risks. Consequently, better understanding is required of the potential changes in the level of the government's contingent risks, taking account of the PPA contract terms, reductions in electricity demand growth, potential revisions to the capacity expansion plan, the allocation of projects between SOEs and IPPs, and other factors, including changes in electricity tariffs and fuel prices.

In addition, it would be prudent to improve the monitoring of contingent liabilities and risks, including the development of various contingent liability stress-tests under a range of scenarios that take account of credible worst case and “Black Swan” scenarios. This would help inform government responses to IPP developers' requests for government guarantees for new projects. PPA portfolio stress-tests would also lead to better understanding of how contingent liabilities associated with PPA contracts add to the government's other financial risks related to the electricity sector, including: (i) PSO subsidy obligations; (ii) financial injections into PLN to support PLN's own investment program and financial position; and (iii) risks associated with “off-budget” financing extended to PLN (e.g. loan guarantees, bond payment guarantees).

(ii) Bonds

There has been strong appetite for PLN Bonds, including the USD 2 billion international bond issued on 15 May 2017, which was oversubscribed. That bond had a 30-year tenor, with a 5.25 percent coupon rate, first annual payment starting 15 November 2017, 2 interest payments per year, with interest starting on 15 May 2017. That PLN Bond is traded on the Indonesia Stock Exchange and a number of international bourses, including the Frankfurt Stock Exchange. While PLN was pleased with the success of its 2017 international bond issue, it also understands that many more and much larger bond sales will be needed in the years to come in order to deliver the power sector infrastructure contained in the 35 GW program, including in local currency. To that end, PLN is expected to issue a IDR-denominated “Komodo bond” on international markets in 2018. The SOE construction firm, Waskita, has also issued a corporate bond to fund transmission projects in Java and Sumatra.

PT Paiton Energy, which owns three IPPs in Indonesia dating back to the 1990s, also issued a successful international USD bond to refinance its debt in August 2017 for USD 2.75 billion. This model may also be replicated by other projects with strong sponsors and operating revenues, to attract more foreign capital into the market.

C. Other market instruments

On 2 September 2017, PLN successfully launched its first asset-backed security, raising IDR 4 trillion (equivalent to USD 340 million). The security is repayable over 4 years, with a coupon rate of 8.25 percent. Another similar sized product is expected to follow in 2018. The security is backed by future revenues from four coal-fired power plants in the Suralaya Power Complex (total capacity 1,600 MW) that are run by PLN's subsidiary, Indonesia Power, in the industrial town of Cilegon, Banten province. This asset backed security was pitched at institutional investors within Indonesia, such as banks and pension funds, and to the public via an Initial Public Offering (IPO) on the Indonesia Stock Exchange (IDX).

In terms of public equity, there is little experience with power-only companies issuing shares on the Indonesia Stock Exchange. PLN, as the dominant player, could

take the initiative by launching IPOs for selected power generation subsidiaries. Alternatively, PLN could sell a portion of the shares in its subsidiaries in a competitive trade sale, which could extract a higher asset sale price from knowledgeable private power companies than an IPO typically would. Partial divestiture of some of PLN's existing assets in these two ways would: (i) unlock some of PLN's existing equity to recycle into investments in new generation, transmission, and distribution capacity; (ii) support greater private sector investment in the power sector; (iii) contribute to the diversification of companies listed on the Indonesia Stock Exchange and a new means of raising capital for electricity sector investments in Indonesia; and (iv) reduce the pressure on the government to inject additional capital into PLN, provide higher PSO subsidies, and provide guarantees on loans to PLN and on PPAs.

V.

Recommendations

The recommendations of this assessment of Indonesia's energy sector are organized under three pillars:

- Review and revise the electricity sector investment plan and its delivery;
- Assess the financial and fiscal impacts and risks of pursuing the current investment plan versus alternatives, including the mix of public and private financing;
- Implement reforms in economic regulation, energy pricing, and structural reforms to facilitate improved efficiency of investment and operations in the power and gas sectors.

Recommendation 1: The MEMR, in consultation with MoF, DEN, and PLN, should commission an independent technical review of the current investment program and its estimated costs, and propose alternative scenarios to the current RUPTL. The review should also look to: (a) improve the accuracy of the demand forecast and avoid the use of overly optimistic economic growth and electricity demand growth projections; (b) outline improvements in Indonesia's electricity planning processes and institutional roles and responsibilities, including using alternative growth scenarios; (c) adjust the balance of SOE and IPP investments in generation, using a PPP 'value for money' approach; and (d) review whether some of the new generation projects should be BOO, rather than all being BOOT, and implement reforms that provide best value for Indonesia.

Recommendation 2: The MEMR should commission an independent review of Indonesia's energy system planning arrangements, with a view to establishing a government owned energy planning company, independent of PLN, Pertamina, and PGN, that would prepare jointly optimized electricity and gas sector expansion plans.

Recommendation 3: MEMR should direct PLN to seek to increase the use of competitive tenders in order to achieve the most efficient project costs and financing terms, rather than relying more and more on direct appointments and direct assignment of projects.

Recommendation 4: MEMR should direct a shift to using forward-looking measures of the full economic value of generation and transmission investments by location for investment and pricing decisions, rather than relying on the backward-looking local and national Generation BPP data which captures only part of the economic value and has fundamental weaknesses.

Recommendation 5: Standardize PPAs to provide a fair balance of risks, use terms that make projects bankable, and reduce the length of time required to complete tenders and reach financial closure.

Recommendation 6: PLN's BOC should take immediate steps to ensure its BOD and PLN staff improve the efficiency of PLN's own investment project delivery through improved internal accountability, better communication across divisions, and incentives.

Recommendation 7: MoF will need to increase the financial support to PLN, as necessary, in the period prior to changes in the electricity investment plan and full-cost recovery tariffs. The financing adjustments under a Business-As-Usual scenario are estimated to rise to IDR 65 trillion per year by 2021, and be additional to PSO subsidy payments.

Recommendation 8: PLN should commission an independent review to update its corporate financial strategy and develop a framework through which PLN's long-term financial sustainability, including how its capacity to mobilize resources for investment, can be secured. The new strategy must consider the fiscal implications and contingent liability risks and involve close support and collaboration from MoF and MEMR. The strategy should carefully assess the different costs, benefits, and risks associated with changes in volume and mix of: (i) PPAs; (ii) PLN-owned generation; and (iii) generation that is partly or wholly owned by PLN-subsidiary companies. The new corporate financial strategy should include some form of asset recycling — unlocking the value of the government's equity in existing electricity assets in order to finance the construction of new assets. It would be

important to distinguish between: (a) recycling existing assets; versus (b) proposing a system where PLN builds new assets then recycles them. The latter should not be encouraged, since value that the private sector can add through tender competition, design innovations, and construction efficiencies would be lost.

Recommendation 9: MEMR and MoF to work jointly to revise the current methodology for setting electricity tariffs in order to introduce a new regulatory approach that would ensure achievement of the GoI and PLN's financial objectives for PLN, including the generation of adequate cash from operations to cover debt service and a share of the company's investment expenditures. The Electricity Cost of Service and Tariff Review, commissioned by MEMR and completed in 2017, provides a comprehensive framework, which could be implemented via a government regulation.

Recommendation 10: MEMR and MoF to work together to change the economic regulations used to set PLN's required revenues, including: (a) shifting to a cash-needs approach, in order to improve PLN's ability to service its debts during this era of very high capital expenditures; (b) introducing an explicit SOE Return on Equity target that is built into the revenue requirement, in order for PLN to better: (i) finance its future equity shares in new investments; (ii) meet any future debt covenants; (iii) be a more attractive and less-risky off-taker to IPPs; and (iv) be less reliant on government support; and (c) introducing new incentives for improved efficiencies in capital expenditure, financing, operations, and maintenance. A recent cost of service and tariff review for MEMR and PLN concluded that a 7.6 percent ROE would be appropriate — versus the low 2 percent ROE currently earned by PLN in a good year and the 12 percent ROE that a fully commercial power utility would be expected to earn. A SOE ROE target of around 8 percent would also represent the opportunity cost of capital to the government, based on the Indonesian government's bond rates in the last few years.

Recommendation 11: MEMR and PLN to implement over time (within the next 2-3 years) a consolidation and simplification of the tariff structure and progressively ensure that the average retail tariff is cost-reflective and recovers PLN's costs, while providing for: (a) well-targeted electricity subsidies for the poorest electricity users; (b) customers having tariffs that are more reflective of the costs of serving them; (c) scheduled 4-5 year resets of the allowed revenue base and tariffs, as the sector's cost structure changes; (d) adjustments in tariffs for non-controllable costs between regulatory resets.

Recommendation 12: GoI to implement a comprehensive reform program in the gas sector to facilitate economically more efficient gas allocations, transportation, storage, usage, and pricing. The seven key reforms recommended by the 2017 Gas Study were: 1) Establish investment selection criteria that tilt decision-making towards network solutions; 2) Begin the process of unbundling transportation and merchant functions; 3) Consider revisions to the gas tariff structure to improve competitiveness and incentivize efficiency; 4) Develop a system optimization strategy based on a large-diameter (e.g. 42-inch) national trunk-line from Arun to Bali; 5) Rationalize FSRU strategy with the goal of establishing fewer, larger terminals; 6) Rethink Eastern Islands LNG milk-run strategy; and 7) Complete the merger of PGN and Pertamina and achieve full operational integration.

Recommendation 13: MoF — in consultation with MSOE, MEMR, and PLN's BOC — is to conduct a quick governance study to review the prevailing governance model in PLN, assess how effectively it is functioning, and propose measures for improvement.

Recommendation 14: MEMR must improve the process of developing energy sector regulations, including by introducing more transparent and orderly consultation processes around amendments to existing regulations and the formulation of new regulations. Such a change could be beneficial to the government and to investors. The GoI, including MEMR, should consider rescinding any recently implemented energy sector regulatory changes that are not conducive to private sector investment in IPPs.

Recommendation 15: PLN, with support of MSOE and OJK, should seek to make greater use of the Indonesia Stock Exchange to raise equity funding for electricity sector capital investments. This could be done by partially or fully divesting government shares in PLN subsidiary generation companies or specific generation assets, using a combination of trade sales and IPOs.

VI.

Summary Roadmap for the Energy Sector

ENERGY SECTOR ROADMAP			
Activity Pillar	Short-term	Medium-term	Long-term
Pillar 1: Revising the current electricity sector investment plan, the Rencana Usaha Penyediaan Tenaga Listrik (RUPTL) 2017-2026.	<ol style="list-style-type: none"> MEMR commissions, and publishes a report on, an Independent Review of the RUPTL, including its proposed financing and feasible alternative scenarios. MEMR and MoF jointly issue a Report on the Balance of SOE and IPP Investments in Generation, using PPP 'value for money' concept. MEMR conducts and releases the findings of a review of energy system planning arrangements and institutional responsibilities for the electricity and gas sectors. PLN issues a revised Standard PPA, coordinated with MoF, to provide a fair balance of risks, use terms that make projects bankable, and reduce the length of time required to reach financial close. 	<ol style="list-style-type: none"> MEMR instructs PLN to increase the use of competitive tenders to achieve the most efficient project costs and financing terms, rather than relying more and more on direct appointments and direct assignment of projects. MEMR reviews current policy on the selection of project structure for new generation projects (i.e., BOO vs. BOOT) and amends MEMR Regulations 10/2017 and 49/201 to provide flexibility and ensure best value with respect to the use of different project structures. 	<ol style="list-style-type: none"> MEMR and PLN implement reform of PLN's investment project delivery through improved internal accountability, better communication across divisions, and better incentives. This should include revising the regulations on PLN's required revenues as follows: (i) Shifting to a cash-needs approach; and (ii) Introducing an explicit ROE target for PLN (ROE \geq 7.6%). MEMR and PLN adopt forward-looking measures of the full economic value of generation and transmission investments by location for investment and pricing decisions.
Pillar 2: Assessing the financial and fiscal impacts and risks of pursuing the current investment plan and alternatives, including the mix of public and private financing.	<ol style="list-style-type: none"> MoF launches a reporting policy to regularly advise the Government regarding sovereign exposure to electricity sector debt and contingent claims relating to power sector investments by PLN and IPPs. MoF adopts a clear Policy for Prioritizing the Allocation of Concessional Financing. 	<ol style="list-style-type: none"> PLN, in consultation with MoF, updates and formalizes the PLN Corporate Financial Strategy, taking into account the fiscal implications and contingent liability risks, and to strengthen PLN's corporate finance capacity. MSOE implements an Asset Recycling Program, to draw in private strategic investors and leverage new finance from the IDX. MEMR and MoF establish and implement a full cost-recovery trajectory for the power sector, with a progressively reduced reliance on government support. 	<ol style="list-style-type: none"> PLN builds skills and experience in project finance which would allow domestic banks to support projects by lesser known sponsors, including small and medium enterprises.
Pillar 3: Implementing reforms in economic regulation, energy pricing, and overall structure to facilitate improved efficiency of investment and operations in the power and gas sectors.	<ol style="list-style-type: none"> MEMR submits a report to President, Vice-President and Cabinet on Recommended Options for Reform in the Power and Gas Sectors, with Cabinet decision on approach to reform. 	<ol style="list-style-type: none"> MEMR and MoF revise the economic regulations used to set PLN's required revenues and tariffs, as outlined in the Cost of Service and Tariff Review. MEMR and MoF publish a policy to modernize the institutional and regulatory framework for the gas sector, with the objective of increasing efficiency. MEMR revises the process of developing energy sector regulations, including better consultations with stakeholders. 	<ol style="list-style-type: none"> MEMR implements gas sector reforms, including: (i) structural changes, (ii) improved gas planning, (iii) improved joint-planning of gas and electricity systems, (iv) economic regulation of gas sector, (v) a new pipeline access regime, and (vi) a new gas pricing regime.





Chapter 2

**Subnational
Financing
and Affordable
Housing**

I.

Introduction

A complete chapter on urban infrastructure would include transport, water, and sanitation, but these topics are covered in the other sector-specific chapters. Instead, this chapter covers two important issues in urban infrastructure that are otherwise left out: subnational borrowing and affordable housing. The chapter proceeds as follows. Section II provides background on Indonesia's rapid ongoing urbanization and introduces the crucial challenges of subnational borrowing and affordable

housing. Section III presents challenges and recommendations for unlocking the potential of Indonesia's subnational governments to finance infrastructure investment through borrowing. Finally, Section IV analyzes the affordable housing sector from both demand and supply sides, with particular focus on existing subsidy schemes and providing recommendations for improved service delivery.

II.

Sector Background

¹ World Bank. 2016. Report: "Indonesia's Urban Story." Washington DC: The World Bank Group.

² World Bank and Government of Indonesia. 2015. Report: "Indonesia: A Roadmap for Housing Policy Reform." National Development Planning Agency (Bappenas).

³ World Bank. 2017. Regional Infrastructure Development Fund (P154947). Project Appraisal Document, World Bank Group.

⁴ World Bank. 2017. Indonesia Economic Quarterly: Closing the Gap. October 2017. Jakarta: World Bank.

⁵ World Bank. 2014. Indonesia Economic Quarterly: Hard Choices. July 2014. Jakarta: World Bank.

⁶ This is the most ambitious of three possible scenarios estimated in the RPJMN. See Table 2.1 for a summary of these scenarios.

⁷ Bappenas RPJMN 2015-2019.

Indonesia is one of the most urbanized countries in Asia. Between 2000 and 2010, Indonesia's urban population increased at an average annual rate of 4.1 percent, higher than China's (3.8 percent), India's (2.8 percent) and Thailand's (2.8 percent).¹ With 53.7 percent of its population living in (officially-classified) urban settlements, Indonesia is more urbanized than its other Asian peers, such as Thailand, the Philippines, Vietnam, and India. Nevertheless, Indonesia's urbanization is far from complete: it is estimated that its urban population will increase by 3.4 million people each year from 2015 to 2019, with the country's current urbanization rate of 54 percent growing to 71 percent by 2035.²

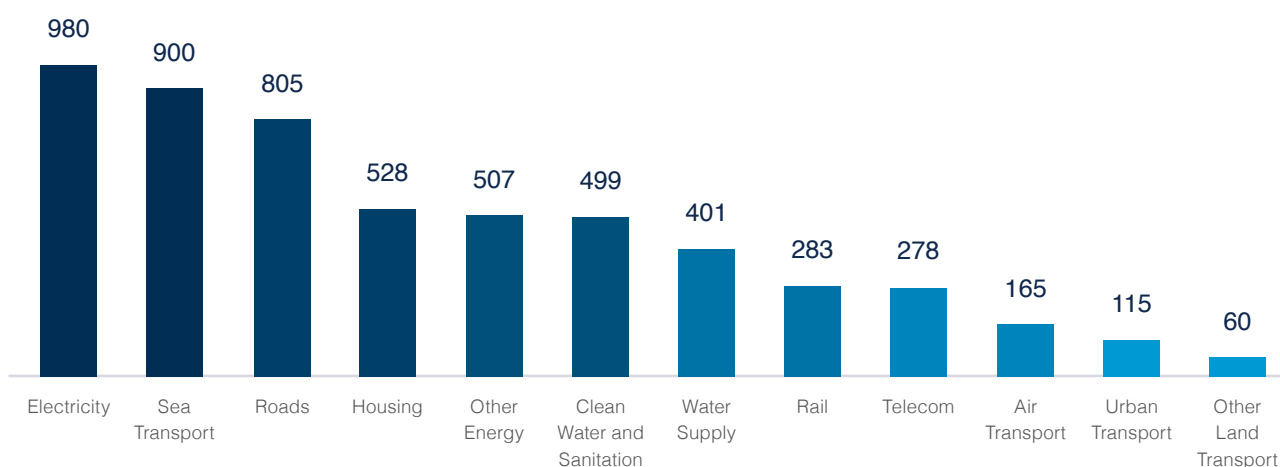
The pace of this rapid urbanization has not been matched by an adequate buildup of public infrastructure. In 2015, traffic congestion, poor water and sanitation, and energy shortages were common symptoms of the problem. For instance, only 69 percent of Indonesians had access to clean drinking water and only 30 percent of households had access to piped water.³ Piped sewerage networks serve only 2 percent of city residents. Some 57 percent of urban roads are in

bad condition. According to the estimate of the National Disaster Management Authority, 22 cities are at risk of severe flooding.

Infrastructure investment has increased since 2014, but has yet to recover to pre-1997 levels.

Despite robust GDP growth of 5.6 percent on average from 2005-2015, Indonesia's public capital stock grew 2.8 percent annually on average over the decade.⁴ Total infrastructure investment declined from an annual average of 7 percent of GDP in 1995-1997 to around 3 to 4 percent from 2011-2013.⁵ For 2015 to 2019, the central government's infrastructure spending plan totaled IDR 2,216 trillion (USD 187 billion), or 2.9 percent of nominal GDP on an annual basis. Recognizing that the total infrastructure requirement is even higher, the Government of Indonesia (GoI) has set an overall target of IDR 5,519 trillion (USD 415 billion) of investment needed for Indonesia to reach middle income country standards by 2020.⁶ This puts the estimated funding gap at IDR 3,076 trillion or USD 280 billion.⁷ See Figure 2.1 for a breakdown of spending by sector.

Figure 2.1: Infrastructure spending by type, 2015-2019 (IDR trillions)



Source: RPJMN Full Scenario.

Public sector spending on infrastructure has shifted over time between levels of government, with subnational governments (SNGs) now responsible for some two-thirds of this spending. In the early 2000s, GoI passed sweeping decentralization laws that transferred the bulk of responsibility for local infrastructure provision to subnational (mainly *kota* or city and *kabupaten* or regency) governments. Since then, SNGs have increasingly taken on the burden of planning, implementing, and funding infrastructure projects.

Even though SNGs now account for the largest share of public infrastructure investment, efforts remain insufficient to meet infrastructure needs. Most SNGs do not have the fiscal capacity to fund the infrastructure investments needed locally. Debt financing of local infrastructure is still in its infancy, and most SNGs lack the technical and institutional capabilities to carry out strategic investments (e.g. the ability to assess and collect taxes, conduct operating budgetary exercises, prepare capital plans, etc.).

The lack of affordable housing and of access to housing finance in cities is a major challenge—Indonesia needs to increase its yearly housing supply to 1.8 to 3.6 million units and an estimated IDR 1,125 trillion of private and public financing is needed to address the current housing deficit. Over 38,000 hectares of urban and suburban land sites are classified as slums

and the bottom 40 percent of the population relies on deep and expansive grant subsidies. Increasing housing prices affects the affordability of housing in large- and medium-sized cities and mortgage lending accounts for only 2.8 percent of GDP (compared with 7 percent in India and 19 percent in Thailand).

Harmonizing the fiscal, regulatory and governance space will be critical to attracting the additional private financing needed to close the huge investment gaps in Indonesia. In the following sections, we highlight key bottlenecks and risks in land acquisition, urban housing, and subnational finance, and make strategic recommendations to bridge the financing gap.

As Indonesia continues to urbanize, attracting additional private financing will be critical to close the huge investment gaps and build adequate infrastructure to facilitate further growth and development. Key bottlenecks in subnational finance and urban housing need to be addressed to unlock the potential of infrastructure development in Indonesia. As recommended above, strategic policy reforms and actions in the fiscal, regulatory, and governance space can help conquer those challenges and bridge the infrastructure gap.



III.

Municipal Financing and Subnational Borrowing for Infrastructure Investment

A. GoI experience with subnational lending

Rekening Dana Investasi (RDI) was established in 1971 in response to the growing need to finance state-owned enterprises (SOEs) that carried out development in the young Indonesia.

An off-budget account, RDI was placed under the control of the Bank of Indonesia. This ‘intermediary account’ was established as a means of pooling foreign loan-sourced capital for investment and financing of working capital, foreign loan repayments, and other activities related to national financial management. The Ministry of Finance (MoF) was responsible for running the fund in conjunction with the Ministry of National Development Planning (Bappenas). In 1981, the government transferred administration of the account to MoF. The loans were mostly supply-driven; the fund was managed imprudently—particularly in situations of directed lending to SOEs—whereby checks and balances were circumvented and many loans went into arrears.⁸

MoF created the Regional Development Account (Rekening Pembangunan Daerah or RPD) in May 1986, to be more responsive to SNG demand for infrastructure finance.

RDA was developed to pool funds from domestic sources with standardized loan terms and conditions. RDA loans were mostly sourced from domestic public revenues held by the central government. At least some research has argued that many projects designed by the Ministry of Public Works and Housing (MPWH) and financed by RDA loans seemed also to have followed a supply-led approach.⁹

RDI and RDA funds were largely lent to BUMN (SOEs) and BUMD (regional SOEs—particularly PDAMs). In the aftermath of the Asian Financial Crisis, both funds collapsed due to the exchange rate shock. In 2000, MoF restated the need for RDI to pool and channel

loans to BUMN, BUMD, and SNGs. RDI also received funds from APBN to be rechanneled to finance central government projects. After years with no improvement in arrears, the non-performing loans of the RDI and RDA were eventually restructured, starting in 2005. Today, RDI and RDA are merely accounts for receiving repayments—no new loans have been issued since 2009.¹⁰

A third mechanism, used in parallel to RDI and RDA, is the Subsidiary Loan Agreement (SLA), whereby a foreign loan is channeled to the subnational borrower via the central government.

Legally, no government entity but the central government may receive financing directly from foreign-sourced funds—either in the form of loans or grants. SLAs have been the standard device to channel financing under international donor projects to local governments. SLA projects tend to focus on cities and PDAMs (local water utilities) and these projects struggled with non-performing loans in the aftermath of the 1997 crisis. As with RDI and RDA, SLA loans to PDAMs also underwent a process of restructuring starting in 2008. As of 2010, 77.5 percent of outstanding loans were in Java and Bali. Outstanding loans amounted to IDR 62.6 trillion as of 2013.

Four key lessons and observations from the RDI, RDA, and SLA experiences are relevant to the continued development of subnational borrowing for infrastructure.

First, the abovementioned initiatives involved direct government implementation through MoF and as a result were characterized by: (i) questionable accountability and political interference in lending decisions, particularly in the case of RDI; (ii) the absence of professional credit appraisal; (iii) the absence of security structures to address

⁸ Government Decentralization Program in Indonesia, ADBI Working Paper Series, No. 601, October 2016, Anwar Nasution, Asian Development Bank Institute, p. 18.; MacIntyre, Andrew. 2000. Funny Money: Fiscal Policy, Rent-seeking, and Economic Performance in Indonesia. Chapter in Jomo K.S. and Mushtaq Khan, Rent-Seeking in Southeast Asia, Cambridge University Press, Cambridge, pp. 248-273.

⁹ Lewis, Blane D. and David Woodward. (2010). Restructuring Indonesia's Sub-National Public Debt: Reform or Reversion? Bulletin of Indonesian Economic Studies, 46, no. 1: 65-78.

¹⁰ Lewis, Blane D. (2011). Subnational Government Capital Spending, Intergovernmental Fiscal Transfers, and Economic Growth, Public Budgeting and Finance, forthcoming.

repayment risk; and (iv) the inability to build capital and implement a financially sustainable model for subnational lending. Second, particularly for the RDA and SLA instruments, borrowing was largely supply-driven by MoF or central government agencies with assets and liabilities later transferred to subnational governments with little incentive and ownership. A significant proportion of the SLA portfolio currently in arrears is associated with liabilities entered into by line ministries and transferred to PDAMs as part of the decentralization process after 2001. Third, specifically for obligations related to SLAs linked to external foreign currency borrowing, the exchange rate shock following the financial crisis severely eroded repayment capacity.

Pusat Investasi Pemerintah (PIP – Government Investment Center) was established as a specialized unit for government investment.

Originally set up under MoF's Directorate General of Treasury, PIP was granted the full status of Public Service Agency or Badan Layanan Umum (BLU) in 2009, in order to empower it and set limits between the regulators and the operators of government investment. Until its dissolution in 2014, PIP built on some of the abovementioned lessons, yet was characterized by fundamental constraints. It invested in basic credit appraisal systems for subnational borrowing and adopted a 'cost plus' pricing model to encourage financial sustainability. Nonetheless, PIP was largely unable to meet its objectives due to a series of factors. First, PIP was not dedicated to the municipal lending business, with over 60 percent

of its allocated capital allotted to specific top-down mandates from the MoF to provide debt and equity financing to SOEs in the energy and mining sectors. Second, as a special unit under MoF, PIP was unable to invest in high-quality technical, financial, and safeguards capabilities to support advanced project identification and preparation. Third, as a BLU, PIP was unable to raise medium-term financing from the market.

B. Context and performance

Infrastructure investment needs at the subnational government level far exceed current fiscal and borrowing capacity. Gol's Medium-Term Development Plan (RPJMN) for 2015-2019¹¹ estimates strategic infrastructure investment needs to be USD 415 billion for the current five-year planning period, if Indonesia is to reach the infrastructure stock standards of a middle-income country by 2025. In this scenario, Bappenas estimates that 55 percent of the funding needed for such investment, or about USD 214 billion, can come from the central and subnational governments.¹² This and two alternate scenarios put forward in the RPJMN are summarized in Table 2.1.

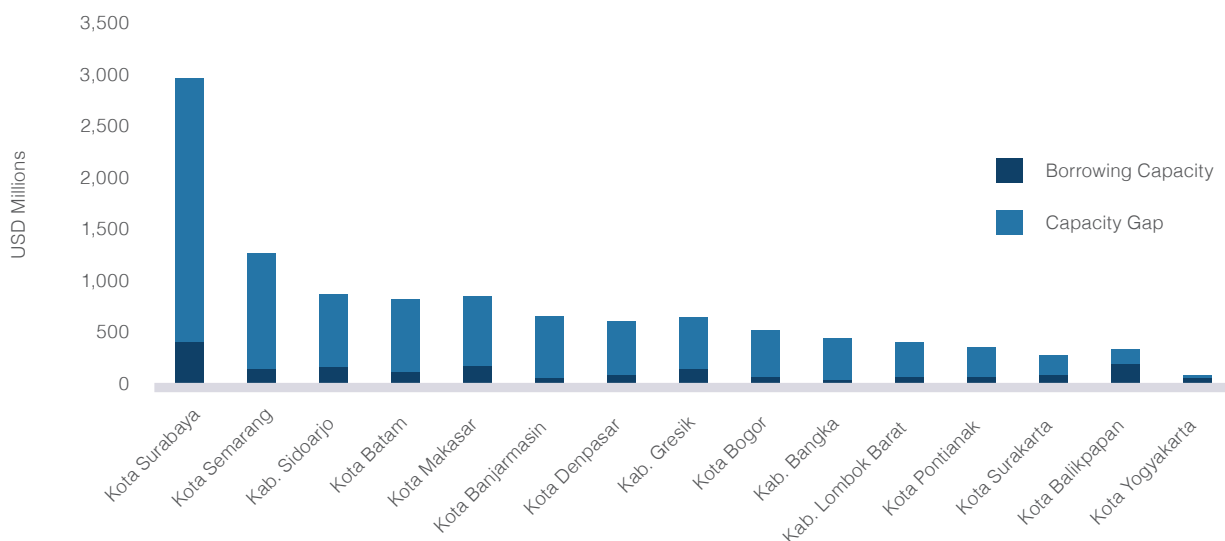
The targets set out in the RPJMN require a level of infrastructure investment far in excess of the current levels of public sector spending. This gap would be too large to fill through existing and envisaged budgetary appropriations, as well as by available means of borrowing from bonds, banks, and the Regional Infrastructure Development Fund (RIDF).¹³ Figure 2.2 illustrates the gap between estimated investment needs and borrowing capacity for 15 large cities in Indonesia.

¹¹ National Development Planning Agency, Republic of Indonesia.

¹² Indonesia Infrastructure Development, Ministry of Finance, The Republic of Indonesia, Presentation by Freddy R. Saragih, Director of Government Support and Infrastructure Financing Management, Ministry of Finance, Singapore, April 2015.

¹³ For more on RIDF, see section C. (ii).

Figure 2.2: Sub-national borrowing—statutory limits in 15 cities (USD millions)



Source: World Bank, "Market Assessment and Operational Framework for Indonesia RIDF," 2015.

Public sector spending on infrastructure has shifted over time between levels of government, with SNGs now responsible for some two-thirds of this spending. In the early 2000s Gol passed sweeping decentralization laws that transferred the bulk of responsibility for local infrastructure provision to subnational (mainly 'kota,' or city, and 'kabupaten', or regency) governments. Since then, SNGs have increasingly taken on the responsibility of planning, implementing, and funding infrastructure projects. In 2001, total public sector infrastructure spending was approximately USD 2 billion, of which 46 percent was by SNGs. By 2014, total public sector infrastructure spending grew to USD 17 billion, of which 67 percent was by SNGs.¹⁴

Central government transfers are the primary funding source for infrastructure spending by SNGs. The primary revenue source for SNGs continues to be fiscal transfers from the central government. In 2001, own-source revenue was 39 percent of provincial government revenue and only 7 percent of *kota* and *kabupaten* government revenue, on aggregate.¹⁵ By 2013, own-source revenue had reached 50 percent of provincial government revenue, but only 11 percent of *kota* and *kabupaten* government revenue, on aggregate.

Most SNGs do not use debt financing for infrastructure investment, relying instead on budgetary appropriations on a 'pay-as-you-go' basis. The MoF's PIP program provided loans to SNGs from 2007 through to 2014, but originated

only around USD 187 million in loans during the same period. The program was the primary source of SNG debt for infrastructure during that period, but accounted for only 2.4 percent of SNG spending on infrastructure. In 2014, total sub-national borrowing was estimated at 0.07 percent of GDP.

Many Indonesian SNGs are creditworthy and possess unused borrowing capacity of close to USD 10 billion. The 30 largest cities in Indonesia are estimated to have an untapped borrowing capacity of approximately USD 3.8 billion based on the current city-level regulatory limits on borrowing. A market assessment conducted by the World Bank in 2015 on a set of 15 large cities estimated an overall subnational infrastructure investment financing gap of USD 11.1 billion against a borrowing capacity of USD 1.7 billion, based on the statutory requirement that maximum borrowing for an individual SNG not exceed the lowest amount of four established measures, called "indebtedness norms." During 2011-2017, eight SNGs that had expressed interest in issuing bonds received a credit rating from an independent agency and were rated an investment grade at national level. These SNGs have strong budget performance, low debt burden, and low contingent liabilities. However, some of them are required to improve their revenue management and develop good practices in debt and external risk management before issuing bonds.

¹⁴ World Bank, Development Policy Review 2014 – Indonesia: Avoiding the Trap, 2014

¹⁵ Government Decentralization Program in Indonesia, ADBI Working Paper Series, No. 601, October 2016, Anwar Nasution, Asian Development Bank Institute, p.18.

Yet, creditworthy local governments have difficulty attracting private sector financing.

This is partly due to regulations prohibiting SNGs from pledging assets or revenues to back loans. The one exception is for projects financed by the issuance of local bonds, for which the SNG may offer the assets resulting from the project to be financed as collateral.¹⁶

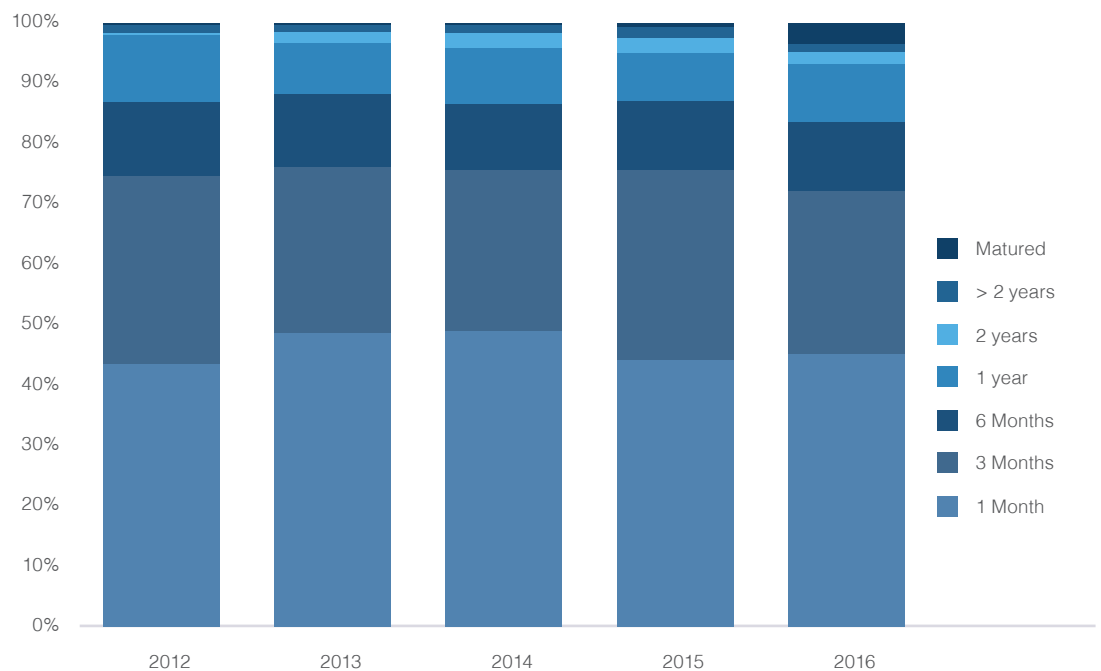
The absence of long-term instruments is one of the main constraints on SNG borrowing.

The sources of debt finance available to the SNG sector include the bank and bond markets. However, few banking or non-banking financial institutions in Indonesia provide access to long-

term financing for local public infrastructure investment. Although there are no specific regulations that hinder commercial banks from lending for such projects, banks typically focus on short-term, corporate balance sheet-secured financing. As Figure 2.3 shows, over 85 percent of Indonesian bank deposits are in products of less than one year's maturity. Banks thus find it hard to manage the asset-liability mismatch of longer-term lending. Non-bank financial institutions (NBFIs), including pension funds, financing, and insurance companies, are a potential alternative, but they traditionally invest in less-risky, high-liquidity instruments, such as time deposits, government bonds, and stocks.

¹⁶ Government Regulation No. 54/2005

Figure 2.3: Commercial and rural bank time deposits by maturity: IDR and foreign currencies



Source: Bank Indonesia.

While NBFIs may potentially have appetite for municipal bonds, the subnational bond market has yet to emerge.

Unlike most corporate bond issuers, which typically require only an approval from OJK for public offering, a municipal issuer must obtain approvals and agreements from the local or municipal legislative body, the MoF, and the Ministry of Home Affairs (MOHA)—in addition to the OJK, as the securities market

authority. There is as yet no standard process to obtain these approvals, for which the lack of precedent subjects prospective bond issuers to complications and delays. Efforts to issue bonds by DKI Jakarta (circa 2011–13) and Jawa Barat (2014–15) have not yielded results due to these procedural issues.

C. Sectoral analysis and challenges

(i) *The evolving legal and regulatory framework for subnational borrowing*

Reforms in the legal and regulatory framework for SNG borrowing in Indonesia have made considerable progress in recent years, setting the stage for limited municipal bond issuance and a continuing role for commercial bank lending, especially for SNG enterprises and for interim infrastructure construction loans. This section briefly outlines key regulatory developments.

SNGs are legally permitted to take on debt from four sources with no explicit limit on loan tenor, but the use of proceeds of debt instruments by SNGs is restricted by loan-tenor category. SNGs may seek financing from the central government, banks, non-bank financial institutions, and the public (which is interpreted to mean regional/municipal bonds).¹⁷ Loans to municipal governments can either be short-term (maximum tenor of twelve months), medium-term (maturing after a period of more than one year), or long-term (matures in a period longer than the period in office of the head of local government).¹⁸ Short-term loans can only be used to cover cash flow shortfalls,¹⁹ while long-term debt can only be used to finance infrastructure or facilities for the provision of public services. SNGs can also on-lend to municipally owned enterprises to finance public service provision.²⁰

For SNGs, the ability to borrow to cover cash shortfalls is important, because the cash flow in fiscal transfers from the central government to SNGs is volatile. Since SNGs are so reliant upon transfers for their operating revenue, this volatility may have a profound impact on their monthly cash position, which might necessitate the availability of working capital reserves or the periodic use of short-term borrowing. Current regulations, however, do not differentiate between interim cash flow difficulties and structural financial stress, which could be detrimental to the financial health of a SNG. This concern is heightened by the legal ability of a SNG, in the event of a deficit, to use debt proceeds to fund the budget.²¹ Deficit financing can postpone but not prevent default due to a structural budgetary imbalance.

Debt limit regulations impose conservative restrictions on subnational borrowing,²² significantly constraining the number of SNGs that are eligible to borrow and the amounts that may be borrowed. The MoF restricts subnational borrowing to the lowest value of four 'binding' norms.²³ First, the cumulative amount of the loan principal (outstanding plus new issuance) may not exceed 75 percent of the total of the SNG's budget in the previous year. Second, a debt service coverage ratio (DSCR) of at least 2.5 must be maintained. Third, the allowable deficit of the SNG is determined by the Minister of Finance each year. In April of 2017, the Minister of Finance signed a regulation setting the new deficit limits for 2018.²⁴ Deficit limits are expressed in two ways: as a cap of 0.3 percent of national GDP projected for the 2018 fiscal year in aggregate across all SNGs; and as a scale of low-to-high relative to estimated local revenue for 2018, where 5 percent is very high, 4 percent is considered medium, and 3 percent is low. This requirement can be waived on a case-by-case basis by the MoF. Fourth, total debt service should not exceed 15 percent of the sum of the general-purpose grant (DAU) and revenue sharing transfer (DBH), so as to ensure there is enough funding in case of the need to apply the intercept rule.

While the restrictions may be prudent at the individual SNG level given the risks of over-borrowing, the aggregate limit for SNG debt is particularly restrictive. For 2018, total new SNG borrowing is limited in effect to 0.3 percent of projected GDP, or about USD 3.1 billion.²⁵ By comparison, SNGs spent USD 12.6 billion on capital investments in 2016.²⁶ Nonetheless, even under this stringent limit, total SNG debt stands at a tiny fraction of allowable borrowing capacity. This indicates the presence of more basic barriers preventing SNGs from realizing their borrowing potential.

Borrowing by SNGs is severely constrained by changing restrictions on the collateral that may be offered to lenders. Under Article 55 in Law No. 33/2014, the revenues and/or assets of SNGs may not be pledged as a security for loans.²⁷ However, a regulation on municipal bonds required bond issuers to pledge the future revenues of the infrastructure being financed as collateral.²⁸ There was also an option to pledge the infrastructure asset itself as collateral for the debt. The draft revision to Law No. 33/2004 still prohibits assets from being

¹⁷ Article 300, Law No. 23/2014.

¹⁸ Article 52, Law No. 33/2004 on Fiscal Balance.

¹⁹ Article 53, Law No. 33/2004 on Fiscal Balance.

²⁰ Article 2, Government Regulation 30/2011 on Subnational Borrowing.

²¹ Article 305, Law Number 23 of 2014.

²² Government Decentralization Program in Indonesia, ADBI Working Paper Series, No. 601, October 2016, Anwar Nasution, Asian Development Bank Institute, p. 18. MacIntyre, Andrew. 2000. *Funny Money: Fiscal Policy, Rent-seeking, and Economic Performance in Indonesia*. Chapter in Jomo K.S. and Mushtaq Khan, *Rent-Seeking in Southeast Asia*, Cambridge University Press, Cambridge, pp. 248-273.

Lewis, Blane D. and David Woodward. (2010). *Restructuring Indonesia's Sub-National Public Debt: Reform or Reversion?* Bulletin of Indonesian Economic Studies, 46, no. 1: 65-78.

Lewis, Blane D. (2011). *Sub-national Government Capital Spending, Intergovernmental Fiscal Transfers, and Economic Growth, Public Budgeting and Finance*, forthcoming.

²³ Based on Government Regulation No. 30/2011 unless otherwise indicated.

pledged, but allows debt service payments to be made from project revenues or from other subnational revenues (which can include both own-source revenues and fiscal transfers). If passed into law, the ability to pledge revenues beyond those generated by the infrastructure project itself would alleviate a significant barrier to subnational borrowing, especially for assets that are economically but not commercially viable.

SNGs are required to make adequate budgetary provisions for debt repayments.

The fiscal balance law creates a standing budgetary authority for debt servicing for the life of the debt. Funds to pay the coupon and principal amounts due on outstanding municipal bonds must be budgeted by the SNG until the obligations mature.²⁹ This is a significant security feature for debt that is only secured by revenues held under trust, since it removes the debt appropriation risk.

The MoF has the authority to intercept fiscal transfers to local governments for debt repayment – an important security mechanism given that SNGs are not yet allowed to pledge their revenues as collateral.

An additional security feature or credit enhancement for certain municipal debt is the ability of the MoF to intercept its transfers to a SNG in the event of a debt payment default. An intercept mechanism maximizes recovery by creating an additional lien on an existing revenue stream in a post-default situation, bypassing the original obligor. Historically, this was applied in the case of SNG loans owed to the central government.³⁰ The existing law describes a number of circumstances under which the Minister of Finance may delay or withhold the distribution of fiscal transfers to a SNG.³¹ The ability to delay or withhold applies to the following circumstances where the SNG does not: (i) submit a report on its cumulative budgetary position; (ii) pay interest and principal on loans to Gol; and (iii) pay a coupon or principal amount due on its municipal bonds.

While the intercept authority has existed for loans from the central government, it has now been extended and expanded to the RIDF. Ministry of Finance Regulation No. 121/PMK.07/2017 provides for the intercept of fiscal transfers to SNGs in the event of a default on an RIDF loan; this represents a revision of the previous PMK No. 47/PMK.07/2011 on intercepts of fiscal transfers in the case of subnational default.

More oversight responsibilities related to subnational borrowing are falling to provincial governments. Over the last few years, provisions have been added to the legal and regulatory environment for SNGs that promote a sharing of responsibility for the oversight of *kota* and *kabupaten* governments. While the central government continues to provide the overarching legal and regulatory framework, it has transferred some responsibility for oversight to the provinces. Discussions with representatives of the MoF indicate that this practice will continue. For example, the draft budget of a *kota* or *kabupaten* must be submitted to the provincial governor for evaluation, as the representative of central government.³² The draft regulations governing local taxes and levies must also be agreed upon by the governor before being submitted to the minister for evaluation.³³ The scope and direction of these provisions for the sharing of oversight responsibility between levels of government raise important counterparty considerations for municipal debt.

(ii) Potential for SNG borrowing through the RIDF

The RIDF, implemented by PT SMI, has the potential to provide access to longer-term debt for the capital projects of SNGs in Indonesia. As of the time of writing of this report, PT SMI has identified nine target infrastructure projects in nine SNGs, worth IDR 2,190 billion (the equivalent of USD 164 million). The RIDF is fully authorized, now has its initial capitalization, and is in the process of increasing its staff capacity. Its operating procedures and processes are in place and are ready to be tested with actual loans to SNGs. To borrow from RIDF, SNGs have to meet the eligibility requirements of the RIDF and would have the following characteristics, which in many cases mirror the legal requirements for SNG bond issuance: (i) the SNG must be creditworthy; (ii) the project to be financed is a priority for the SNG, included in its medium-term development plan (RPJMD), and approved by the local legislature (DPRD); (iii) the SNG must have no arrears existing for outstanding loans; (iv) the new loan has been recommended by the MoHA; and (v) the SNGs that obtain loans from the RIDF must comply with RIDF's Environmental and Social Management Framework (ESMF) and procurement guidelines.

²⁴ Ministry of Finance Regulation No. 117/PMK.07/2017.

²⁵ Ministry of Finance Regulation No. 117/PMK.07/2017; World Bank staff calculations assuming 5.3 percent GDP growth in 2018.

²⁶ Ministry of Finance Subnational Government budget realization data, 2016.

²⁷ This requirement is further regulated in Government Regulation No. 30/2011 and subsequent Ministerial regulations, which would need to be updated to comply with any revision to Law 33.

²⁸ Ministry of Finance Regulation No. 111/PMK.07/2012, Article 3.

²⁹ Law No. 33/2004 on Fiscal Balance, Article 61.

³⁰ Ministry of Finance Regulation No. 47/PMK.07/2011.

³¹ Law No. 33/2004 on Fiscal Balance, Article 63.

³² Law No. 23/2014, Article 322.

³³ Law No. 23/2014, Article 324.

PT SMI has adopted a set of prudential norms for RIDF to limit its exposure to individual projects, SNGs, and sectors. These prudential norms are standard risk management criteria for pooled finance facilities and will protect the long-term financial integrity of the RIDF. Because of these standards, in the case of larger SNGs with significant multi-year capital plans, the RIDF will have to co-finance with the bond market and/or with commercial banks. Inter-creditor agreements that would permit co-financing for large, multi-year projects have not been developed. RIDF's risk management measures include the following: (i) maximum loan value of 90 percent of the total cost of a project; (ii) single borrower limit of not more than 15 percent of RIDF's total assets; (iii) single subproject limit of not more than 10 percent of RIDF's total assets; and (iv) single sector limit of not more than 35 percent of RIDF's total assets. In cases where inter-creditor issues between the commercial banks and the RIDF can be successfully negotiated through an inter-creditor agreement, the same inter-creditor arrangements would need to be in place for SNGs that wish to have commercial bank loans and municipal bonds simultaneously.

The RIDF product offered by PT SMI includes a Project Development Facility (RIDF-PDF),³⁴ through which PT SMI is able to provide support to SNGs in identifying and preparing projects. PDF support may include help with feasibility studies, detailed engineering designs, environmental and social safeguard assessments, advisory services concerning financial management and procurement, and capacity building. The PDF is a significant component of the overall RIDF design, as the limited capacity of SNGs to adequately prepare projects was identified as a key constraint.

PT SMI's role in providing loans to SNGs is expected to augment the institutional skills and capabilities of the SNGs, allowing more of them eventually to gain debt market access without RIDF financial assistance. Its long-term role could be to serve the infrastructure financing needs of larger, more highly rated SNGs in partnership with either the bond or bank market, while servicing the infrastructure financing needs of smaller and weaker SNGs, where no other means of long-term borrowing is available. Where financing partnerships with the capital markets are sought, bond investors and commercial banks would value the RIDF's underwriting criteria for SNG loans. In fulfilling these multiple roles, the RIDF does not crowd out capital, since a SNG debt market does not

currently exist. Instead the RIDF provides future opportunities for the broadening of the capital markets for the financing of the infrastructure needs of SNGs across Indonesia.

(iii) Potential for SNG borrowing in the domestic bond market

The domestic bond market is small and costly for corporate issuers, and is mostly limited to short-to-medium term tenors. Investor appetite is restricted primarily to "AAA" and "AA"-rated securities on the national scale. The quantum of outstanding corporate bonds is the equivalent of 2.3 percent of GDP (nominal estimate for 2017),³⁵ but it has grown considerably in recent years, from IDR 115.3 trillion outstanding in 2010 to IDR 312.1 trillion outstanding in 2016. Bond investors include mutual funds, pension funds, and insurance funds. Total invested assets, including bonds, equity, deposits, etc., of these funds are growing, but they are small, equal to roughly 12 percent of GDP in 2016. Among the domestic institutional investors, the insurance companies represent the largest opportunity for corporate and SNG bond issuers. Pension funds also invest in bonds (roughly half government and half corporate), and while bonds represent roughly 45 percent of invested assets, the pension fund holdings are still quite small.³⁶ Insurance fund asset holdings are larger, but bond investments represent a smaller share of total assets, and corporate bond holdings are significantly smaller than government bond holdings. Deposits represent a large share of assets for both pensions and insurance funds.

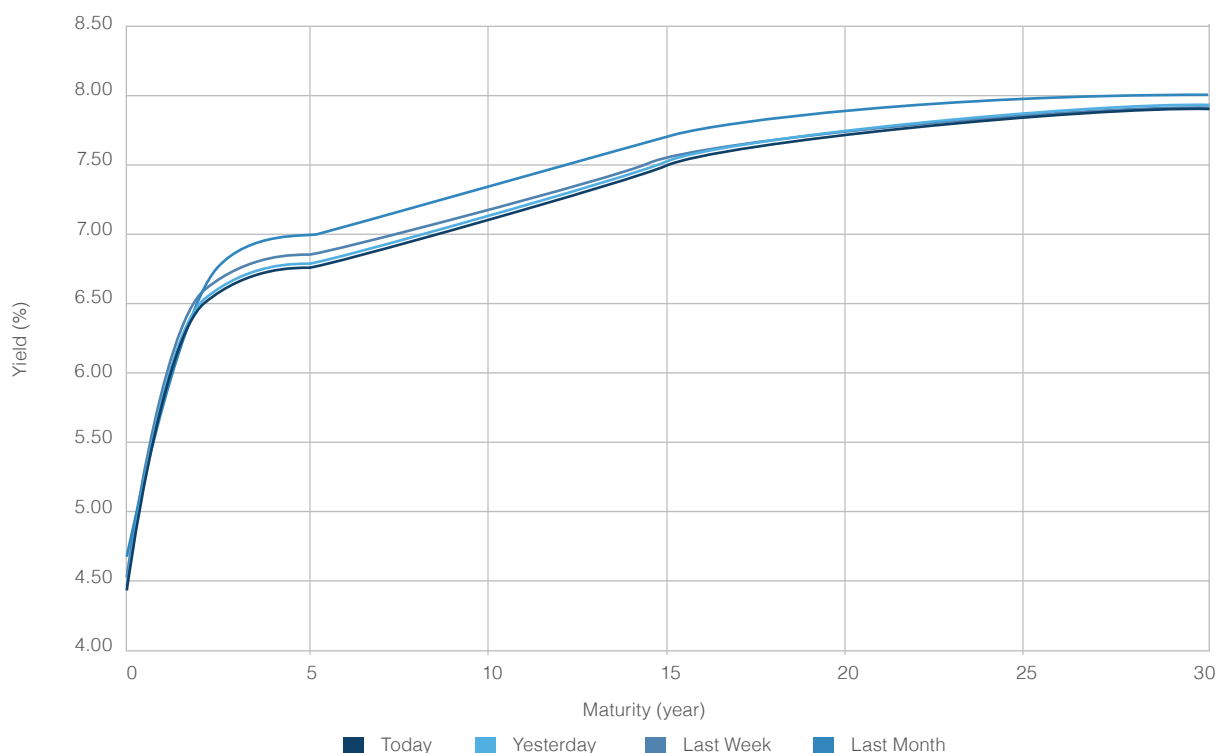
Institutional investor interest in municipal bonds is likely to be limited by the lack of a ratings system or other information showing the creditworthiness of SNGs as an asset class, as well as by expectations that no SNG would be rated 'AAA', and only a few would be rated 'AA', in the national scale. On the other hand, data from the Indonesia Stock Exchange (IDX) shows that most of the corporate bonds are in the two highest ratings categories of AAA and AA (a full 80 percent of those issued), a demonstration of investor appetite for only the highest quality securities.

³⁴ To avoid potential conflicts of interest, the PDF is housed under a separate business unit within PT SMI, specifically under the Project Development Division.

³⁵ EconMark, Mandiri Group Research, May 2017, p. 19; nominal GDP from "Outlook and Strategy 2017, Another Year of Fiscal Consolidation," EconMark, Mandiri Group Research, January 2017, p. 36.

³⁶ Corporate bonds outstanding from "Special Topic on Infrastructure Financing: Searching for Optimal Solution(s)," EconMark, Mandiri Group Research, May 2017, p. 21-22.

Figure 2.4: IBPA yield curve for government bonds



Source: Indonesia Bond Pricing Agency, 11 August 2017.

SNGs’ desire to enter the bond market is likely to be limited by the currently short-to-medium term tenor of corporate bonds (1-5 years),³⁷ and by currently high coupon rates.

While the government has made efforts to establish a yield curve, by issuing bonds at different maturities, a review of listed corporate bond issues during the study period shows that the highest bond volumes were in maturities of 1, 3 and 5 years, with small volumes in the 7 and 10 year maturities.³⁸ The benchmark government bond yield curve is steep for bonds in the 1 to 5 year maturities at 86 basis points (bps), but becomes flatter in the longer term, from 10-30 years (only 77 bps). This pattern is illustrated in the graph shown in Figure 2.4 above (IBPA yield curve for government bonds). The 5-year government bond rate is 6.71 percent, while the 10 year rate is 7.1 percent. These rates have fallen in recent years, which should be good news for corporate and SNG issuers.

The increasing spreads for corporate bonds with lower ratings are a cautionary signal for potential SNG borrowers in the lower rating categories.

Corporate bond rates maintain a relatively high spread compared to their corresponding government bonds, as shown in Table 2.2 below (IDR corporate bonds credit spread matrix in bps).³⁹ The AAA corporate bond spread over the corresponding government bond rate for a 5-year maturity is 162 bps; but for an A-rated (national scale) corporate bond of the same maturity, the spread is 320 bps. The same relationship is true for 10-year corporate bonds, with a 170 bps spread for a AAA-rated (national scale) bond with a 10-year maturity, and 344 bps spread for an A-rated (national scale) bond of the same maturity.⁴⁰

³⁷ “Outlook and Strategy 2017, Another Year of Fiscal Consolidation,” EconMark, Mandiri Group Research, January 2017, p. 20.

³⁸ Indonesia Stock Exchange, Indonesia Bond Market Directory 2014-2015, period covering January 2014-June 2015.

³⁹ IBPA Daily Fair Price & Yield Indonesia Government Securities, Indonesia Bond Pricing Agency, August 11, 2017.

⁴⁰ See Part 1, Chapter 3 on Financial Markets for further discussion of the domestic bond market.

Table 2.2: IDR corporate bond credit spread matrix (in bps)

Tenor	0.1	1	2	3	4	5	6	7	8	9	10
AAA	154.34	156.87	161.69	162.12	161.47	161.76	163.27	165.47	167.65	169.26	169.99
AA	172.77	203.91	209.8	213.39	219.51	225.84	230.09	231.32	229.6	225.56	219.94
A	279.81	312.2	321.43	319.64	318.01	319.75	324.39	330.33	336.11	340.78	343.88

Source: Indonesia Stock Exchange, 2016.

SNG bonds, even in the highest ratings categories, are likely to have relatively high coupon rates as new assets to the Indonesian bond market. Nevertheless, for a select group of SNGs, the domestic bond market could provide a supplemental source of capital.

Borrowing costs, even for highly rated entities, are often influenced by familiarity and frequency in the market, according to the IDX.⁴¹ For a given rating category, corporations that issue bonds frequently have a lower coupon rate than comparably rated corporations that are new or infrequent operators in the market. Therefore, the SNGs that might benefit from the domestic bond market would have the following characteristics:

- A rating of 'AA' or better in the national scale. Very few SNGs are currently rated, so the actual number of SNGs that might qualify for an 'AA' national scale rating is unknown at present; but it is likely to be limited to just over a dozen, of which only some might want to issue bonds, since municipal governments in Indonesia remain debt averse. While this number is too small to designate as a market sector, the Indonesian corporate bond market is also small, so even five to six SNG bond issuers would represent a significant and interesting bond market diversification for institutional investors.
- A policy desire to establish name recognition in the bond market. The provincial governments of DKI Jakarta and West Java, for instance, have publicly announced their interest in entering the domestic bond market for a number of years now. The number of SNGs that have a policy desire to enter the bond market is likely to remain small.
- Large and multi-year capital investment plans, where the quantum of required financing exceeds the RIDF's exposure limits for loans to a single issuer, or where the bond market may offer better terms than the RIDF (this is not the case now, but may be in the future). SNGs that have multi-year capital investment plans would be of particular interest to institutional investors, who value liquidity from large issuers.

A significant procedural barrier to issuance of municipal bonds has been recently resolved.

OJK issued a new regulation⁴² in December 2017 resolving a problematic inconsistency between the Capital Market Law (CML) and the Law on Balance of Central and Regional Government Financing regarding the auditing function for the issuance of municipal bonds. The CML requires that financial statements must be audited by a certified public accountant, while the municipal financing law stipulates that the State Audit Agency is the auditing authority of

the central and local governments. Furthermore, the State Audit Agency performs audits on an annual basis, while the CML requires audits used for bond issuance to be no more than six months old, effectively narrowing the window for successful bond issuance to six months per year. To comply with the laws, both audits had to be performed, but there was still lack of clarity on implementation, particularly concerning priority, coordination, and disclosures. The new regulation allows acceptance of BPK audit reports and increases the validity of the report from six months to one year, thus relieving SNGs of the burden of procuring additional audits.

The issuance of municipal bonds requires separate approval processes from multiple government bodies and lacks a standard set of procedures understood by all stakeholders.

Unlike most issuers of corporate bonds, which typically require only an approval from OJK for a public offering, a municipal issuer must obtain approvals and agreements from various bodies. These include: the local or municipal legislative body, MoF, and MoHA, in addition to the OJK as the securities market authority. There is no standard process in place to obtain these approvals, given the lack of precedence for borrowing of this type, and decision makers are not familiar with the key considerations. The time taken to obtain one approval may render another approval invalid due to the change in the market, the financial situation, or the political environment surrounding the transaction (See Box 2.1: Stalled bond issuances in Jakarta and West Java).

Government Regulation No. 30/2011 details the prerequisites for issuing debt, and includes the following:

- The approval of the local legislature (DPRD), as well as inclusion in the relevant medium-term development plan (RPJMD) of the SNG;
- There should be no SNG arrears, either from the SLA or from other loan sources;
- Results from Supreme Audit Agency (BPK) audits for the last three years should be at least WDP (qualified opinion), or better;
- MoF approval for any exceedance of the maximum APBD deficit limit in the current fiscal year for each region; and
- An affirmative recommendation from the MoHA.

Once these requirements have been met, issuance would still be subject to approval by OJK and, if publicly listed, IDX.

⁴¹ Discussion with Poltak Hotradero, Head of Research Division at PT Indonesia Stock Exchange.

⁴² OJK Regulation No. 61/POJK.04/2017 on Required Admission Documents for initial Public Offering of regional bonds and regional Syariah bonds.

Box 2.1: Stalled bond issuances in Jakarta and West Java

A long-awaited plan by the provincial government of West Java to issue bonds as a means of financing a new airport has been stalled since the issuance of Law No. 23/2014 on local governments, which prohibits provincial governments from building international airports. Even so, Governor Jabar Ahmad Heryawan continues to pursue the possibility of a bond issuance to finance other infrastructure projects. The provincial government of DKI Jakarta had begun preparations for a bond issuance under former Governor Fauzi Bowo to finance three capital investment projects, setting up a debt management unit, receiving approval from the MoF, and completing feasibility studies and detailed engineering designs for the three projects. This work continued into the term of Fauzi Bowo's successor, Governor Joko Widodo, but the latter then abandoned the idea for unclear reasons in late 2012.

Source: Bisnis Indonesia. 2018. "Pemda Jawa Barat Masih Jajaki Instrumen Obligasi Daerah." 27 February; Berita Satu. 2012. "Penerbitan Obligasi Daerah DKI Dipastikan Batal" 3 December.

SNGs issuing municipal bonds must create a Regional Head or Unit Manager to be responsible for the management of the bonds.

The unit manager is responsible for determining strategies for the issuance and management of municipal bonds, including a risk management policy, as well as reports estimating the schedule of planned bond issuances and reporting on outstanding bonds, their maturity structure, and coupons.

(iv) Potential for subnational borrowing from commercial banks

The Indonesian commercial banking sector is limited and is dominated by state-owned banks.

While banking assets have grown in recent years, the banking assets available for domestic lending activities (excluding foreign exchange banks) total the equivalent of USD 309 billion (see Table 2.3: Growth in assets by type of bank).⁴⁴ Nevertheless, loan growth has slowed considerably in recent years, commensurate with a slowdown in deposit growth,⁴⁵ although this trend has seen a recent reversal this year. Bank financing for infrastructure has grown, from IDR 81 trillion outstanding in 2010, to IDR 317 trillion outstanding in 2016, according to a study by Bank Mandiri,⁴⁶ although the bulk of this lending was for commercial sectors, such as electric utilities, logistics, and oil and gas projects. Interestingly, the study shows that loan growth for construction has remained high since 2012, in comparison with other sectors where growth has declined, such as

for industry, home ownership, and agriculture.⁴⁷

This continued interest in construction may say something about the nature of collateral packages demanded by banks for infrastructure loans, which Mandiri states can include a lien on the physical assets, as well as corporate and personal guarantees.⁴⁸

Banks are reluctant to provide long-term loans, compounding budgetary stress for SNG borrowers.

Because over 85 percent of Indonesian bank deposits are of less than one year's maturity, exposure to longer-term assets creates an asset-liability mismatch on bank balance sheets. This limits the appetite of Indonesian banks for long-term lending.⁴⁹ Standard corporate loan tenors are three to five years, with a maximum of seven years for preferential clients. For SNGs looking to borrow at shorter maturities for investment in infrastructure projects that yield benefits over a period of decades, even fixed-rate loans must be refinanced periodically over the life of the financed asset. This need to refinance acts as variable-rate debt, adding volatility to the budgetary exposure of the borrower.

Private lenders find it difficult to assess the creditworthiness of SNGs.

Although financial disclosure practices are improving, there are few reliable sources of information available to private investors on SNG bank debt, and little disclosure of bank debt by SNGs for their publicly owned enterprises other than for the largest enterprises of the largest *kota* and *kabupaten* governments.

⁴³ Article 62, Law 33/2004 on Fiscal Balance

⁴⁴ Indonesia Banking Statistics – April 2017, OJK.

⁴⁵ "Special Topic on Infrastructure Financing: Searching for Optimal Solution(s)," EconMark, Mandiri Group Research, May 2017, p. 40.

⁴⁶ Ibid, p. 15.

⁴⁷ Ibid, p. 41.

⁴⁸ Discussion with Mandiri officials, July 2017, Jakarta.

⁴⁹ World Bank. 2017. Regional Infrastructure Development Fund (P154947), Project Appraisal Document, World Bank Group.

Domestic regional development banks are a potential supplemental source of capital for SNGs, but are limited to just a few regions. Some SNGs own regional development banks, which provide loans to constituent SNGs within their region. However, as Table 2.3 shows, the regional development banks only represent 15 percent of total banking sector assets (net of foreign exchange commercial banks). They are further limited by their size.

Table 2.4 shows that of the 27 regional banks, only three have a significant asset base from which to lend (over USD 3.7 billion).⁵⁰

In the case of the provinces of Jawa Barat and Banten (PT BPD Jawa Barat and Banten, tbk), Jawa Tengah (PT BPD Jawa Tengah), and Jawa Timur (PT BPD Jawa Timur), the regional banks in these provinces have a significant level of capitalization and show precedent for lending to SNGs within their respective provinces.

⁵⁰ Indonesia Banking Statistics – April 2017, OJK.

Table 2.3: Growth in assets by type of bank (IDR billions)

	2012	2013	2014	2015	2016	2017
					Dec	Apr
State-owned banks	1,535,343	1,758,873	2,076,605	2,313,316	2,666,516	2,616,161
Foreign exchange commercial banks	1,705,408	1,962,539	2,200,142	2,363,516	2,672,238	2,803,529
Non-foreign exchange commercial banks	135,472	162,457	186,817	193,149	73,684	76,580
Regional development banks	366,685	389,964	440,691	475,696	529,746	607,387
Joint venture banks	217,713	290,219	278,312	313,570	319,328	320,021
Foreign-owned banks	301,966	390,415	432,582	473,336	468,286	399,493
Total banking sector assets	4,262,587	4,954,467	5,615,150	6,132,583	6,729,799	6,823,171

Source: Indonesia Banking Statistics, April 2017, OJK.

Table 2.4: Number of banks by asset size

Bank type	< IDR 1 trill. (USD 75 mill.)	IDR 1 - 10 trill. (USD 75 mill. - 746 mill.)	IDR 10 - 50 trill. (USD 746 mill. - 3.7 bill.)	> IDR 50 trill. (USD 3.7 bill.)	Total Number of Banks
State-owned banks	0	0	0	4	4
Foreign exchange commercial banks	0	13	13	16	42
Non-foreign exchange commercial banks	4	17	0	0	21
Regional development banks	0	9	15	3	27
Joint venture banks	0	2	8	2	12
Foreign-owned banks	0	1	5	3	9
Total	4	42	41	28	115

Source: Indonesia Banking Statistics, April 2017, OJK.

The commercial bank market could provide a supplemental source of capital for a subgroup of SNGs. The SNGs which might benefit from the commercial banking market would have the following characteristics.

First, their capital investment plans might benefit from interim construction loans from commercial banks, while the terms of longer-term debt from the RIDF is being negotiated. Regional banks, like other commercial banks, will not be able to lend long-term and their cost of capital remains high relative to the RIDF or the domestic bond

market. In these cases, the expectation would be that RIDF loans could provide a take-out for interim bank financing of certain capital projects that the SNG would like to have accelerated. Second, their financing needs include enterprise level activities where a pledge of assets, and not only of revenues, might be possible. Commercial banks in Indonesia require collateral in the form of physical assets, which would be possible only for municipally-owned enterprises and commercially-operated companies.

D. Recommendations

(i) Short-term

The Gol can take a number of actions in the short-term, as well as in the medium- to long-term, to maintain the current momentum of improving the environment for SNG borrowing.

Indonesia's policy framework for the development of the subnational debt market is evolving. Recommended actions in the short-term are specific in nature and described in relation to existing challenges, as summarized in Table 2.5.

Table 2.5: Summary of recommended short-term actions

Issue	Recommended Action
SNGs seeking a loan must receive a recommendation (<i>pertimbangan</i>) from the MoHA (Article 35 Government Regulation No. 30/2011). In practice, this requirement creates a bottleneck due to the cumbersome processes required to obtain the recommendation.	Revise this regulation to provide more clarity to SNGs on the criteria and process for obtaining the MoHA recommendation, as well as the roles and responsibilities of various players in the lending approval process.
In the current Law No. 33/2014 on the Fiscal Relationship between the Central Government and SNGs (Article 55), SNGs are prohibited from pledging their future revenues and assets as collateral.	In the revision of Law No. 33/2014, SNGs should be allowed to pledge their revenues as collateral.
The current Law No. 33/2014 (article 57) also specifies that SNG bonds may only be issued to finance projects that generate revenue.	In the revision of Law No. 33/2014, SNGs should be given the option of choosing General Obligation, Revenue, or even Syariah bonds.
SNG bonds, even in the highest ratings categories, are likely to have coupon rates in the higher range as new assets to the Indonesian bond market.	Maintain the intercept mechanism, for the time being, in the case of bond default and select more feasible and bankable projects to encourage uptake from institutional investors.
SNGs face difficulties in procuring the services of professionals and agencies in relation to bond issuance (i.e. underwriters, auditors, legal counsel, appraisers, notaries, rating agencies, and trustees), due to limited information on the relevant unit costs of these services.	The Central Government's Procurement Agency (LKPP) should issue a Perka (Peraturan Kepala) LKPP that provides guidelines on procuring professional services in relation to bond issuance.

(ii) Medium to long-term

In the medium- to long-term, the additional recommendations below anticipate the coexistence of the RIDF, the bond market, and

commercial banks in the financing of infrastructure projects of SNGs.

Recommendation 1: Apply the intercept mechanism to all forms of long-term SNG

debt, both bonds and loans, or allow SNGs to pledge their revenues as collateral. Loans from the government and from the RIDF currently benefit from credit enhancement provided by the intercept mechanism covering central government fiscal transfers to SNGs. The current differential treatment of debt, with some classes benefitting from the intercept and others not, will effectively hold back the development of municipal bonds and bank loans in favor of RIDF loans. MoF should eventually phase out the sovereign guarantee, replacing it with more regional/municipal level security mechanisms, such as escrows and debt service reserve funds.

Recommendation 2: Harmonize the definitions of default, in anticipation of how the debt market for SNGs may evolve. The definition of default should follow the bond market definition of full-and-timely payment of principal and interest. This would create a common trigger for the intercept mechanism for all forms of long-term debt. More also needs to be done to develop a robust insolvency system. A sound insolvency system reduces moral hazard and sends signals to private investors about pricing risks and returns.

Recommendation 3: Strengthen the financial management capacity of selected SNGs to a level sufficient for the issuance and management of municipal bonds. Areas in which SNG capacity needs to be strengthened include capital investment planning, preparation of bankable projects, understanding the bond issuance process, and management of bond proceeds.

Recommendation 4: Pursue the following steps for SNGs to benefit from collaborative financing between the commercial banking sector and the RIDF:

- SNG capital investment plans can use interim construction loans from commercial banks while the terms of longer-term debt from the RIDF are being negotiated. The expectation should be that RIDF loans could provide a take-out for interim bank financing of certain capital projects that the SNG would like to accelerate. The banks would have to be willing to accept the take-out financing as collateral for the loan and not additionally require a pledge of SNG infrastructure assets.
- Where a shorter-term commercial bank loan and a longer term RIDF loan are to sit together in a SNG financing agreement, ensure that the commercial bank is comfortable enough with the RIDF's underwriting and project review standards to enter into an inter-creditor agreement with the RIDF, accepting a *pari-passu* lien on revenues.

Recommendation 5: Develop the next stage of RIDF, by expanding its ability to provide financing to SNGs and making such support more sustainable. Currently, the RIDF will take in a quantum of capitalization and make a similar quantum of loans to SNGs. It could greatly increase the scale of its lending activities by making more effective use of its capitalization in the following ways:

- Create a reserve from a portion of RIDF's capitalization and leverage this reserve by issuing pooled bonds in the capital market to finance loans to SNGs.⁵¹ This form of leveraged operation is the revolving fund model, which produces a much larger loan book than is possible under its current form of operation. This model has been tested successfully in a number of developed and developing countries. Over time, it will also reduce, or eliminate, the need for additional donor assistance.
- Improve the sustainability of RIDF's financial operations by increasing its financial margin for SNG loans in excess of its own cost of capital. The RIDF must operate at a sufficient financial margin in order to sustain its operations, repay its debt, and protect its capital base from its credit exposures. The current spread of RIDF loan rates above the RIDF's own cost of capital (the interest rate on its loan from GoI) appears too low for its risk profile.
- Explore the creation of a credit enhancement facility (either through the RIDF or privately) that could provide financial guarantees for the senior debt of SNGs, in order to promote the development of an investor and commercial bank market for municipal debt, by meeting the ratings requirements of their investing or lending practices. As with the revolving fund model mentioned above, the reserves are used as collateral, but for financial guarantees (contingent exposure) rather than for loans (direct exposure).

The medium-term roadmap for the RIDF would, therefore, comprise the following three blocks of barriers to be removed and steps to be taken: (i) launching lending operations, creating a stable portfolio volume, and establishing a strong credit history in the short-term, accompanied by regulatory reforms on SNG borrowing as suggested above; (ii) strengthening the SNG borrowing framework by establishing alternative security mechanisms that allow market credit into municipal financing (including credit for longer-term investments) and permit the pledging of revenue streams and potential securitization; and (iii) making decisions on the future capitalization of the RIDF in conformity with either a capital market or commercial banking approach.

⁵¹ Once RIDF is able to demonstrate strong lending performance, with policies that are in tune with national regulations, then it would be possible for RIDF to crowd-in sources of capital from the market through securitized offerings based on ratings. From a market perspective, such offerings would have limited relevant cost and risks, and with strong security mechanisms, the RIDF loan assets would provide competitive, long-term yields for investors such as pension and insurance funds.

IV.

Affordable Housing Sector

⁵² World Bank. 2016. Report: "Indonesia's Urban Story." Washington DC: The World Bank Group.

⁵³ World Bank/ Government of Indonesia. 2015. Report: "Indonesia: A Roadmap for Housing Policy Reform." National Development Planning Agency (Bappenas).

⁵⁴ Lamudi. 2016. "Lamudi Real Estate Report: Indonesia 2016." Accessed 25 July 2017. <http://www.lamudi.co.id/research/whitepaper-2015/>.

⁵⁵ Indonesia Investments. 2016. "13th Economic Policy Package Indonesia: Low-Cost Housing." 26 August 2016. Accessed 26 July 2017. <https://www.indonesia-investments.com/news/todays-headlines/13th-economic-policy-package-indonesia-low-cost-housing/item7127>.

⁵⁶ Quantitative deficit defined as households that do not own a home.

⁵⁷ Ministry of Public Works and Housing. 2017. "Monitoring and Supervision of the Quality of Landed Houses with Subsidy Assistance (FLPP/SSB/SBUM)." Presentation document, Jakarta.

⁵⁸ World Bank and Government of Indonesia. 2015. Report: "Indonesia: A Roadmap for Housing Policy Reform." National Development Planning Agency (Bappenas).

⁵⁹ Overcrowding is defined as <7.2m² per capita.

⁶⁰ Ministry of Public Works and Housing. 2017. "Monitoring and Supervision of the Quality of Landed Houses with Subsidy Assistance (FLPP/SSB/SBUM)." Presentation document, Jakarta.

A. Context and performance

Rapid urbanization and the rise in the average population age are increasing the demand for housing in Indonesia.

Between 2000 and 2010, Indonesia's urban population increased at an average annual rate of 4.1 percent, higher than China's (3.8 percent), India's (2.8 percent), and Thailand's (2.8 percent).⁵² It is estimated that the urban population will increase by 3.4 million people each year from 2015 to 2019, with the country's current urbanization rate of 54 percent rising to 71 percent by 2035.⁵³ A young population also drives the demand for housing—more than half of Indonesia's 255 million people are under 30, the average age at which a household makes its first house purchase.⁵⁴ Finally, GDP growth post 2009 has allowed seven million people annually to join the middle class, enhancing purchasing power and demand for housing solutions.⁵⁵

The annual housing supply of 400,000 added units is not enough to address the creation annually of up to 920,000 new households or the 7.6 million unit housing deficit.

The Ministry of Public Works and Housing (MPWH) estimated a quantitative housing deficit⁵⁶ of 7.6 million units in 2014 based on BPS data.⁵⁷ This estimate may be overstated, as it is based on non-home ownership data and does not consider renters or lessees whose lifestyle preference may not be to own a house. In addition to the existing deficit, projections of the formation of new households require 820,000 to 920,000 new housing units annually. Estimates place the annual supply of formal housing at 400,000 units, of which 50,000 to 100,000 are part of subsidized mortgage housing programs.⁵⁸ Other public housing programs (home improvement and extensions grants, rental housing) provide an additional 150,000 to 200,000 units, for a total of 550,000 to 700,000 units. The annual housing supply leaves a gap of 220,000 to 270,000 in the formation of new households, in addition to the existing overcrowding⁵⁹ backlog

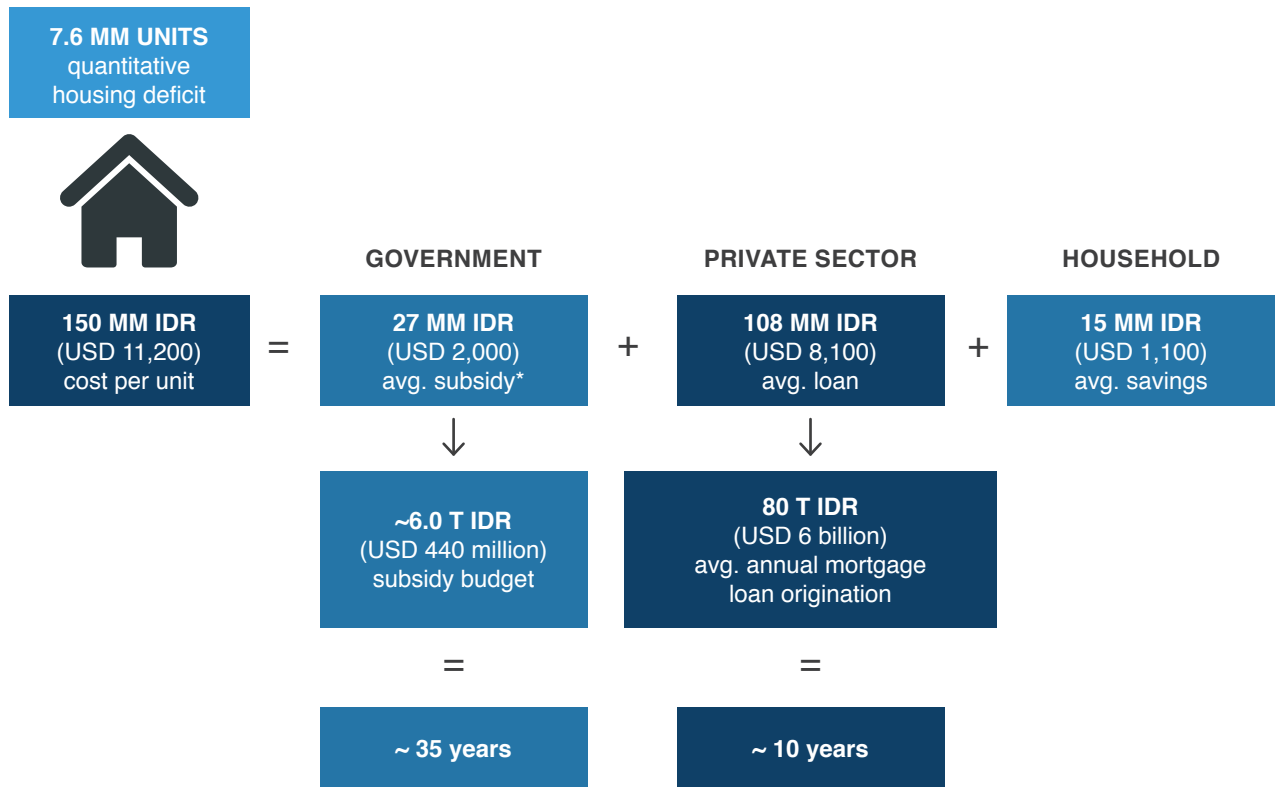
of 7.5 million housing units.⁶⁰ As far as the qualitative deficit⁶¹ is concerned, 3.4 million units are deemed as substandard based on one or more indicators. GoI intends to reduce the quantitative backlog to 5.4 million by creating 2.2 million units by 2019, and reduce the qualitative deficit to 1.9 million units by improving 1.5 million units.⁶²

The current housing deficit requires an estimated IDR 1,140 trillion⁶³ (USD 84 billion) of private and public financing.

This estimate is based on the quantitative deficit of 7.6 million units, at an approximate cost of IDR 150 million (USD 11,200) per unit. It would take GoI approximately 35 years to address the current level of quantitative housing deficit if it were to maintain the average annual budget allocation of approximately IDR 6.0 trillion (USD 440 million) for housing finance subsidies and the most economically efficient subsidy BP2BT scheme were to be used as the assumption. At the current average annual mortgage loan-origination running-rate of IDR 80 trillion (USD 6.0 billion), the private sector could finance the housing deficit in approximately 10 years (see Figure 2.5).

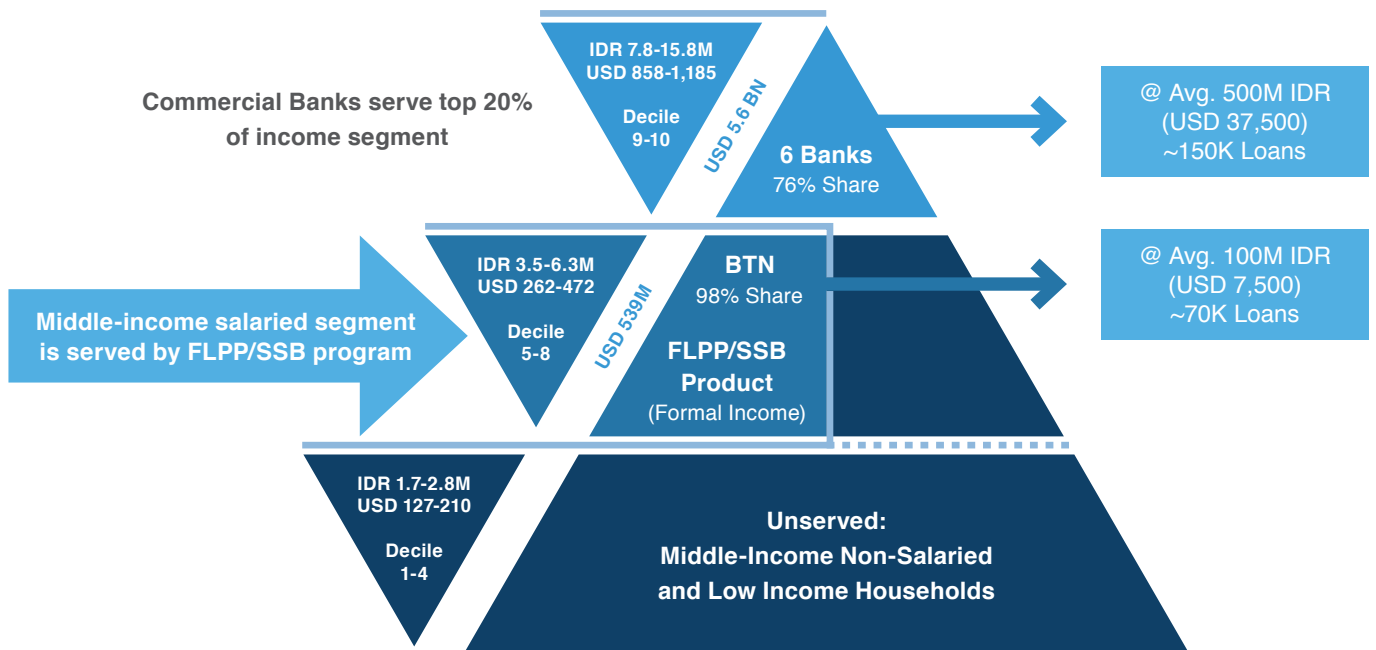
Affordability remains a key constraint that significantly limits positive housing outcomes for most Indonesians. Only the wealthiest 20 percent of households can comfortably afford to acquire housing in the formal commercial market, based on the estimated average housing cost of IDR 440 million (USD 33,000).⁶⁴ The 40 percent of households within the 5th to 8th decile cannot afford an equivalent formal housing unit without subsidy support for a basic unit between IDR 140 - 300 million (USD 10 - 22,500). For the bottom 40 percent of Indonesians, developer-built home purchase is unattainable (see Figure 2.6). The bottom 40 percent must rely on self-built, highly subsidized, low-income housing and large grant subsidies to support home improvements and extensions to their

Figure 2.5: Financing the housing gap



*Subsidy averages based on BP2BT average assistance amount (the most efficient type of subsidy relative to FLPP and SSB).
Source: The World Bank, 2017a.

Figure 2.6: Sectors serviced by the formal mortgage market



* Avg. Annual Mortgage Loan Origination of USD 6.1 BN (80 T IDR)

Source: BI Residential.
Property for Primary Houses, MPWH data and World Bank Assumptions – Average for 2014 and 2015; World Bank. 2017a. Flagship report: "Doing Business 2017: Indonesia". International Bank for Reconstruction and Development/The World Bank.

⁶¹ Qualitative deficit defined as units with sub-standard housing materials, lack of access to water or sanitation.

⁶² Hapernas. 2017. Kebijakan Program Penyediaan Perumahan dan Satu Juta Rumah. Semarang.

⁶³ Calculation: 7.6 million housing units in deficit x IDR 150 million/ units (Household contribution of IDR 15 million, government subsidy of IDR 27 million, and bank lending of IDR 108 million).

⁶⁴ World Bank and Government of Indonesia. 2015. Report: "Indonesia: A Roadmap for Housing Policy Reform." National Development Planning Agency (Bappenas).

⁶⁵ World Bank and Government of Indonesia. 2015. Report: "Indonesia: A Roadmap for Housing Policy Reform." National Development Planning Agency (Bappenas).

⁶⁶ The Government of Indonesia defines slums as dense neighborhoods with irregular buildings that lack access to basic infrastructure.

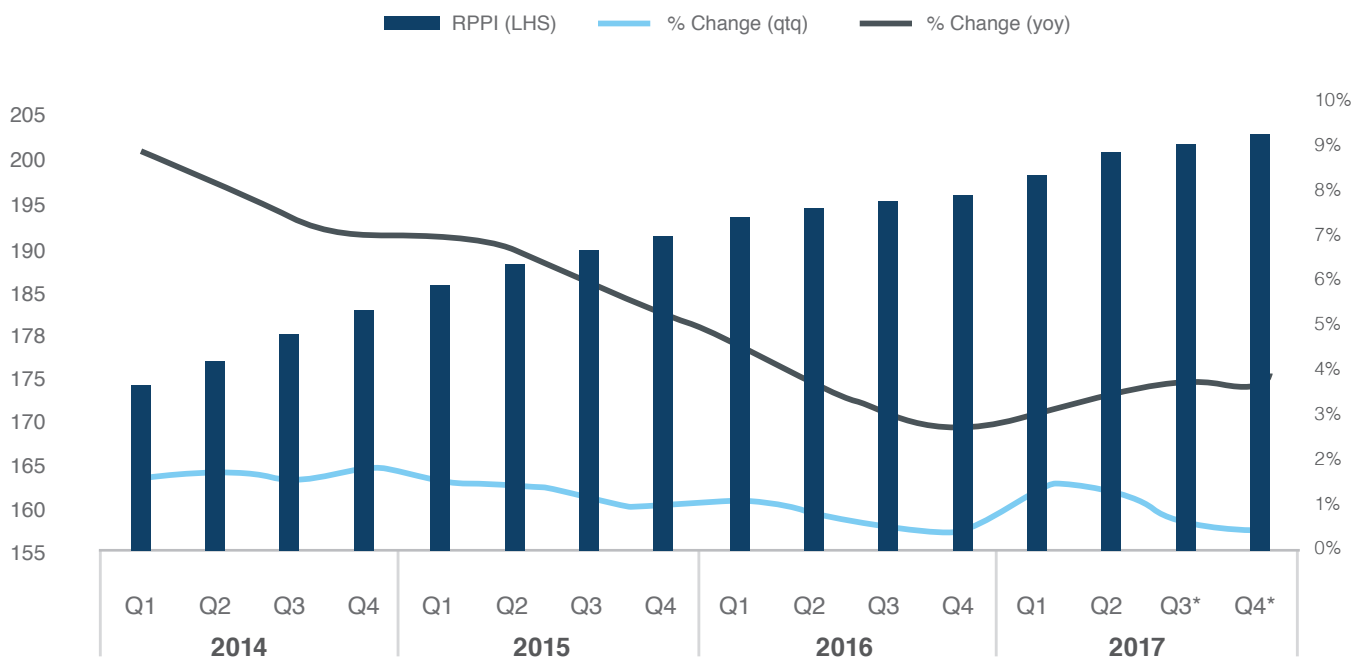
sub-standard, self-built dwellings. Self-built housing currently constitutes 71 percent of Indonesia's housing stock.⁶⁵

Affordable housing relies on land-use planning, but Indonesia's urban planning system is demonstrating severe signs of stress, as evidenced by the housing deficit, poor urban service indicators, and slum proliferation. According to the 2015 NCEP Urban Slum Profiling Survey, about 22 percent of Indonesia's urban population live in slums,⁶⁶ including 50 percent of the urban poor. Only 36 percent of Indonesians in the lowest income quintile have access to improved sanitation, while in urban areas 28 percent of all households lack access to improved sanitation facilities. Only 1 percent of urban households are connected to public sewage systems, and approximately 70 percent discard wastewater into septic tanks or *cubluk*s (open bottom pits). Continued inadequate design and implementation of regional and urban planning can result in uncontrolled, low-density urban growth, without basic infrastructure or preservation of land for affordable housing provision. Continued deficit of adequate housing solutions and limited comprehensive planning may lead to infrastructure failures that will negatively affect the well-being of the greater urban population, especially those at the bottom of the pyramid.

Increasing housing prices affect the affordability of housing in large- and medium-sized cities. Decades of speculative land trading in large cities, a luxury property boom, and the high cost of construction materials have contributed to the increase in housing prices. From 2011 to 2013, general residential property sector prices increased by 30 percent annually.⁶⁷ Concerns about a real estate bubble led to a tightening of the loan to value (LTV) ratio to a maximum of 70 percent for luxury housing (over 70m²) in 2012 and 2013, which has since been relaxed to an LTV of 85 percent. Following the easing of the regulations, residential property prices accelerated once again in the first quarter of 2017, with quarter on quarter growth rising from 0.37 percent to 1.23 percent (see Figure 2.7). The small houses segment has grown faster than the total housing sector, experiencing a 1.84 percent quarter-to-quarter price hike in the first quarter of 2017, up from 0.57 percent in the previous period (see Figure 2.8). According to Bank of Indonesia's Residential Property Survey, the surge in housing prices is due to the rising prices of construction materials, higher labor wages, and fuel prices.

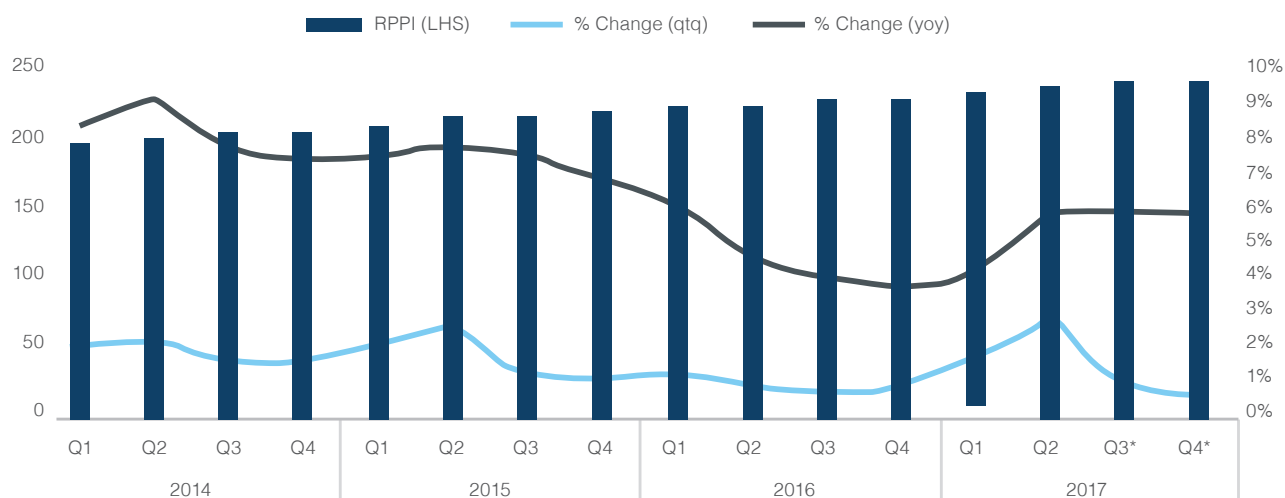
Penetration of mortgage finance in Indonesia is shallow and compares poorly against other neighboring countries. Mortgage lending accounted for 2.8 percent of

Figure 2.7: Residential property price index (base year 2002 = 100)



Source: Bank Indonesia 2017.

Figure 2.8: Residential property price index—small houses (base year 2002 = 100)



Source: Bank Indonesia 2017.

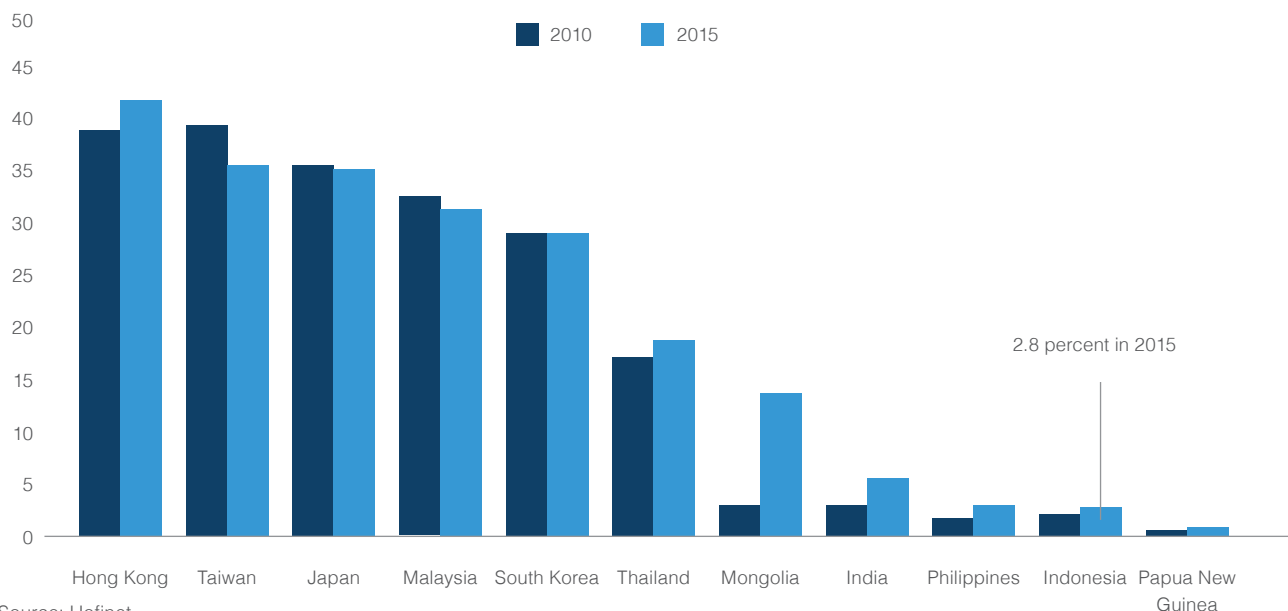
⁶⁷ World Bank and Government of Indonesia. 2015. Report: "Indonesia: A Roadmap for Housing Policy Reform." National Development Planning Agency (Bappenas).

⁶⁸ Hutagalung, Fabiola, and Ishak Ricardo Pasaka. 2016. "The Balanced Housing (Hunian Berimbang) Requirement." HPRP Lawyers. 23 June 2016. Accessed 25 July 2017. http://hprplawyers.com/the-balanced-housing-hunian-berimbang-requirement/#_edn2.

GDP in 2012, compared with 7.0 percent in India and 19.0 percent in Thailand (see Figure 2.9). Mortgage lending is constrained by a series of factors. First, most Indonesians cannot afford a mortgage without subsidy enhancements and the poor design of government mortgage subsidy programs crowds out private sector capital and participation. Second, over 60 percent of Indonesians are not part of the formal workforce and hence lack access to the financial system. Many of these households may be able to afford a mortgage, but due to a lack of credit history and a reliance on informal income are considered non-bankable by the commercial banking sector. Third, the banking

sector lacks access to affordable, long-term funding from capital markets. Without the evolution of a secondary market, Indonesian banks will have limited ability to finance long-term mortgages from short-term deposits. Finally, Indonesia has a relatively high, albeit declining, interest rate for mortgage loans, with a range of about 8 percent (fixed rate for first 1 to 5 years) to about 12 percent (conversion to floating rate) in 2017, higher than Malaysia's 3 percent and China's 4.6 percent.⁶⁸

Figure 2.9: Mortgage loans, percent of GDP



Source: Hofinet.

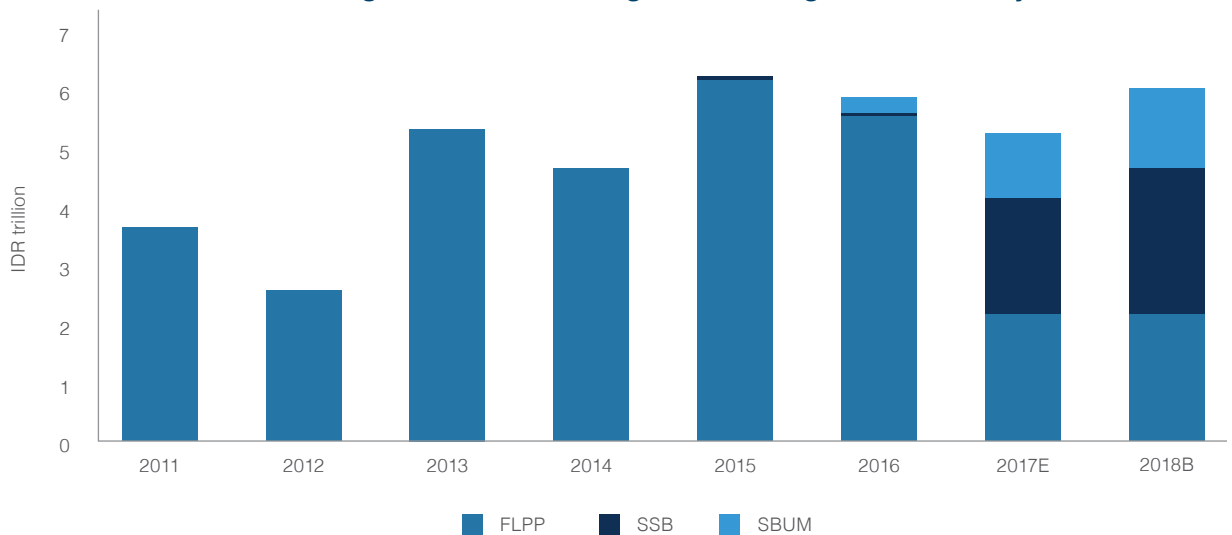
B. Sectoral analysis and challenges

(i) Affordable housing demand side

The middle-and low-income sector relies heavily on government subsidy support and the large interest rate subsidy programs are expensive for the government budget and have crowded out the private sector. The Gol fiscal budget (APBN) for credit-linked subsidy (KPR) has been approximately IDR 6.0 trillion over the last four years (2015-2018). With the launch of the new Satu Juta Rumah housing

program in 2015, the APBN budget increased to IDR 9.8 trillion and IDR 14.8 trillion for 2015 and 2016, respectively, though were later revised back to the level shown below in Figure 2.10. Over the last eight years, the Gol has subsidized a total of 800,000 KPR units (see Figure 2.11), primarily with the Housing Finance Liquidity Facility (FLPP) scheme and supplemented in 2015 with the Interest Rate Subsidy (SSB) scheme to meet the Satu Juta Rumah policy.

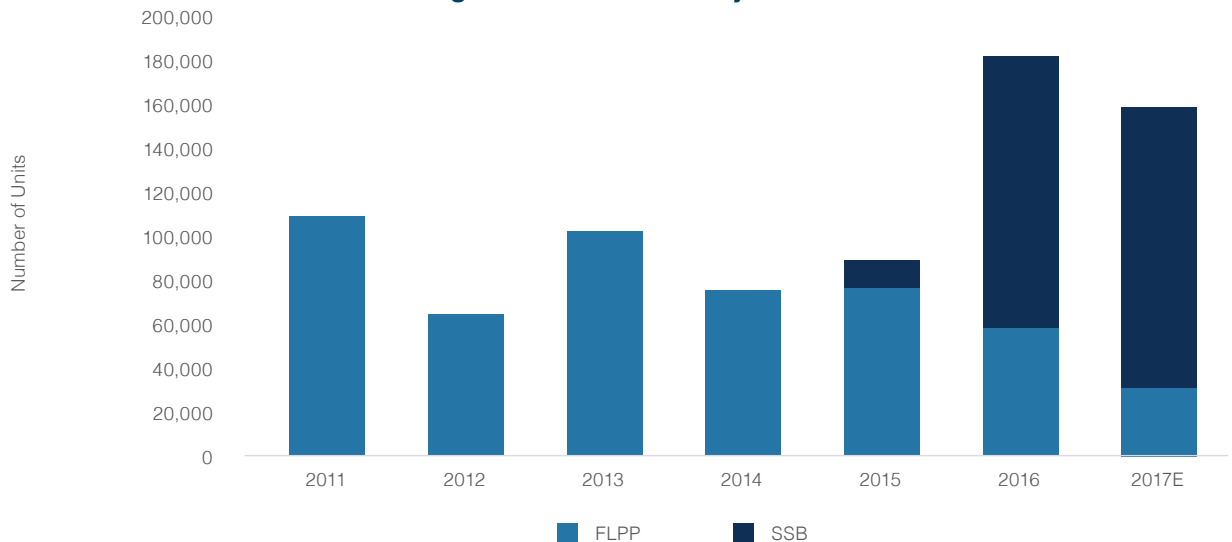
Figure 2.10: APBN budget for housing finance subsidy



Source: Ministry of Finance, National Budget projections.

Note: Data for 2011 – 2016 represent audited budget realization; 2017 data is an estimate of budget realization; 2018 data is the budgeted amount.

Figure 2.11: KPR subsidy units achieved



Source: Ministry of Public Works and Housing, 2017.

The FLPP scheme is highly inefficient in that it provides 90 percent of liquidity to all subsidized loans originated by banks at a concessionary cost of fund of 0.5 percent.

FLPP would then allow consumers a fixed interest rate of 5 percent for the duration of the loan. As per the example below (Figure 2.12), for every consumer who purchases a subsidized property of IDR 150 million, the cost to the Gol is IDR 53 million on a net present value basis for the FLPP subsidy plus an additional IDR 4 million of down payment assistance. This equates to a cost of 46 percent on a total Gol initial disbursement of IDR 125 million.

The SSB scheme buys down the commercial interest rate currently benchmarked at ~10.5 percent to a fixed rate of 5 percent over the life of the loan.

Under the scenario below (Figure 2.13), the cost of the SSB is IDR 43 million on a net present value basis. While the subsidy cost to the Gol on year one is only at IDR 5 million, the Gol is exposed to future liabilities through the remaining life of the loan with a maximum loan tenor of 20 years. Every IDR 1 trillion of SSB budget today generates up to a maximum IDR 7.6 trillion of future budget liabilities, on a net present value basis. The Gol is further exposed to fluctuating interest rate risk; future liabilities would increase in a rising interest rate environment.

⁶⁹ Key Assumptions for FLPP: 15 years tenor, commercial interest rate of 11 percent, discount rate of 8 percent.

⁷⁰ Key Assumptions: 15 years tenor, discount rate of 8 percent, commercial benchmark rate of 10.3 percent on loan tenor of 15 years.

Figure 2.12: Example of FLPP subsidy economic⁶⁹ cost to the Gol

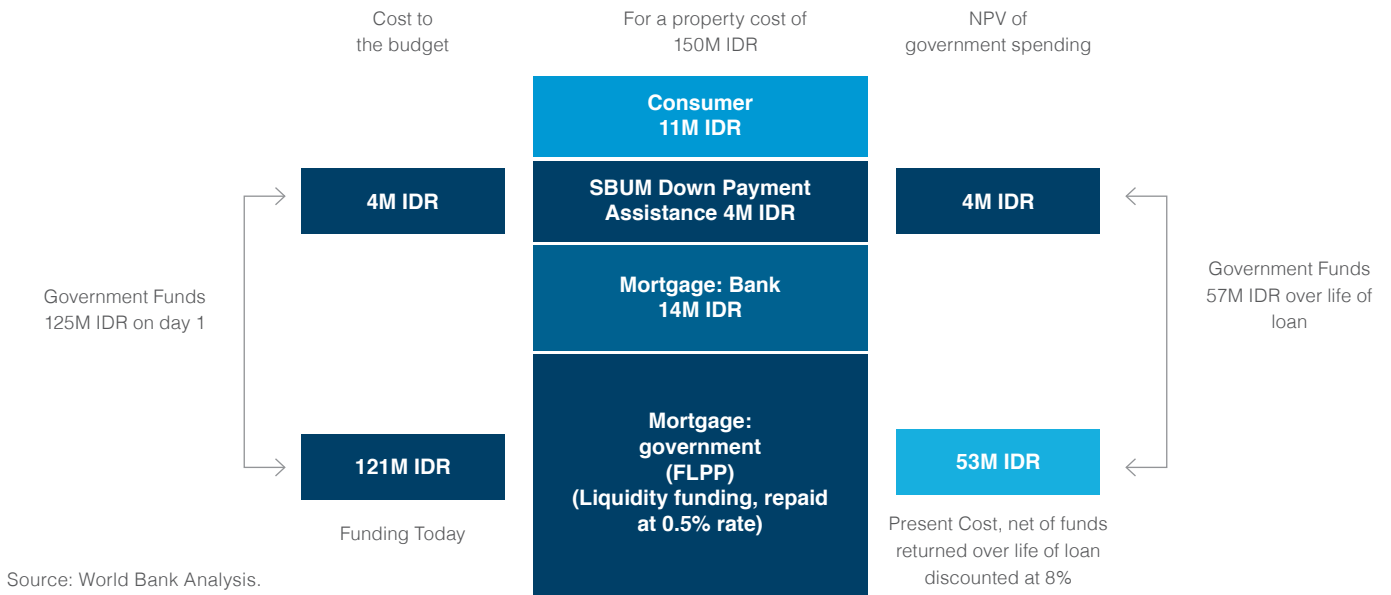
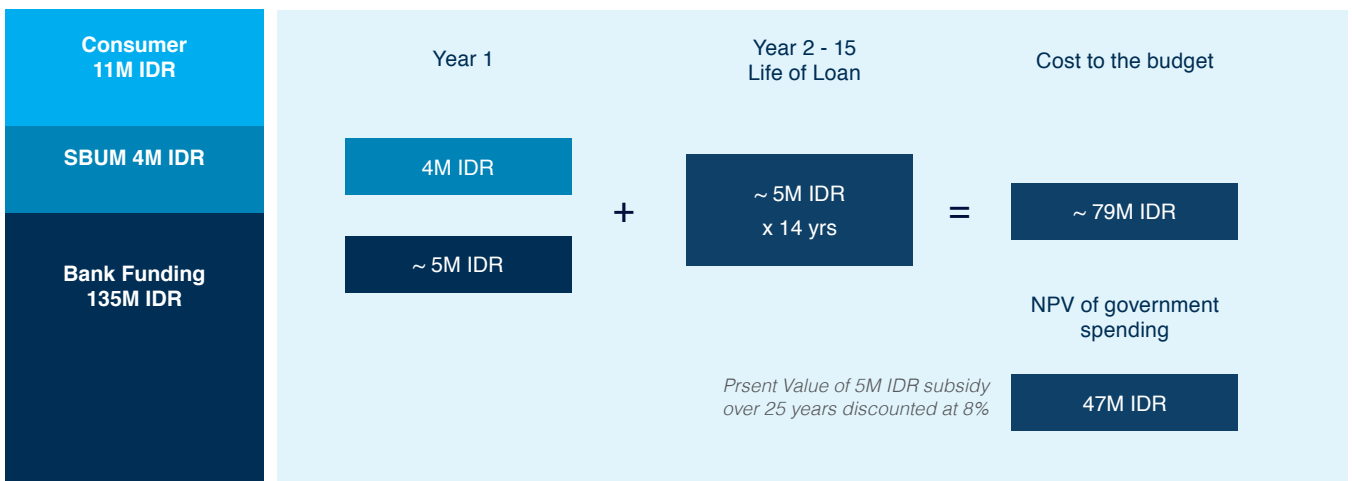


Figure 2.13: Example of SSB subsidy economic⁷⁰ cost to the Gol



The subsidized interest rate for both the FLPP and SSB schemes undercut the market rate by a wide margin,

against which private banks cannot compete, resulting in private lenders leaving the market segment to GoI subsidy (see Figure 2.14). Furthermore, the subsidy eligibility criteria design leave much room for targeting risk and subsidy leakage. The maximum eligibility criterion set for “basic”⁷¹ individual monthly income—IDR 4 million for landed houses—allow lenders to select households⁷² with an equivalent gross income of IDR 10 million⁷³ or higher, which belong to the upper-income segment. Setting basic “individual” income allows the lower income spouse to be eligible for the subsidy while in fact the combined household income may well place the household in the upper-income segment.

The secondary liquidity market is inadequate to meet the long-term funding needs of the mortgage sector.

PT. Sarana Multigriya Finansial (SMF) is facing substantial difficulty in meeting its corporate mission to provide liquidity financing to mortgage lenders. SMF liquidity support represented approximately 6 percent of the mortgage market in 2015, if refinancing loans outstanding (IDR 14.6 trillion cumulative) and the amount of securitization (IDR 5.6 trillion cumulative) are consolidated.⁷⁴ One clear factor behind SMF’s difficulty is its inability to issue bonds that are competitive against government bonds and those of the large commercial banks. SMF bonds issued at the beginning of 2017 were 120 basis points higher than treasury

bonds issued at the same time. A critical factor explaining SMF’s uncompetitive funding cost is the lack of legal and regulatory recognition of its financial strength and of its systemic role in the housing sector as a secondary mortgage finance provider. Its debt is treated as the debt of a non-financial, non-supervised corporate entity that conducts bilateral business-to-business operations. Moreover, SMF suffers from fluctuating market conditions. Indonesia’s corporate bond market exhibits a high degree of volatility in the pricing of corporate bond coupon rates, which suggests that this developing market is still relatively inefficient. This is exacerbated by too few benchmarks, exposure to capital flight due to significant foreign ownership of government bonds, and by an adverse treatment for infrequent issuers. To address the market’s misperception of SMF’s financial and institutional stability, the ongoing National Affordable Housing Program (NAHP) is providing policy and advisory support to the Central Bank and OJK in the area of regulatory and governance reform with the aim of: (i) making SMF bonds eligible for Central Bank liquidity support interventions; (ii) adjusting the guidelines applicable to institutional investors in SMF bonds, in particular with respect to concentration limits; (iii) lowering the weight of risk for capital adequacy purposes for SMF bonds held by banks; and (iv) allowing favorable treatment under the liquidity rules set out in the Basel III framework.

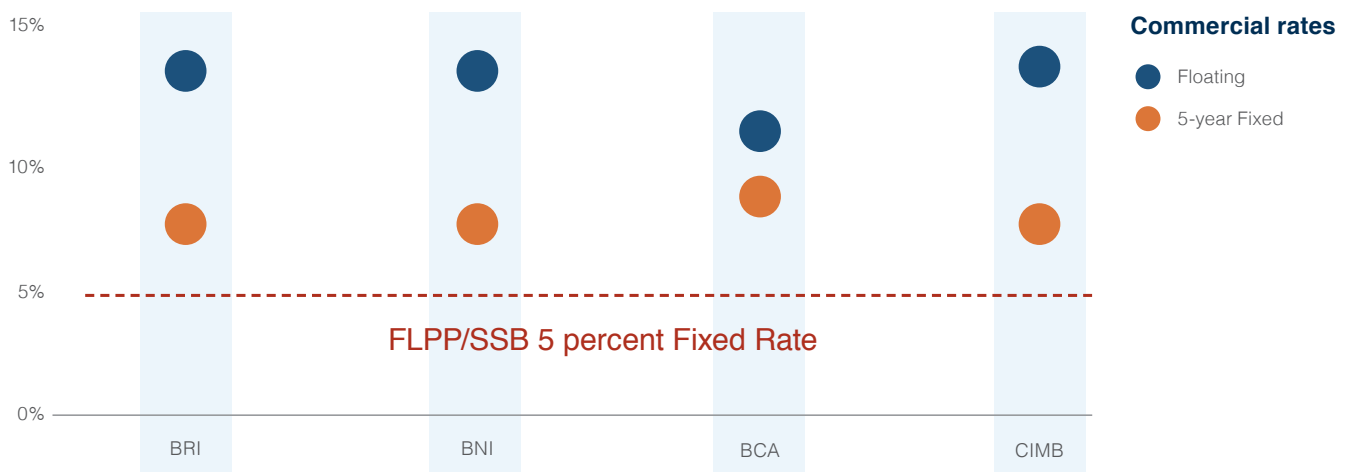
⁷¹ Basic income excludes other take-home allowances such as transportation, housing, etc. Lenders in Indonesia and elsewhere traditionally underwrite capacity to pay based on gross household income instead of individual basic income.

⁷² Both husband and wife.

⁷³ Gross Income Calculation: (Basic Income / 50-70 percent) X 1.82 working adults per household as per Susenas.

⁷⁴ SMF (Sarana Multigriya Finansial). 2017. Financial Highlights. Accessed 15 Sept 2017. <http://smf-indonesia.co.id/en/investor-relation/financial-statements/financial-highlights/>.

Figure 2.14: Subsidy versus commercial mortgage rates



Source: BRI, BNI, BCA, CIMB data, 2017; Ministry of Public Works and Housing; World Bank analysis.

Note: Five-year fixed rate comparison is of equivalent products, each converting to floating rate at year six.

(ii) Affordable housing supply side**Private real estate developers face higher risk and lower returns in the affordable housing sector.**

Two main real estate development associations—Real Estate Indonesia (REI) and the Association of Low-Cost Housing Developers (APERSI)—produce affordable housing supply for the credit-linked subsidy FLPP and SSB programs. Developers face funding constraints: over 54 percent of them rely on their own equity for financing, while only 35 percent of developers—primarily the larger ones—seek bank loans for building.⁷⁵ As most banks do not finance land purchase, developers must fund the purchase of costly urban land using their own capital. Finally, developers of affordable housing must accept a lower return of around 15 percent.⁷⁶

Delayed permitting and high construction costs affect the supply of affordable housing.

Delays in permitting procedures are common and can cost developers as much as 20 percent of the total building cost in a 12-month period.⁷⁷ In August 2016, GoI released its 13th economic policy package, which seeks to reduce the number of housing construction permits necessary from 33 to 11 for affordable housing.⁷⁸ GoI expects the decrease will lower the permitting time to 44 working days, and lower costs by up to 70 percent for developers of affordable housing.⁷⁹ Transportation constraints, high import costs for materials, and the rising cost of labor have also contributed to high costs. The lack of standardized materials on the market, as well as low levels of technical expertise in new building technologies, have hampered affordable construction of low-income houses.⁸⁰ Altogether, these obstacles have resulted in an estimated five-fold increase of hard construction costs since 2011.⁸¹

Low housing quality, distant location, and poor infrastructure are contributors to the high 36 percent⁸² vacancy rate (see Figure 2.15) in subsidized developer-built houses.⁸³

Current price limits on subsidized housing under the FLPP and SSB programs and the absence of guidelines regarding location, non-enforcement of building standards, and the developers' incentive to increase profits have resulted in poor-quality housing located far from urban areas. Regulations set out the maximum subsidy-eligible property price limits by province, except for a handful of examples where limits are specific to certain districts. These limits are adjusted based on the land and construction cost index, and defined in PMPUPR No.

552/2016. However, in many densely populated urban areas the fixed price eligibility ceiling is lower than the total cost of land and construction, leaving developers to build MBR (Masyarakat Berpenghasilan Rendah / low-income) housing distant from urban centers, where land is more affordable, and to cut corners in the construction process, so they can meet subsidy ceiling price limits while maintaining reasonable margins.⁸⁴ Standards around permit approval and location guidelines for subsidized housing developments have yet to be established and MPWH's Evaluasi Unit reports poor enforcement of construction and project infrastructure quality. Sprawling growth of low-quality subsidized housing has become a growing concern for the MPWH.

Construction financing, taxes, condominium titling regulations, consumer preferences, and dated homeowner association (HOA) laws contribute to limited subsidized housing typologies.

As of August 2017, 99 percent of developer-built, FLPP- and SSB-subsidized housing units were landed houses. The dependency on this typology contributes to low density in urban areas, sprawl, greater land needs, and increased basic infrastructure costs. These issues and their associated costs could be alleviated by diversifying the housing stock from solely landed houses to alternative typologies that use less land space, such as townhouses, rowhouses, and low-rise multifamily housing.

Diversifying housing typology is constrained by five key drivers.

First, construction financing for multi-story housing is more complex than landed housing due to construction times (3 months to build landed houses, versus 1-3 years to build a multi-story building), material costs, and labor needs. Often, developers building multi-story housing require a construction loan, which increases funding cost. Second, existing regulations do not provide VAT exemption for subsidized, multi-story housing units that are above IDR 250 MM, while the subsidy-eligible price limit for landed housing is on average IDR 315 MM, decreasing incentives for consumers and developers. Third, requirements for condominium titling are complex and can be delayed for up to 3 years, while subsidy regulations require all units to be complete and titled prior to beneficiaries receiving FLPP and SSB subsidies. Fourth, there is a cultural preference for landed houses, as they allow for individual green space and, to certain extent, incremental horizontal expansion.

⁷⁵ Bank of Indonesia. 2017. Press Release No. 18/71/DKom. Accessed 8 September 08, 2017. http://www.bi.go.id/en/ruang-media/siaran-pers/Pages/sp_187116.aspx.

⁷⁶ Indonesian Association of Low-Cost Housing Developers (ASPERSI). 2016. Interview.

⁷⁷ Indonesian Association of Low-Cost Housing Developers (ASPERSI). 2016. Interview.

⁷⁸ Indonesia Investments. 2016. "13th Economic Policy Package Indonesia: Low-Cost Housing." 26 August 2016. Accessed 26 July 2017. <https://www.indonesia-investments.com/news/todays-headlines/13th-economic-policy-package-indonesia-low-cost-housing/item7127>.

⁷⁹ Indonesia Investments. 2016. "13th Economic Policy Package Indonesia: Low-Cost Housing." 26 August 2016. Accessed 26 July 2017. <https://www.indonesia-investments.com/news/todays-headlines/13th-economic-policy-package-indonesia-low-cost-housing/item7127>.

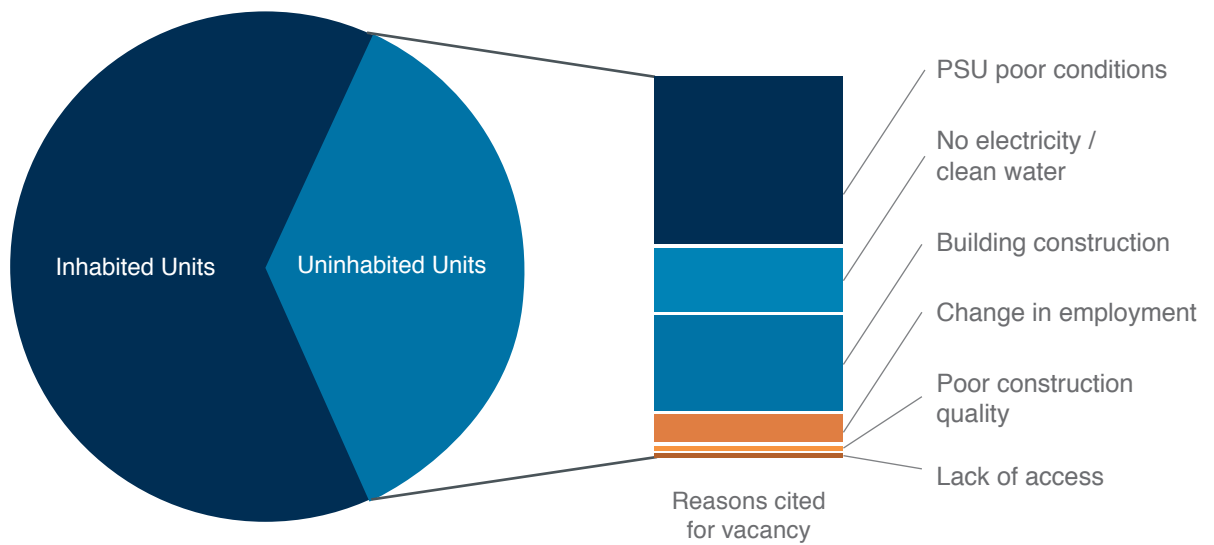
⁸⁰ LaFarge/Holcim. 2017. Interview. 25 July. Cohousing, Ataca. 2017. Interview with Ataca Cohousing.

⁸¹ World Bank and Government of Indonesia. 2015. Report: "Indonesia: A Roadmap for Housing Policy Reform." National Development Planning Agency (Bappenas).

⁸² Result of the MPWH Evaluasi Unit M&E conducted on a sample basis of FLPP/SSB subsidy-disbursed units in 2016.

⁸³ MPWH/DGHF. 2017. "Monitoring and Supervision of the Quality of Landed Houses with Subsidy Assistance (FLPP/SSB/SBUM)." Pg. 21.

Figure 2.15: Monitoring results of credit linked subsidy units built in 2016



Source: MPWH Evaluation Unit, 2017.
Note: Survey sample size of 14,393.

However, this preference will continue to evolve as Indonesian families settle in urban areas. Lastly, condominium association laws are sparse and have not been updated since Law No. 16/1995 on Condominiums. Article 19 of that law mandates that tenants must establish a resident association to take care of joint interests, including maintenance and repairs, however, it is unclear what repercussions, if any, there are for failing to create or enact requirements of HOAs.

The BSPS program requires increased financial and technical support to achieve its targets. Despite the efficiency of BSPS, a 2016 WBG analysis found that the program faces four main issues. Firstly, financial constraints make it difficult to meet annual targets—the success of BSPS has been limited by the constrained budget of the central government for affordable housing. Secondly, a lack of technical capacity for implementation—attracting qualified technical facilitators across the vast Indonesian territory has proven to be difficult, resulting in varying levels of building quality. Thirdly, an absence of a formal complaint channel for beneficiaries means that complaint responses are handled without a clear procedure. Lastly, inefficient program evaluation—the program lacks capacity to collect, manage, and analyze data, causing an inefficient feedback system.

(iii) Governance structure

GoI has developed numerous policies and institutions to support the housing market,

yet success is unclear given lack of program assessment and housing information system.

Housing programs have primarily targeted low- and middle-income households through two main mechanisms: credit-linked subsidies (e.g. FLPP and SSB) to support developer-built home ownership for the middle-income segment above provincial minimum wage (UMP);⁸⁵ and grant subsidies (e.g. BSPS) for existing homeowners to carry out house improvements targeting the low-income segment at or below UMP. In addition to housing for ownership, GoI has also implemented Rusunawa, a rental-housing program targeted at low-income households (81 percent) but also at civil servants, students, and others (19 percent) in urban areas. The impact of the current housing programs is unclear as robust monitoring and evaluation has yet to be done. Further, the lack of a national, consolidated management system for housing provision leaves the MPWH and other national-level stakeholders without a credible, consolidated data system for evidence-based housing policy reform and housing program performance analysis and evaluation.

Local governments lack clear regulatory requirements, capacity, funding, and enforcement mechanisms to support the supply of adequate formal affordable housing.

While Law No. 1/2011 on Housing and Settlement mandates the delivery of housing for low-income people as the responsibilities of both central and local governments, Law No. 23/2014 on local government states that local governments are only responsible to deliver housing for disaster

⁸⁴ MPWH/DGHF. 2017. "Monitoring and Supervision of the Quality of Landed Houses with Subsidy Assistance (FLPP/SSB/SBUM)." Pg. 21; LaFarge/Holcim. 2017. Interview. 25 July.

⁸⁵ Provincial Minimum Wage (UMP) is stipulated in Law No. 13/2003 to ensure that compensation is adequate for livelihood. UMP is used as an eligibility criterion under the BSPS program.

survivors as well as for relocation-affected people. This conflicted direction between the two regulations has created disincentives for local governments to commit to providing housing for low-income people and for allocating budget for the operations of the newly established housing working unit (Organisasi Perangkat Daerah – OPD/Dinas) in local government.

Local governments have widely varying levels of fiscal and institutional capacity and depend on national ministries, such as the MPWH and BPN, for 70 to 85 percent of funding for MBR housing. This dependency, coupled with a low budget for MBR housing expenditure, leaves many local governments with insufficient capacity to develop and implement urban plans, housing programs, and data management. Finally, many local governments do not have established standards for the issuing of building permits (IMB—Izin Mendirikan Bangunan) or enforcement capacity in issuing occupancy certificates (SLF—Sertifikat Laik Fungsi) to ensure good quality and well-located MBR housing.

Inclusionary housing laws have not achieved the results expected due to policy design, land and construction costs, and the capacity of local governments. Law No. 10/2012

concerning the Implementation of Housing and Residential Areas with Balanced Housing mandates a 1:2:3 cross-subsidy model, where developers building 50 or more commercial units must also build two medium- and three low-income units. Law No. 20/2011 concerning Flats decrees that developers building luxury apartments must provide 20 percent of the unit stock for affordable housing. Developers can collaborate with other partners to build the subsidized housing and are allowed to build the units elsewhere if they are not able to provide the three types of housing in the same land plot, provided they are in the same municipality and have access to basic infrastructure and economic centers.⁸⁶ However, few developers abide by the inclusionary laws due to variations in local government capacity to enforce the law, high land costs, and the developers' desire for high financial returns. Moreover, incentives for developers to abide by the inclusionary laws, such as fast track permitting and reduced building permit costs, have not had a positive impact. An example of effective enforcement of the inclusionary laws is the mixed-income housing project called “7 Towers” in Daan Mogot, Jakarta.

⁸⁶ Hutagalung, Fabiola, and Ishak Ricardo Pasaka. 2016. “The Balanced Housing (Hunian Berimbang) Requirement.” HPRP Lawyers. 23 June 2016. Accessed 25 July 2017. http://hprplawyers.com/the-balanced-housing-hunian-berimbang-requirement/#_edn2.

⁸⁷ The BP2BT Assistance scheme, co-funded by the NAHP program, provides a progressive down-payment assistance in the range of IDR 27-32 million priced at market rate to both informal and formal income consumers for the purchase or self-construction of a new home.

⁸⁸ 2018 Fiscal budget of IDR 6.1 trillion for credit-linked subsidy program = IDR 2.2 trillion for FLPP, IDR 2.5 trillion for SSB, and IDR 1.4 trillion for SBUM.

C. Recommendations

(i) Housing demand side

Recommendation 1: Re-design or shift Gol's credit-linked subsidy schemes (FLPP/SSB/SBUM) to more effective subsidy schemes.

To address the subsidy inefficiencies, it is recommended that a detailed analysis and scoping work is done to guide the enhancement and transformation work for a coherent and efficient MPWH suite of subsidy products, inclusive of the product design for the upcoming TAPERA program needed to meet affordable housing needs across all consumer income and employment segments while enhancing budget effectiveness. This could significantly improve fiscal housing budget subsidy efficiency and effectiveness while leveraging private sector capital and avoiding market distortion. For illustration, by shifting the 2018 credit-linked subsidy fiscal budget of IDR 6.1 trillion for the existing housing subsidy schemes (1) liquidity facility (FLPP), (2) interest rate buy-down (SSB), and (3) the IDR 4 million assistance (SBUM) to the credit-linked down-payment assistance (BP2BT)⁸⁷ scheme, the following outcomes are possible:

Higher subsidy unit volume: Scenario 2 in Table 2.6 below provides 2.6 times more credit-linked subsidy loans to target segment with the same fiscal budget of IDR 6.1 trillion.

Higher private-sector funding: Scenario 2 yields a higher leverage ratio than scenario 1 by 3.1 times (4.3X / 1.4X).

Given the funding of IDR 1 trillion in year 1, FLPP is most ineffective as it finances 8,200 units (providing 90 percent of the loan in liquidity funding), while SSB can finance close to ~200,000 units in the first year of funding. However, over the loan term of these 200,000 units, Gol has to provide an additional IDR 1 trillion in subsidy funding in each of the remaining years of the loan tenor, or a future liability of ~IDR 7.6 trillion on a net present value basis. From an economic perspective, over the life of the loan portfolio, BP2BT is the most effective, providing 37,000 loan units, which is 2.9 times the volume funded by FLPP and 1.6 times that funded by SSB.

Table 2.6: Comparison of outcomes for alternative housing subsidy schemes

Subsidy Scheme Fiscal Budget of IDR 6.1 Trillion ⁸⁸	Unit Volume (Economic Basis)	Unit Volume (Fiscal Basis)
Scenario 1: FLPP/SSB/SBUM	86,000 Units	515,300 Units*
Scenario 2: BP2BT	225,700 Units	225,700 Units
Scenario 2 / Scenario 1	2.6X	0.4X

Source: World Bank analysis.

Note: * To achieve this volume, the SSB scheme exposes the GoI to (i) a future fiscal liability of IDR 19 trillion on a net present value basis, and (ii) interest rate risk in a rising rate environment.

Table 2.7: Comparison of alternate subsidy scheme scenarios

Subsidy Scheme	Public Sector GoI Funding	Private Sector Bank Funding	Banks/GoI Leverage	Consumers
Scenario 1: FLPP/ SSB/SBUM	IDR 6.1 T	IDR 8.2 T	1.4X	IDR 0.9 T
Scenario 2: BP2BT	IDR 6.1 T	IDR 26 T	4.3X	IDR 1.7 T

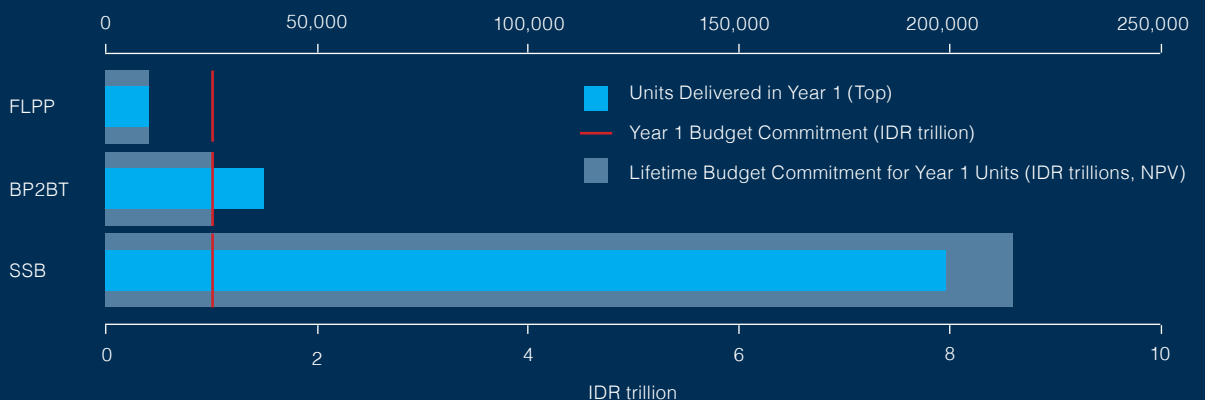
Source: World Bank analysis.

Box 2.2: Comparative fiscal and economic efficiencies of FLPP, SSB and BP2BT programs

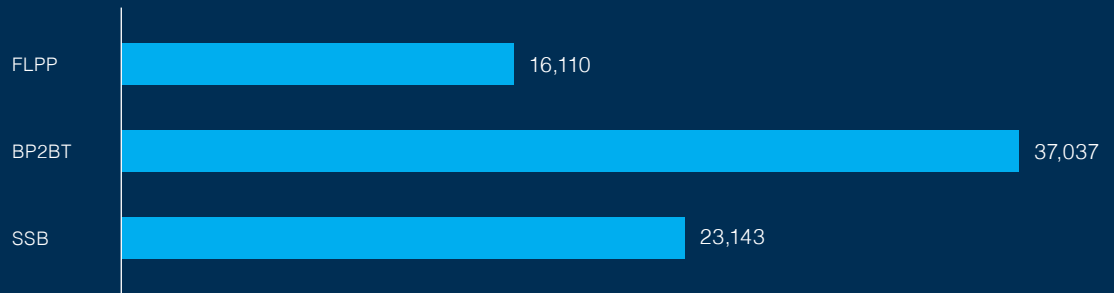
Loan Volume Funding Results with a 1 Trillion IDR Budget

For IDR 1 trillion of funding in year 1, FLPP is most ineffective as it finances 10,000 units (providing 90 percent of the loan in liquidity funding) while SSB can finance up to 180,000 units. However, over the loan term of the 180,000 units, the GOI must provide an additional IDR 1 trillion of subsidy funding in all subsequent years. From an economic perspective, through the life of the loan portfolio, BP2BT is most effective in providing 37,000 loan units which is 2.4 times the volume funded by FLPP and 1.8X by SSB.

IDR 1 trillion of GoI budget: loan units achievable in year 1



Loan units delivered over 15-year period per Trillion IDR of budget (NPV)



Source: World Bank analysis.

Note: Assumes loan term of 15 years; loan amount of 110 MM IDR; FLPP and SSB market rate of 5 percent; SSB subsidy benchmark rate (SBI 1-year rate of 6.75 percent + 5 percent margin); GOI discount rate of 8 percent (for economic/NPV calculation).

Enhance the program implementation by optimizing targeting and eligibility criteria, enforcing eligibility non-compliance, conducting robust monitoring and evaluation to determine the effectiveness of the program impact, and developing subsidy exit strategies.

While the GoI has achieved the quantitative volume target of ~ 110,000 units over the last seven years (2011-2017), the core design of the subsidy programs has not changed. The eligibility criteria have remained the same since its introduction in 2010. Monitoring and evaluation process is limited to the measurement of vacancy rate. Consumers, developers, and lenders have become inured to the fact that eligibility non-compliance is not commonly enforced. As with any products or services in both public and private domains, housing subsidy programs need tending to evolve in meeting the changing needs of the target consumers. Ongoing survey of the consumer needs together with learnings drawn from robust development impact monitoring and evaluation can inform better subsidy designs and policies. Central to the success of the Chilean housing subsidy program is the governments commitment and willingness to identify consumer needs and program blockages, and to experiment with new intervention designs that integrate consumer feedbacks and learnings.

Recommendation 2: Build a Housing Micro-Finance (HMF) market to provide financing for the large and unserved housing upgrading needs by conducting a market assessment to understand blockages and develop liquidity facility to help jump start the market.

The HMF market does not formally exist, despite the significant needs for home improvements and extensions. BPS Susenas- 2016 reported 7.4 million housing units that are sub-standard in the metro areas. Fortunately, the infrastructure for expansion of the micro-finance system for low-income housing exists in Indonesia. PT Bank Rakyat Indonesia (Persero) Tbk (BRI), for instance, has tremendous potential, given its broad-base sales network, a customer base of 9 million micro-credit customers, and experience with a multi-purpose loan product called KUPEDES Perumahan (General Credit for Housing) for home improvements/extensions. There are many Micro Financial Institutions (MFIs) with sizeable customer bases but they have not extended their market beyond productive loans. Moreover, HMF could be linked with existing housing programs, such as BSPS and Kotaku, to maximize outcomes and impact for the target market. A liquidity facility will need to be developed as MFI's do not have a strong deposit base for the medium-term loan of three to five years. This could be managed and administered either by: (i) SMF; or (ii) a special purpose vehicle (SPV) in the form of an "Equity cum Debt Fund" created in conjunction with the private sector (financial institutions, private equity funds) and the not-for-profit sector (foundations, the investment arms of international NGOs).

(ii) Supply side

Recommendation 3: Integrate affordable housing as a part of the Gol's current infrastructure strategic planning and land development by crowding-in affordable housing in Transport-Oriented Development ("TOD") projects, and by piloting Public-Public and Public-Private Partnerships (PPPs) to create affordable housing projects that leverage the use of the public sector (central and local government) land base.

The cost of land in urban areas is prohibitive for affordable housing development and is one of the main deterrents for developers to build in well-located areas. As such, to meet the United Nations SDG No. 11.1 of ensuring access to adequate, safe, and affordable housing for all by 2030, housing must be included in the Gol's current infrastructure and new township planning and development processes. The Gol ambitious infrastructure development plan of IDR 5,600 trillion is expected to transform the urban landscape for Indonesia. Without affordable housing as a component of infrastructure development, low-income housing would certainly be segregated and the opportunity for shared prosperity and inclusivity would not be realized. A systematic process of identifying affordable land in well-located areas that may belong to SOE's, local governments, and/or *waqf*⁸⁹ is a good starting point for PPP pilot projects. Technical assistance should be provided to local governments to develop feasible PPP models for mixed-income, affordable-housing projects, while the MoF-led PPP unit and/or a MPWH-led grant system could provide funding to local governments for project implementation.

DKI Jakarta has begun leading the way toward mixed-income housing projects that take advantage of public-public land sharing to promote TOD initiatives that increase affordable housing in well-connected areas. For the Tanjung Barat project, Perumnas, a government-owned housing developer, partnered with the state-owned railway enterprise, PT KAI Commuter Jabodetabek, to create a mixed-income, mixed-use TOD housing project in the Jakarta Metropolitan Region using land owned by PT KAI CJ next to the railway station. Mixed-income apartment units will be built over a dedicated commercial space on the first floor.

Recommendation 4: Improve the location and quality of credit-linked subsidized housing products by setting location guidelines, developing alternative housing typologies, and setting requirements for housing projects to be developed in mixed-use, mixed-income,

and well-located areas. Most existing subsidized affordable housing projects in Indonesia cater to a homogenous income group, creating segregated communities that do not benefit from a diversity of income levels. They are also limited to a landed house typology, failing to consider alternative designs that can contribute to future family growth in a compact manner. Furthermore, projects are built in areas lacking access to basic and social infrastructure, as well as economic opportunities, markets, and educational resources. The consequences have been a high vacancy rate of 36 percent,⁹⁰ increased insecurity, higher costs and times of commuting, and urban sprawl. Decreasing the existing quantitative housing deficit should not be the only concern of housing programs, but the focus should also be on building live-able and sustainable communities and cities. By setting location guidelines, beneficiaries can be protected from investing in projects that will strain their social and economic livelihoods, and developers can be forewarned that their housing stock should be located in adequate areas. This strategy has been implemented in countries such as Argentina and Mexico, which have incorporated such requirements after recognizing that previous housing subsidy programs resulted in sprawl and housing abandonment.

Improve dense urban living by encouraging varied typologies, such as duplexes, two-story townhouses, rowhouses, low-rise multifamily, incremental strategies like those piloted by ELEMENTAL⁹¹ in Latin America, and mid-rises. Private mixed-use, mixed-income projects with mixed housing typologies such as Vida Bekasi⁹² in West Java, are proof that an alternative approach to housing development is feasible, but would need government support to proliferate. Learning from such projects and rewarding innovative schemes, can lead to more compact, sustainable urban development. As Indonesia continues to transition towards an urbanized country, consumer education should also focus on the social acceptability of multi-family urban living. Notions of density, transit-oriented development, and livable cities can influence how households perceive mid and high-rise living.

⁸⁹ Assets donated under Islamic law, often held by a charitable trust.

⁹⁰ MPWH Evaluasi Unit – M&E in 2017 on 2016 developed units.

⁹¹ <http://www.elementalchile.cl/en/>.

⁹² <http://vidabekasi.com/>.

(iii) Governance**Recommendation 5: Expedite private sector investment in affordable housing by reviewing housing and land laws, regulations, and policies to ensure consistency, applicability to current market environment and needs, and institutional implementation and enforcement capacity.**

Following are a few examples to illustrate the need for this recommendation. Divergent guidance between the Law No. 1/2011 and Law No. 23/2014 have created uncertainty for the local governments to fully commit to the low-income sector housing provisioning that require critical components such as land and budget allocation. While Indonesia inclusionary housing mandates are in place through Law No. 10/2012, they are not commonly enforced. Consideration for improvement is thus needed to ensure better design, enforcement, and greater impact. A successful inclusionary zoning approach can support affordable housing supply if it is flexible and considerate of local governments' capacity, local residential markets, and developers' financial constraints.

Recommendation 6: Strengthen local government land use planning, permitting process, and capacity to increase the efficiency of affordable housing policies and expedite private sector investment.

According to MPWH representatives, the national government is in the process of developing a new policy that mandates local governments to allocate specific land for affordable housing, in anticipation that this will curtail land speculation and increase land access for housing construction. In addition to this mandate, local governments should develop city-specific programs to increase affordable housing, including: reserving public or foreclosed properties for affordable and mixed-income housing development; analyzing the existing plot size and FAR regulations; and designating inclusionary zoning areas following the necessary economic analyses. A structured capacity building plan for local governments that includes hands-on training and working mechanisms for land use planning, development and management is also a key to success. Consistent efforts to enhance and shorten permitting process can significantly reduce the developer total cost of construction.

Recommendation 7: Accelerate evidence-based housing policy reform planning and development and actively engage private investment in affordable housing by using the Housing Real Estate Information System (HREIS) platform.

Within the National Affordable Housing Program, the HREIS will soon be developed to serve as a depository of reliable,

up-to-date, and publicly available housing and real estate related data, analyses, and sector indicators. The development of the HREIS will create a platform to fine-tune the definition key metrics such as back-log (housing deficit) and housing affordability. More importantly, opportunities exist to use the HREIS evidence-based data platforms with visual geo-mapping capacity to bring about practical and substantive discussions through more precise analyses of housing backlog, needs, and gaps available by geographical locations and consumer income segmentation. A more exact understanding of housing needs and gaps would enable the government to significantly improve planning and decision-making for policy and program development and fiscal budget allocation, and the private sector to better finetune its process of identifying and planning for investment in the housing sector.

V.

Summary Roadmap for the Subnational Financing and Affordable Housing

Subnational Financing and Affordable Housing Roadmap			
Activity Pillar	Short-term	Medium-term	Long-term
Subnational Financing			
Pillar 1: Creating a better enabling environment for sub-national financing.	<ol style="list-style-type: none"> MoHA amends Government Regulation No. 30/2011, Article 35, to provide more clarity to SNGs on the criteria and process for obtaining the MoHA recommendation required for obtaining a loan, as well as the roles and responsibilities of various players in this lending approval process. MoF revises Law No. 33/2014, Articles 55 and 57, on the Fiscal Relationship between the Central Government and SNGs to allow SNGs to: (i) Pledge their revenues and assets as collateral; and (ii) Have the option of choosing General Obligation, Revenue, or Syariah bonds. LKPP publishes guidelines on providing support to SNGs during each stage of the process of procuring the services of professionals and agencies in relation to bond issuance (i.e. underwriters, auditors, legal counsel, appraisers, notaries, rating agencies, and trustees). 	<ol style="list-style-type: none"> MoF publishes guidance on criteria for determining whether a SNG could benefit from issuing municipal bonds or collaborative financing between the bond market and RIDF. SMI proposes the next stage for the RIDF, by expanding its ability to provide financing to SNGs and making such support more sustainable. 	<ol style="list-style-type: none"> MoF issues a report on Collaborative Financing between the Commercial Banks and the RIDF, to specifically address: (i) Strengthening SNG capital plans; (ii) Review of enterprise level activities in SNG financing needs, such that a pledge of assets (as is typically required by commercial banks), instead of a pledge of revenues, might be possible; and (iii) Ensuring that commercial banks are comfortable with RIDF's underwriting and project review standards.
Pillar 2: Improving SNG creditworthiness and strengthening private sector confidence in SNG debt instruments.	<ol style="list-style-type: none"> MoF issues a regulation to maintain the national government intercept of future direct transfers in the case of SNG bond default. 	<ol style="list-style-type: none"> MoF publishes guidance on applying the intercept payment mechanism to all forms of long-term SNG debt, both bonds and loans, or allowing SNGs to pledge their revenues as collateral. 	<ol style="list-style-type: none"> MoF issues regulations to harmonize the definitions of default, in anticipation of evolution of the debt market for SNGs.

AFFORDABLE HOUSING

Pillar 1: Supply	<p>1. MPWH issues policy on: (i) encouraging housing projects that support mixed-use, mixed-income development in well-located areas to balance costs and increase desirability, including by setting Location Guidelines for the disbursal of subsidies; (ii) using public-private, private-private, and public-public arrangements to increase land for affordable housing development in urban areas, for instance by placing public revenues from land value sharing into national and local housing trust funds.</p>	<p>1. MPWH creates and operationalizes a Housing Fund to provide technical assistance and national funding for the development of PPP models for mixed-income, affordable-housing projects by SNGs.</p>	<p>1. MPWH issues Guidelines for Promoting Investment in the Mainstreaming of New Construction Materials and Technologies, to improve quality and efficiency in the construction value chain and lower housing costs.</p>
Pillar 2: Demand	<p>1. MPWH publishes a report on Optimizing the Design and Targeting of Gol-affordable, Credit-linked Subsidy Programs (FLPP, SSB and SBUM) through: (i) Systematic processes to screen and certify developers; (ii) Collecting monitoring data and analyzing program performance, including the use of hand-held tools; (iii) Optimizing the current subsidy programs to meet the housing needs of targeted consumers across income segments; (iv) Developing and testing a broader suite of subsidized housing types.</p>	<p>1. MoF issues a report on Policy Reforms Needed to Support and Strengthen PT. Sarana Multigriya Finansial (SMF—the secondary mortgage financier), with a clear Action Plan for implementation.</p>	<p>1. MPWH enables a Housing Micro-Finance (HMF) market to provide financing for the large and unserved housing upgrading needs, by linking the HMF to existing housing programs, such as BSPS and slum upgrading.</p> <p>2. MPWH develops liquidity solutions for the housing microfinance sector.</p>
Pillar 3: Governance	<p>1. MPWH revises Inclusionary Housing Regulations to increase the availability of affordable housing in urban areas while facilitating enforcement.</p>	<p>1. MPWH issues Guidelines on Strengthening Local Government Capacity and Land-use Planning to increase the efficiency of affordable housing policies.</p>	<p>1. MPWH issues a policy to enhance HOA Laws and increases consumer education to foster social acceptability of multi-family affordable housing.</p>



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Chapter 3

Transport

I. Introduction

This chapter aims to identify ways to unlock the role of the private sector as a means of reducing inefficiencies in the provision of transport infrastructure and services, and to frame a road map through a set of recommended actions. In achieving these objectives, the chapter identifies policy driven inadequacies that prevent efficient service provision and proposes a series of measures to overcome them by enhancing the role of the private sector as a competitive solution. Among the recommendations, the report looks for different modes of private sector engagement when there is proven evidence that it can bring technological and operational efficiencies. Any recommendation to bring in the private sector should provide a better outcome without

compromising fiscal sustainability and provide a solid justification when there is a departure from the (dominant) state-owned enterprise model as the primary delivery mode.

This chapter does not constitute a full sector review. Limited international benchmarks have been used to appraise sector performance. The chapter focuses on barriers to efficient and effective service delivery in four high-priority sub-sectors: (i) national highways; (ii) airports; (iii) ports; and (iv) urban transport. Each sub-sector assessment focuses on three key issues: (i) sector context and performance; (ii) environment for private investment and involvement in the sector; and (iii) key recommendations.

II. National Highways

A. Sector context and performance

Over the last decade, the demand for road transport has increased by 5.8 percent per annum (to 117 billion veh-km/yr). This trend is expected to continue and grow faster than GDP as the current level of motorization is still relatively low at 87 motor vehicles/1,000 people (excluding motor cycles).¹ The sector is struggling to cope with this exponential growth, mainly because of persistent and substantial underinvestment (including by the provincial governments on the roads under their authority). This, in turn, has led to imbalanced growth of the network and uneven access—especially in rural areas—across different regions of the

country. The sector also faces other major challenges, such as road safety, congestion, and pollution in urban areas. While each of these challenges is critical and deserves urgent attention, the present section focuses on the large and crucial National Roads sub-sector.

In Indonesia, National Roads (47,017 km) and Expressways (989 km) together constitute the primary or arterial network. They account for only 10 percent of the total road system (of approximately 500,000 km) but carry a significantly higher share of the traffic. The Directorate General of Highways (DGH) holds

¹ World Bank. 2017. "Improving quality of spending in Indonesia: 2017 budget and beyond", Draft PER Phase 2 presentation. April. Washington DC: World Bank Group.

the responsibility for this core network, while the toll roads within it come under the authority of Badan Pengelola Jalan Toll (BPJT, the Indonesia Toll Road Authority).

Until recently, this arterial network received much less attention than it deserved. Although the number of kilometers under the National Road Network seems to have grown at an average of 3.5 percent annually in recent years, much of this growth is not attributable to new investment in the network but to reclassification of sub-national roads as national roads. Historically, annual public spending on national roads reduced from IDR 40 trillion in 1994 to IDR 10 trillion from 1998 - 2006 (during and following the regional financial crisis) and only returned to IDR 42 trillion in 2015 (in constant 2007 prices). Nearly 60 percent of the network still has a width of 7 meters or less. Approximately 40 percent of the National Roads network in Java and Bali is congested and in other areas nearly 6 percent requires capital expenditure.²

Underinvestment has adversely affected the capacity as well as quality of the nation's arterial road network and, thereby, the cost of logistics in the country. Travel speeds are relatively low (approximately 40 km/hr) due to a high volume to capacity ratio and extensive ribbon development in main corridors; only 18 percent of vehicles travel under smooth

flow conditions.³ It takes nearly 2.5 to 4 hours to travel 100 km, which is much higher than in neighboring countries.⁴ Further, network development has been highly uneven across regions.⁵ Figure 1 shows quality perception of roads in Indonesia compared with ASEAN countries and regional aggregates. The current backlog of network capacity is estimated at approximately 20 percent, or 16,000 lane-km of road space. To overcome this and to cater to an estimated growth of 5 percent per annum in traffic demand, an estimated 3,000–4,000 lane-km needs to be added annually.

To address the above challenges, Gol has prioritized the construction of expressways. Several lists of priority expressways and national roads projects are being compiled by various arms of government, including the list under the National Road Network Long-Term Master Plan. The existence of these different lists suggests that there is scope for improved coordination in the planning process. This analysis is primarily based on the Expressway Development Program (EDP) developed by BPJT, which aims to achieve over 6,220 km of expressways by 2025 (with an estimated investment cost of IDR 720 trillion). This section attempts a rapid assessment of the EDP and includes a brief summary of the current government strategy, likely future challenges, and a number of recommendations.

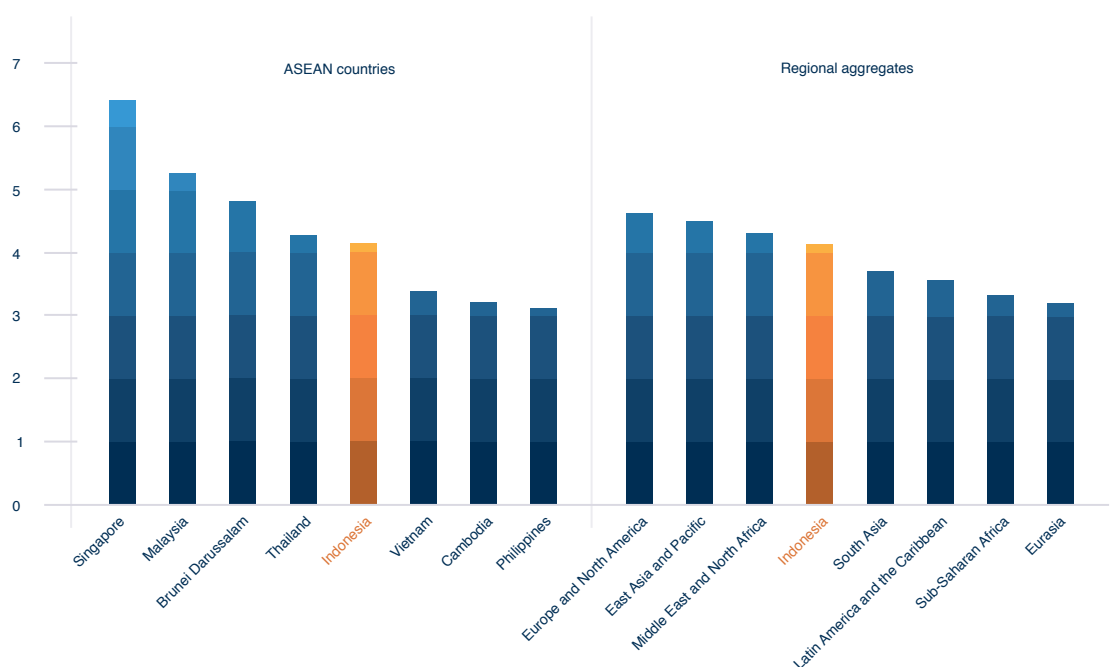
² Idem: footnote 1.

³ Nearly half of the vehicles travel in Very or Highly Congested or Uneven flow conditions at speeds around 50-80 percent of the free-flow speeds. Source: see footnote 1.

⁴ Less than 1.5 hours in China, Thailand, and Malaysia and about 2 hours in Vietnam. Source: see footnote 1.

⁵ For example, the number of kms per sq km is notably higher in Java and Bali as compared to other areas, which appears to match the larger share of these areas in GDP. Yet, these highly populous regions seem to be notably under-served because, in comparison to the other regions, they have the lowest number of km per 10,000 population.

Figure 3.1: Quality of roads



Source: World Economic Forum, Executive Opinion Survey, 2017.

B. Sector environment

The EDP focuses on creating tolled alternatives to highly congested and/or strategically important existing National Roads. The program relies mainly on the concession mode of contracting, under which the construction of roads is bundled with operation and maintenance over a period of 35 years or more. These concessions are either procured by competitive bidding, where both private sector and SOEs can compete, or assigned directly to SOEs to hasten the development process where the market response is expected to be either tepid or take too long. In either case, concessionaires are expected to recover their capital expenditure and operations and maintenance (O&M) expenditures and earn a return through tolls and/or availability-based payments (also referred to as annuities). Agreements have already been signed for the development of 1,920 km of roads, about 1,000 km of which are expected to come into operation by 2019. A majority of these concessions are owned or controlled by SOEs, with only a few roads under the pre-specified ownership or control of the private sector.

Under competitive bidding, the toll-based concessions are awarded to the bidder quoting the lowest toll rate. Toll rates are capped at a pre-specified upper threshold determined separately for each road based on various factors, including affordability, willingness-to-pay, and net savings for road users compared to using a nearby toll-free national road. Moreover, tolls can only be applied when there is a free road option that does not add more than a pre-specified level of additional travel time as compared to the tolled road. Viability gap funding (VGF) enables the project to benefit from up to 49 percent of the capital investment requirement for a toll road, when the concession is awarded under competitive processes specified under Presidential Regulation No. 38/2015. VGF support has yet to be applied in the toll roads sector. In certain cases, however, the government has enhanced the viability of toll road projects by financing through public procurement a segment or portion of the toll road that would later be transferred to the concessionaire of the full project. In some instances, bidders winning a concession with good potential for upside may be required also to take on the obligation of a concession for a commercially less or non-viable road. The scheme for concessions using availability-based payment is in the final stages of preparation in the toll roads sector. Such concessions will be awarded to the bidder quoting the lowest annuity payment.

In the case of toll-based concessions, the concessionaire bears risks related to traffic and non-completion of the publicly procured segment of the road by the government.

In the case of availability payment-based concessions, the concessionaire does not bear the traffic risk (unless such payments are linked to shadow tolls) but does carry the risk of payment default by the government. Risks associated with land acquisition are borne by the government: cost overruns that are attributable to delays in land acquisition on the part of the government are treated as “pass through.” In such instances, the concessionaire is allowed to recoup the cost overruns by charging a higher toll rate than specified in their original bid. If the required increase in toll rate exceeds the pre-specified affordability threshold for that road, the balance is instead recouped through extension of the concession period beyond 35 years, up to a maximum of 50 years. Compensation for land acquisition costs may also include the costs of short-term financing that concessionaires may arrange to make up for shortfalls in budget allocations or delayed government disbursements for land acquisition.

Gol’s current strategy for Expressway Development is to attract private sector participation where possible and thereafter rely on the SOEs to develop the balance of the network. Gol’s plan to achieve this through a programmatic approach and with a dedicated institution, such as BPJT, is similar to what other countries have done. For example, India’s National Highways Development Program (NHDP) in the late 1990s first focused on developing approximately 14,000 km (out of the then total national highway network of approximately 70,000 km) through a phased program and vested the responsibility for its implementation in the National Highway Authority of India (NHAI). The Build-Operate-Transfer Toll model and the planned annuity-based concessions are the two models predominantly deployed by India, Chile, and the United Kingdom to harness PPPs successfully. The use of public funding and government assumption of the responsibility for land acquisition are in line with best practices followed elsewhere, although the concepts of bridge-financing for land acquisition and provision of publicly procured road segments through government-led construction are unique to Indonesia.

However, some notable limitations and uncertainties in Gol's current approach may render it less effective in attracting private participation. Firstly, all significant means of support provided to Expressway Development concessionaires are in non-cash forms:

- Cost escalations attributable to government (such as inordinate delays in land acquisition⁶) are compensated only in the form of higher tariffs (up to a pre-specified threshold) and, thereafter, by extending the length of the concession beyond 35 years (up to a maximum of 50 years). As a result, in the case of toll concessions where the traffic proves to be notably lower than the forecast, concessionaires start with a significant cash deficit and may find themselves in a debt trap.
- Government support is also provided in kind, in that the government takes on the obligation of building a part of the road and then hands it over to the concessionaire to collect the toll revenues. Should the government fail to meet this obligation, or delay its fulfillment, the road may remain unfinished, preventing its coming into full operation or hindering the anticipated transfer of traffic from other roads, both of which could place the concession in a financially precarious situation.
- Termination payments to concessionaires are made only when the concession is re-bid and from the net revenues, if any, that the government collects from such re-bidding.

Secondly, the project planning, preparation, and packaging fail to attract private sector interest. For example, the concessions offered to the market are often for isolated stretches of road with no forward or backward linkages, preventing reliable traffic ramp up and thereby damaging the commercial viability of the concession. Poor planning also raises the likelihood of land acquisition challenges. Although there have been some improvements over the years, the delays, uncertainties, and costs associated with this process continue to be among the top of the list of constraints cited by prospective bidders from the private sector for their lack of interest in expressway development projects.

Thirdly, Gol lacks a comprehensive and reliable funding plan to cover the entire program. Gol and BPJT have a reasonable estimate of the funds required for the program, including the costs of investment and land acquisition. Current expectation is that a portion of these funds will be mobilized on the strength of the likely toll revenues. However, the share of that portion is likely to be limited as the program is expected gradually to cover roads and areas with

relatively lower traffic density. For example, Jasa Marga, the largest toll road operator in Indonesia, has 61 percent of the market share in the toll roads in operation, while nearly 90 percent of its revenues come from a small fraction (13 percent) of the toll roads under its authority. This means that a large portion of funds will have to come from the public budget, either directly or on the strength of the promise of future payments. The issue is usually associated with the promise of future support through fiscal resources—possibly spread over multiple decades, as in the case of availability-based payments. Already, government disbursements appear to be inconsistent, as seen in the delays in release of funds for land acquisition and the consequent emergence of the concept of “bridge financing” of land acquisition expenses by the concessionaires, a practice which increases both costs and uncertainty.

The abovementioned limitations may dampen interest from prospective private sector bidders in the Expressways Development Program. The record of concessions to date indicates that projects attracting private players have been mainly confined to Java, in areas of high-density traffic and low demand risk to mitigate the uncertainties related to government support (see Figure 3.2 and Table 3.1).

Gol has increasingly turned to SOEs to expedite the Expressway Development program. For example, to accelerate the development of Trans-Sumatra Expressway, responsibility has been assigned to SOE PT Hutama Karya through presidential regulation without a competitive process. The lack of competition in such cases could be less objectionable if SOEs were operating under strict budget constraints, in a commercially prudent manner, and were able to provide the same or higher level of efficiencies than the private sector concessionaires. However, in numerous cases, projects assigned to SOEs require Gol support to reach viability at entry or sustain viability during the operation of the concession, or both.⁷

Examples of government intervention in the sector include:⁸ (i) government guarantees to issue bonds to raise equity (e.g., Hutama Karya) or direct equity injections; (ii) financing at concessional terms by another SOE (e.g., PT. SMI⁹ funding to Trans-Sumatra by Hutama Karya) or by the state-owned-banks with the underlying implicit assumption of recourse to government support or bailout; (iii) extending the period of previous concessions with robust net positive cashflows (e.g., the Jagorawi toll road in the case of Jasa Marga); (iv) encouraging

⁶ For a discussion of the challenge of land acquisition, the government's efforts to alleviate this issue and the continuing need for substantive improvement in this area, please see the discussion in Part 1, Chapter 1 on Bringing Projects to Market.

⁷ See Part 1, Chapter 2 on State-owned Enterprises.

⁸ For further examples of how SOEs are supported through direct or implicit subsidies from the Government or Government-owned entities, please refer Part 1, Chapter 2 on State-owned Enterprises.

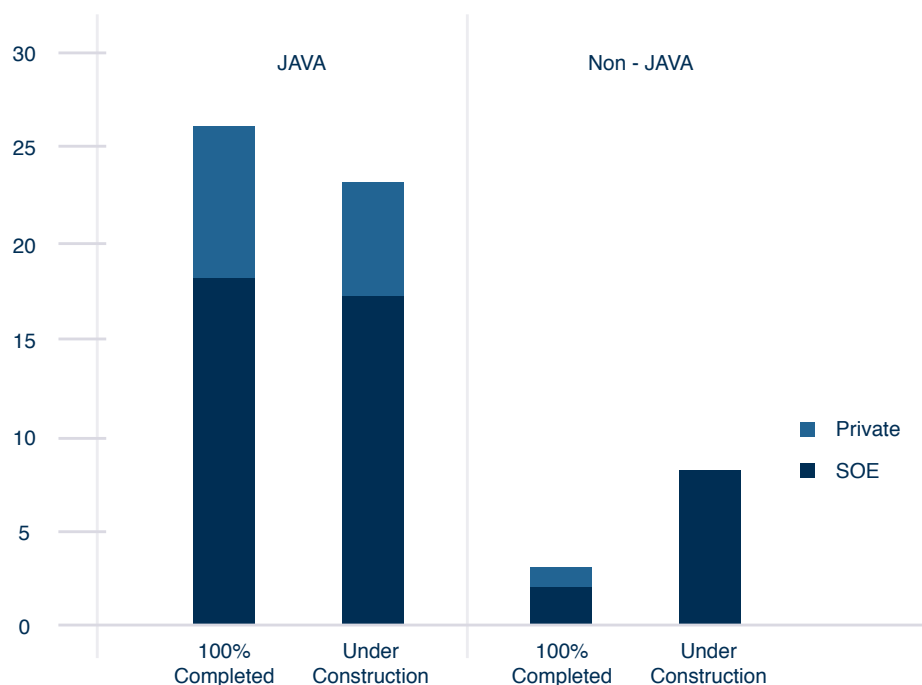
⁹ PT Sarana Multi Infrastruktur (SMI) is a SOE with 100% shares owned by the Gol through the Ministry of Finance. The company facilitates financing to support the Government's infrastructure development agenda through partnerships with private and/or multilateral financial institutions in Public-Private Partnership (PPP) projects.

Table 3.1: Transport projects by status on Java and the rest of Indonesia

Region/ownership	100% completed projects		Projects under construction		Projects awarded/assigned (yet to start construction)	
	Nos.	Km	Nos.	Km	Nos.	Km
JAVA Region	26	828	23	987	5	143
SOEs	18	547	17	810	3	55
Private	8	281	6	177	2	88
Non-JAVA Region	3	65	8	640	4	458
SOEs	2	53	8	640	4	458
Private	1	12	0	0	0	0
TOTAL	29	893	31	1627	9	601
SOEs	20	600	25	1450	7	513
Private	9	293	6	177	2	88

Source: BPJT

Figure 3.2: Transport project concessions awarded to the private sector and SOEs



Source: BPJT

¹⁰ Asset recycling in the road sector is a recommended solution to leverage private finance as long the asset is correctly maintained and the perceived risk of lenders and investor does not penalize in excess the potential revenue collection.

SOEs to mobilize finance by securitizing the toll revenues from their existing concessions (e.g., PT Jasa Marga) and/or divesting of existing concessions (e.g., Waskita);¹⁰ and (v) facilitating expansion of SOEs' equity base by bringing in

other investors, such as PT. SMI and the state-owned pension funds, as was recently done in the case of Waskita Karya.

Such increasing reliance on SOEs for expressway development may be neither feasible nor the most efficient option for the development of the remaining nearly 3,500 km of expressways that have not yet been awarded or assigned. Most SOEs capable of taking on PPP concessions are already highly leveraged and may not have capacity to raise more equity or debt financing without direct or implicit subsidies from the government (see Part 1, Chapter 2 on the role of SOEs in infrastructure). Such soft budget constraints distort incentives for SOEs and their (government-owned) lenders and guarantors in assessing the commercial viability of the underlying concessions, as described in Box 3.1.

In summary, the current approach to expressway development is attracting little interest from the private sector, which in turn creates an over-reliance on SOEs, both of which have adverse implications.

The lukewarm interest of the private sector suggests an absence of the robust competition that played a pivotal role in similar programs in other countries by driving down costs and encouraging concessionaires to pursue capital expenditure and operational efficiencies more aggressively. The interim strategy of increasingly relying on SOEs, if continued, will require the government to provide ever more explicit and implicit support to these entities, and to take on more risk.

Box 3.1: Optimism bias or soft budget constraints for SOEs

Private sponsors in PPP road projects are more averse to traffic risk compared to public (SOE) sponsors when bidding for new projects. There are a number of explanations for this situation, including the capacity of public sponsors to spread risk across projects in their pipeline, as opposed to the private (national) sponsors that have few projects or stakes in other projects. This attitude to risk, however, could be also explained by the fact that SOEs operate in a soft budget constraint environment, even when no explicit transfers are made by the government. In effect, this low risk-aversion could potentially lead to non-performing assets (NPAs) in the future, even if current financial performance does not in principle give any cause for concern. And, to the extent that SOEs are mostly financed by government-owned banks, these NPAs may even require some injection of taxpayer money to bolster the capital base of the banks. Unfortunately, the negative consequences of such an approach come to light and are discovered only after several years, i.e. after the construction and loan moratorium periods have ended. It is the anticipated subsidies or the future government rescue efforts that influence the behavior of the SOEs and their government-owned financiers today. The concerns raised here reflect the experience in India, where a similar aggressively implemented road program resulted in disaster in the banking sector and among local project developers, which the Indian Government is still working to resolve.

C. Infrastructure Roadmap

Gol and BPJT will need to strengthen policy-making and planning resources, focusing particularly on developing a robust, fully-funded and phased program. Such a program is a pre-requisite for reducing the funding-related uncertainties associated with the Expressway Development Program, making it more attractive to more prospective investors. Specifically, the program would need to incorporate the following institutions and actions:

- BPJT would identify and make robust estimates of: (i) all key expenditures, such as the cost of land acquisition and the cost of meeting government's payment obligations

- during construction and O&M periods; and (ii) the sources of revenue for meeting those expenditures (e.g. tolls and government support).
- Ministry of Finance (MoF) and the Ministry of Public Works and Housing (MPWH) would identify options for bridging the gap between likely costs and current sources of revenue. These options could include, for example: (i) direct support from public budget; (ii) direct and indirect user charges, such as levying a special tax on fuel, and tolling more sections of the National Road network; (iii) revenue from Land Value Capture; and (iv) securitization of net surplus, if any, from the existing SOE-owned toll-road concessions.

- MoF would explore mechanisms in the medium-term to ensure that the support from such instruments is reliable and credible (e.g. ring-fencing the revenues from the special tax on fuel into a non-lapsable road fund¹¹) over the entire period of implementation of the EDP.
- Encourage BPJT to further develop a detailed action plan for implementation of the various phases, delineating the steps to be taken with respect to planning, preparation (land acquisition, preparation of detailed business cases etc.), procurement, and post-award management of concessions. For example, while land acquisition and procurement is in progress for the Phase I roads, screening and preparation of the roads in the subsequent phases should progress through the preparation of Outline Business Cases or Final Business Cases, as needed, to enhance the quality of project preparation.
- Establish robust procedures for tendering new toll roads and recycling existing road assets, which provide adequate time to perform due diligence to assess viability of projects, in particular to ensure international standard traffic and technical studies. Bid packages should be prepared after consultation with the market, to ensure international standard bid processes and contract terms. Time should be allotted to engage with potential investors, to ensure a broader scope of investors and mobilization of foreign investors and financiers where appropriate.
- MoF and Ministry of SOEs (MSOE) establish a governance structure to provide incentives for a commercially prudent behavior of SOEs in bidding for and implementing projects. Once the government and BPJT have created a robust and credible enabling environment for private sector participation, there still remains a notable risk of SOEs undercutting private sector bidders, mainly on the strength of any unfair advantage they may continue to enjoy in terms of direct and/or indirect subsidies (or soft budget constraint in general). If SOEs are not able to act prudently, the government may consider excluding them from at least a few projects to: (i) provide a truly level playing field for the private sector; and (ii) ascertain the efficiency improvements that they can achieve in terms of reduced time and cost overruns.

The GoI and BPJT should continue ongoing efforts to refine the Concession/Guarantee Framework. BPJT, IIGF, and MoF have made significant progress over the last decade in raising the level of the toll road PPP concession terms. In addition to the land acquisition (including process to receive reimbursement) and subsidy points raised above, the key remaining omissions

from good industry practice relate to: (i) default and early termination events, and cure periods for the settlement of actions and payment compensations, if any; (ii) compensation for termination to ensure coverage of outstanding debt and related obligations (e.g., breakage costs); (iii) compensation for delays, relieve events, and changes in scope for Material Adverse Government Action; (iv) dispute resolution; (v) strength and scope of IIGF and MoF guarantees; and (f) provision for direct agreement between BPJT and lenders to cover customary lenders' rights (e.g., step-in, notices and cure periods, concession assignment/security, etc.).

BPJT should develop a comprehensive program for building its own capacity to manage its growing mandate and responsibility, specifically covering the areas of process improvements, organizational structure, and human resources development.

The role of BPJT is expected to become more significant and complex with the growing importance and share of toll roads and PPPs in building and managing critical elements of the road network, and with the construction of new expressways. Experience elsewhere suggests that such a program, to be effective, should simultaneously target improvements in several key areas including: (i) project planning, preparation, and management; (ii) resource planning; (iii) asset management; (iv) safety; (v) corporate governance; and (vi) research, training, and capacity building. Such a program is also likely to entail a substantive overhaul of organizational processes as well as structure.

The MoF and MSOE could provide assistance to SOEs in recycling capital by selling cash flows or concessions. As noted above, SOEs can accept risks that private developers cannot. Helping SOEs monetize their existing assets through the sale of assets and/or securitizing revenues can free up capital to invest in roads that would otherwise not be developed. Discussions with domestic and international road developers indicate a high level of interest in the Indonesian roads sector with substantial funds to be raised, if SOEs are willing to sell commercially viable assets and BPJT were willing to amend concessions to address the key deficiencies noted above. The outcome of the recent program for Toll-Operate-Transfer (TOT) in India (see Box 3.2) could serve as an example. Indonesia is currently developing a similar scheme, known as "Limited Concession Scheme". A regulation implementing this scheme is meant to be approved early in the second half of 2018.

¹¹ Road funds could be used to securitize revenues for availability payments and to provide comfort to investors on fund availability. The duration of such fund scheme should be in line with the policy objectives.

Box 3.2: Asset recycling for national highways in India

In November 2016, the National Highways Authority of India, under the aegis of the Ministry of Road Transport and Highways, initiated the implementation of asset recycling in India, with 75 operational road projects being bid out under the toll-operate-transfer (TOT) model. Under this model, highway projects which have been operational for at least two years, and which have been generating a steady stream of revenue, are to be leased out to large-cap investors for carrying out O&M operations in consideration of the highest bid upfront concession fee. Results for the first round of bidding for the much-awaited toll-operate-transfer model projects have been announced and, much to the NHAI's excitement, the resultant winning bid has been well above expectations. On a per-km basis, while the NHAI expected a value of Rs 9.67 crore per km, the result was 55 percent higher at approximately Rs 15 crore per km.



III. The Airport Sector

A. Sector context and performance

Angkasa Pura 1 and 2 are the only commercial entities operating airports in Indonesia.

Of the airport network comprising of 298 aerodromes, Angkasa Pura 1 (AP1) manages 13 airports in Eastern Indonesia and Angkasa Pura 2 (AP2) manages another 13 airports in Western Indonesia (see Figure 3.3). In addition, the Directorate General of Civil Aviation operates 168 civil airports, while regional governments operate 44 regional civil aerodromes. Furthermore, Tentara Nasional Indonesia is responsible for 58 military facilities. AP1 and AP2 are SOEs, which are run independently of each other.¹² The government has outlined ambitious plans for airport development. In April 2014 the government announced its intention to build 62 new airports, particularly in the eastern regions.¹³ In 2017, the Minister of Transport further noted the intent to open new gateways by adding 15 new international airports to the current 39 by 2019. Concurrently, the government has expressed the

intention to modernize and extend the existing infrastructure.¹⁴

According to the traffic statistics published by AP1 and AP2, airports under their management catered for more than 90 percent of the country's total commercial passenger throughput in 2016.¹⁵

Jakarta and Bali airports, which combined represent approximately 45 percent of the country's total traffic, grew in line with the other airports in the region between 2008 and 2016. Jakarta Soekarno–Hatta grew at a 7.8 percent and Bali-Denpasar Ngurah Rai at 11.3 percent, servicing 58.7 million and 20.0 million annual passengers respectively (2016). Within the same period, Kuala Lumpur International experienced an 8.4 percent compound annual growth rate (CAGR), Bangkok Suvarnabhumi 4.7 percent, Ho Chi Minh Tan Son Nhat 13.5 percent, and Manila Ninoy Aquino 6.4 percent.¹⁶

¹² Source: Angkasa Pura 1 website and Angkasa Pura 2 website.
¹³ Source: Routes News, March 2015.
¹⁴ Source: ITB Berlin, March 9, 2017.
¹⁵ Source: Angkasa Pura 1 Annual Report 2016.
¹⁶ Source: Airports of Thailand traffic statistics; Manila International Airport Authority operational statistics; Malaysia Airports Holding Berhad operating statistics; Airports Corporation of Vietnam

Figure 3.3: A map of Indonesia showing the airports operated by AP1 and AP2



Source: Developed with information from AP1 and AP2

According to IATA,¹⁷ Indonesia is one of the top five fastest-growing markets for additional passengers over the next 20 years and its total passenger traffic is expected to grow strongly at 5.0 percent between 2014 and 2034.¹⁸ Higher growth rates were recorded at other principal airports in the Indonesian network. Such is the case of East Java Juanda International Airport, South Sulawesi Sultan Hasanuddin International Airport, North Sumatra Kuala Namu International Airport, East Kalimantan Sultan Aji Muhammad Sulaiman Airport, Yogyakarta Adisucipto International Airport, and Batam Hang Nadim International Airport. All these airports doubled, and in some cases tripled, their passenger traffic levels between 2008 and 2016.¹⁹ However, the largest project is being built in West Java, where at a cost of USD 800 million, the airport of Kertajati International Airport is expected to be operational before end of 2018.

Indonesia's international connectivity is strongly concentrated in Jakarta and Denpasar-Bali, which combined represent 79 percent of its international seats. Together with Medan and Surabaya international airports, these four-entry points account for 91 percent of Indonesia's international seats. Some 25 percent of Indonesia's international traffic enters through Singapore, 23 percent through Kuala Lumpur, and 5 percent through Hong Kong. Due to the lack of a strong national carrier, connectivity to

the rest of the world is very much dependent on external international hubs. In fact, Singapore's traffic accounts for almost a third of the traffic into Jakarta, 18 percent of the traffic into Bali, and 38 percent into Surabaya (see Figure 3.4). This network pattern places additional stress on the country's main gateways, particularly on Jakarta.

The SOE Garuda Indonesia, the national flag carrier, has been facing financial problems for years. The airline, which serves 86 destinations in 13 countries, predominantly in Asia and the Middle East, with a fleet of 144 aircraft, registered losses of approximately USD 99.1 million in the first quarter of 2017. Instead of focusing on routes in Asia, such as destinations in India or China, the management seems to have embarked on an expansion into long haul destinations. In fact, during the last two years, the airline has been increasing capacity on its international and regional routes, rather than on its domestic and short haul destinations, a strategy that is risky and costly.²⁰ Following the report on its losses, the airline announced that is reassessing up to twenty of its unprofitable routes in order to determine how to create efficiencies, whether through aircraft changes, network alterations, or scheduling modifications.²¹ Any strategy drawn up by the national carrier will have to be consistent with the availability of sufficient airport infrastructure to accommodate growing demand.

¹⁷ Source: IATA Air Passenger Forecasts Global Report – April 2015.

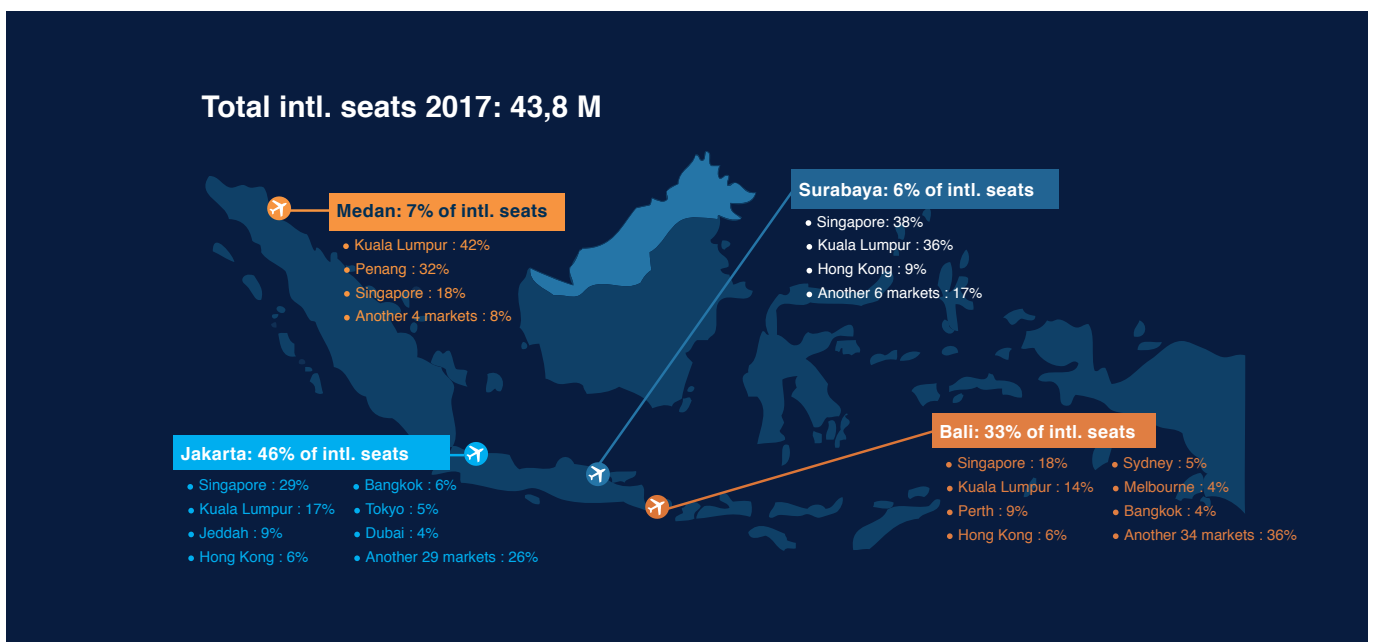
¹⁸ Source: Routes News, March 2015.

¹⁹ Angkasa Pura 1 and 2 annual reports, Direktorat Jenderal Perhubungan Udara, Regional Kompas, Routes News: BPS Provinsi Sulawesi Utara, – "Air Traffic in Indonesia sees Exponential Growth."

²⁰ CAPA, Center for Aviation. "Garuda Indonesia 2017 outlook: Should avoid being dazzled by long haul—instead leverage partners." March 2017.

²¹ Ch-Aviation, "Garuda considers route optimization after 1Q loss of USD 99.1m." June 2017.

Figure 3.4: Shares of total international seats (key entry hubs) flying into the country and the percentages of traffic from the international hubs to which they are connected



Source: Developed with information from Official Aviation Guide.

Indonesia’s domestic network is concentrated in Jakarta, the country’s main domestic hub for Garuda Indonesia and for at least another eight carriers.

This airport accounts for 56 percent of the country’s total domestic passenger arrivals and departures, followed by Denpasar-Bali, responsible for 10 percent. The country’s geographical characteristics and elevated population levels (258 million people in 2015²² concentrated in the central districts of the country – Jakarta, Banten, Yogyakarta, Bali, Java Timur, Java Tengah, and Java Barat) are key factors that have contributed to the development of a considerably sized market for domestic air transport. According to Official Aviation Guide (OAG) data, the size of the domestic market in Indonesia is almost equal to that of Japan (142.3 million domestic seats in 2017) and almost twice the size of Australia’s (79.1 million). Just 12 routes account for 40 percent of the domestic capacity available (see Figure 3.5), while another 283 routes make up the remaining domestic seats. The availability of capacity at Soekarno–Hatta is, therefore, essential for the development of the domestic network.

²² World Bank Database. Population, total per country.

²³ The airport apron is the area of an airport where aircraft are parked, unloaded or loaded, refueled, or boarded.

The role of low-cost carriers (LCCs) in air traffic development in Indonesia continues to grow because of increasing demand in the domestic market. LCCs are building traffic volumes by increasing the access of the local population to air travel through lower fares and continuously expanding routes by identifying city pairs with substantial traffic potential. Because of the way in which the population is distributed throughout the archipelago, and the patterns of demand that concentrate traffic on Jakarta, many LCCs rely on Jakarta’s infrastructure to base their fleets. Lion Air, Sriwijaya Air, Wings Air, Indonesia Air Asia, Batik Air, Airfast Indonesia, and a few other smaller carriers use Soekarno-Hatta Airport as their main operational base.

The growth of LCCs will continue to put pressure on the existing airport infrastructure, adding operational capacity in terms of runways and taxiways, aprons, and terminal buildings. The success of the LCC model will depend on the capability of the infrastructure to respond to efficient operations including fast turnarounds, dependent on lower delays in landings and take-offs, as well as in the availability of apron capacity.²³

Figure 3.5: The main domestic routes for air travel in Indonesia in 2017



Source: Developed with information from OAG.

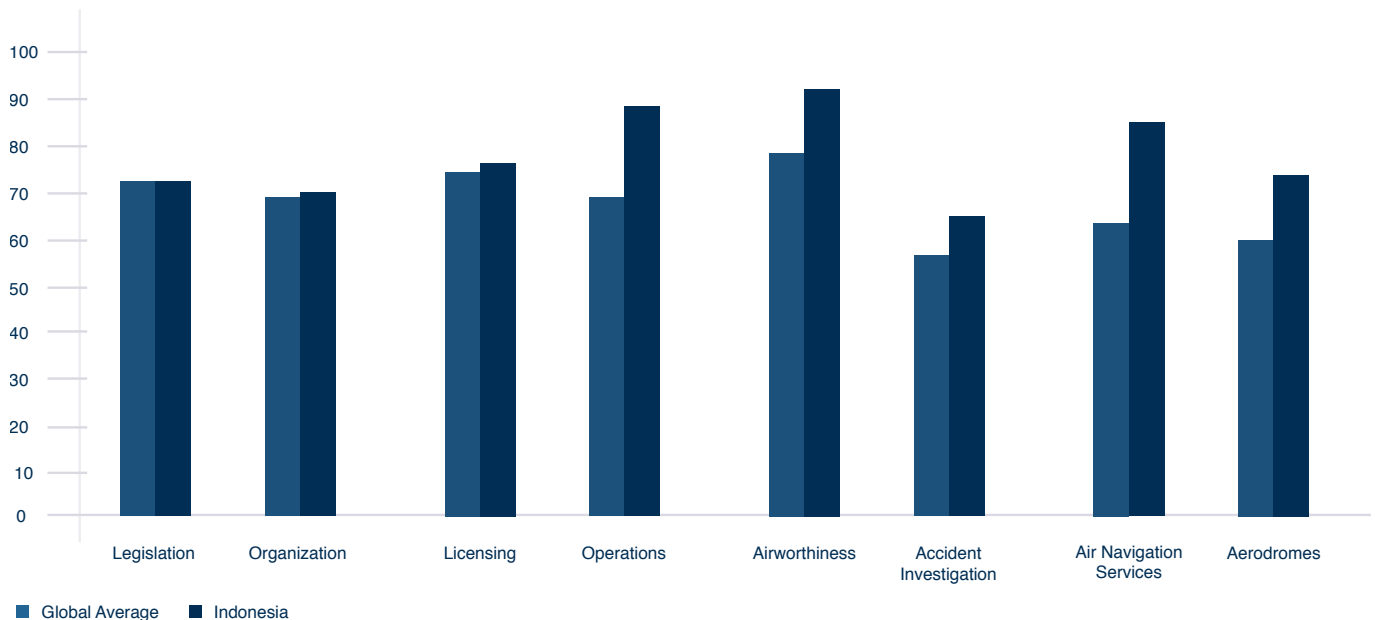
B. Sector environment

The rapidly expanding demand for air transport, boosted by the upcoming ASEAN Open Skies Policy, already exceeds the capacity of many Indonesian airports, fueling the need for expansion and development of new airports. Air transport movements in the country are mainly constrained by capacity at Jakarta International Airport, which was originally planned to serve 22 million passengers annually but which in 2016 processed 58.7 million. Projections developed by IATA estimate that the airport's traffic should have grown three-fold between 2010 and 2015.

As the main international gateway and domestic hub, capacity restrictions at Jakarta have also played a role in constraining the development of the domestic market.

The last Safety Oversight conducted by ICAO in 2017 identified issues to be improved. While Indonesia demonstrated a respectable level of regulatory compliance with respect to the airports and air navigation services infrastructure, the country slightly underperforms in terms of legislation.

Figure 3.6: ICAO-USOAP safety audit results 2017: Indonesia



Source: ICAO USOAP Interactive report, Last mission audit: 2017

To date, the Ministry of Transport (MoT) has played a limited role in setting and enforcing service standards and regulating fees and charges. Since 1999 airport service charges have been conditional on the level of service (LOS) provided by AP1 and AP2. However, it was only in 2015 that a formal written agreement was signed between the MoT and the airport operators, setting fees and charges in relation to LOS targets and defining penalties against the operators for underperformance. Only once, in the same year, were penalties enforced. The LOS at many airports, particularly at Jakarta Soekarno–Hatta, has deteriorated significantly.

Although AP1 and AP2 are independent commercial entities, in practice each one acts as a monopoly in its respective territory. The non-competitiveness of the airport sector may affect the quality of the human resources at its disposal, both at the operator and the regulator levels. Since there is no pressure on the sector regulator to uphold governance, there is no pressure on the SOEs to improve and compete with other commercial players. This creates a vicious circle that results in a non-competitive environment with poor safety and service standards.

The potential lack of regulatory incentives in the context of SOEs operating in a regional monopoly structure need to be deeply assessed, in addition to the capacity of the authorities to enforce regulation. There are different ways where the government can enhance competition and ultimately efficiency in the aeronautical and non-aeronautical sectors. These include the opening of the market to new players or the introduction of yardstick competition between AP1/AP2 (or eventually international benchmarking).

There are only a few examples of private investors playing a significant role in airport services, and these have proven very successful. Since 2013, the non-aeronautical operations of Bali airport (the largest airport owned by AP1) have been outsourced under a management services agreement to a private sector company, GVK, not only significantly increasing AP1's non-aeronautical revenues, but also transforming the experience of the passengers and the quality of service at the airport in a short time. The non-aeronautical revenues of Bali airport represented 40 percent of its total revenues in 2016, a figure in line with private concession airports globally. Conversely, the return on assets was 4 percent.²⁴ Following this successful experience, AP1 is looking for a new business model for the expansion of other airports and development of its real estate in conjunction with private partners as financier and developer. The company has commissioned some studies. The success of this model could open a new window of opportunities for private investors.

Indonesia should adopt PPP regimes for airports, similar to those adopted globally in successful airport programs. The Gol can provide regulatory incentives to both regional monopolies, or restructure their portfolios, to develop some form of PPP program. Under a PPP concession, the state remains the sole proprietor of the asset, while transferring the responsibility for investment, management, and operation to a private operator. Concessions are generally awarded through a competitive public tender, with the concessionaire usually financing the required investments and retaining the management and operation for a term between 20 and 35 years. These models entail some type of lease payment to the government, usually structured under a shared revenue scheme. Currently there are about 200 airports in the world operating under concession agreements, all of which experienced significant transformation in terms of investment without the intervention of treasury funds. Examples of this type of agreement are

airports in the Philippines, Japan, Laos, Myanmar, Cambodia, Greece, Turkey, Hungary, Spain, India, South Africa, Brazil, Russia, Mexico, Peru, Argentina, Uruguay, and Chile, among others. Other forms of PPP involve the sale of shares under a full privatization scheme, such as those found in Malaysia, Australia, New Zealand, the UK, Canada, Portugal, Spain, and France, among others.

Among the main motivations for creating a PPP for an airport is the need to obtain financing to develop aged or inadequate infrastructure, maximize airport efficiency, and improve LOS. Given tariffs and regulation mechanisms that incentivize greater investment and operational efficiencies, the private sector is able to provide the financial resources needed for investments in infrastructure. As it is in the private operator's best interest to increase traffic and revenues, other previously ignored aspects of the business are developed, such as the generation of employment opportunities and new commercial activities. Under a revenue sharing scheme, the private operator has the incentive to use its expertise and commercial focus to increase its income, while the government benefits from the concession of the infrastructure without having to relinquish ownership. The transfer of knowledge and international best practice from the airport operator to the local workforce is another key motivation for the implementation of airport PPPs.

Some countries have significantly transformed their airport systems by implementing concessions on the basis of regional groups; this is an interesting approach that should be considered in Indonesia. Concession airports in Mexico provide a good example of a large-scale PPP involving regional groups and allowing the spreading of market risk. Most of Mexico's airport network (33 airports out of 58) was transferred to the private sector under a concession agreement concluded with three private sector groups: Aeropuertos del Sureste (ASUR), Grupo Aeroportuario del Centro Norte (OMA), and Grupo Aeroportuario del Pacifico (GAP). The airports were bundled into three different groups, each with different traffic risk patterns (business, tourist, and VFR – visiting friends and relatives).

Structuring PPPs in various regional groups of limited size allows them to achieve economies of scale while mitigating the risk of regulatory capture. Another successful example is Peru, where three regional groups of airports (outside Lima) were given in different forms of concession, involving some government participation in the case of non-profitable airports.

²⁴ PT Angkasa Pura I. 2016. Annual Report.

Box 3.3: The Brazilian Airport Concession Program

Until 2012, Brazil's airport system, comprising 66 airports, was operated by Infraero, a SOE, which was responsible for managing, operating, and commercially exploiting the largest airports in the country. By 2012 Infraero was managing a total traffic volume of 193 million passengers, although there was evidence of poor levels of service with an aged and inadequate infrastructure.²⁵

In 2012, with the approach of the 2014 Soccer World Cup and the 2016 Summer Olympic Games, the Government of Brazil (GoB) decided to commence a process of disengagement from the operation and development of airport infrastructure. The GoB ran a public tender for the concession of Sao Paulo Guarulhos, Sao Paulo Viracopos, and Brasilia International Airports under three different contracts. Each concession was awarded to a different airport company, consisting of a consortium of private companies, with Infraero retaining a 49 percent shareholding.

The public tender was clearly successful and the GoB managed to attract internationally recognized airport operators with proven experience. There was a large number of bidders for Sao Paulo Guarulhos and the contract was finally awarded to a consortium incorporating the South African Airports Company under a 20-year concession deal with total assumed investment of USD 2 billion and a total contribution to the GoB of USD 7 billion over the concession period. Sao Paulo Viracopos, in turn, was given in concession for 30 years, assuring investments of USD 3.8 billion and a total contribution to the GoB of USD 1.5 billion. Brasilia Airport was awarded a 25-year period, with investments of USD 1.3 billion and a total contribution of USD 2 billion. In 2014, a second lot of airports was offered to the private sector through PPP schemes, with equally positive results.

Commercial revenues per passenger increased substantially at Brasilia and Sao Paulo Guarulhos after the implementation of their respective PPPs. In 2010, Brasilia International Airport had commercial revenues of USD 1.7 per passenger. In 2016, this value increased to USD 4.5 per passenger, a point-to-point growth of 174 percent. The situation at Sao Paulo Guarulhos Airport was similar, with commercial revenues per passenger growing from USD 5.12 per passenger in 2010 to USD 9.21 in 2016.

Brazil has opted for a progressive concession of airports under a program aimed at transferring most of the 66 airports operated by Infraero to the private sector (see Box 3.3).

In response to capacity constraints, both AP1 and AP2 are undertaking expansion of existing airports while proposals for new airports are being either implemented or under planning. Both SOEs are facing capacity constraints in many airports, including those in Jakarta and Bali, and are planning to take other existing airfields into their operations and to build new ones. For example, the Kertajati International Airport under construction in West Java is to provide a replacement to Husein Sastranegara International Airport in Bandung.²⁶ In Bali, proposals for a new airport in the north of the island have been considered as an alternative to the expansion of Ngurah Rai International, although none of them could be considered feasible or a better alternative to the expansion of the current airport.

AP1 is facing capacity issues in 10 out of 13 airports. In addition, it is taking over five additional airports managed by the Directorate General of Civil Aviation (DGCA) and plans to develop two new greenfield projects. The SOE is seeking private sector participation and is having discussions, through an expression of interest (EOI), with a number of leading firms, such as Vinci, Fraport, GMR, GVK, Haneda, and Incheon. Moreover, the management of AP1 expects to be able to increase competition in the concession process to achieve the best deal.

AP2 is dedicated to expanding Jakarta airport, alongside other projects on its agenda. AP2 is planning to invest a total of IDR 94.9 trillion (USD 6.9 billion) by 2023 to cope with soaring aviation business growth across the archipelago. The majority of the investment will go to Jakarta's Soekarno-Hatta airport with the remainder for airports in Sumatra.²⁷ AP1 budget for 2019 is around IDR 18,8 trillion (USD 1.3 billion).²⁸

²⁵ SClelo – “Eficiência técnica: uma avaliação de aeroportos brasileiros”; BBC News – “Brazil’s airports ‘not ready for World Cup 2014’”; The Brazil business – “A Snapshot of Brazilian Airport Infrastructure.”

²⁶ CAPA Center for Aviation, February 2018.

²⁷ The Strait Times, 7 December 2017.

²⁸ Antara News, February 2018.

The level of investment needed is likely beyond the capacity of the current business model. AP1 and AP2 are confident that they have the expertise to be able to respond to such challenges, including in the case of AP1 bringing in the private sector. Both SOEs have managed to deliver some expansion of capacity using their corporate balance sheet, budget support, and loans from commercial public banks in Indonesia. However, the amount of resources necessary could be beyond the limit of the current business model – even when both companies can still

borrow from the market as they have a relative low debt/equity ratio. Domestic air transport has become essential to providing connectivity both between the large number of islands that make up the country and, given the difficulties in the terrain, within each large island, making it crucial to develop an efficient business model. In this context, it is unlikely that the SOE model will be sufficient to close the investment gap.

C. Infrastructure roadmap

In addressing the increasing financing needs while at the same time creating the right incentives for an efficient airport operation, the authorities should consider the following three key actions:

- MoT should develop an action plan to analyze and reinforce the regulatory incentive scheme in which AP1 and AP2 operate. The plan should include the use of a regulatory asset-based model with yardstick competition between AP1 and AP2 as opposed to, for instance, an efficient (or ideal) airport operator to avoid any collusive practice among the two SOEs. The plan would define a series of policy objectives, measured by KPIs, and targets for aeronautical and non-aeronautical activities benchmarked to regional and international norms. The capacity of the regulatory authorities should be enforced and regulations should be assessed and rectified, if necessary, to ensure proper oversight of SOEs and ensure sufficient incentives to encourage SOEs to raise their standards. The corporate governance of these SOEs and their investment plans should be assessed by independent institutions which should include international airport experts for investment and operational analysis.
- MSOE should institute appropriate financial incentives to maximize return from key assets and ensure that profits are reinvested wisely. Indonesia has a number of large airports (Jakarta, Denpasar, Surabaya, etc.) which should be generating large profits for the government. International/regional benchmarking should be conducted by airport experts to set return targets in order to maximize profits (in addition to meeting operating KPIs to ensure that service levels are not sacrificed). Appropriate return targets would also discourage the SOEs from entering into ancillary businesses such as logistics which might grow revenues marginally but reduce returns and distract management away from the main focus, which should be airport management.
- MoT and MSOE should open the market for private operators in the airport sector. First, develop a credible plan and the enabling legislation to provide incentives or require AP1 and AP2 to adopt a new business model with the private sector. Second, consider allowing international operators to bid for controlling stakes in Indonesia's airports. As in the example of Brazil described above, AP1 and AP2 would retain minority stakes in the airports, allowing the private operators to take the lead in upgrading facilities and providing management and operational experience. Under these schemes, governments have achieved the upgrading of their airport infrastructure through access to foreign and local private sector capital, investing in the standardization of the airports, and addressing capacity growth by improving service levels. Such private investment will continue to be difficult to attract without allowing private bidders to take a controlling stake in the operation. Beyond the Brazilian case, there is abundant international experience showing how governments have managed to increase efficiency and revenue collection by allocating control and ownership to private operators. The private ownership of the largest airports could be increased to maximize the collection of the revenues needed to finance the operation of the least commercial airports in line with good policy and territorial development planning. This would imply a cross subsidy from profit making airports to less viable ones.

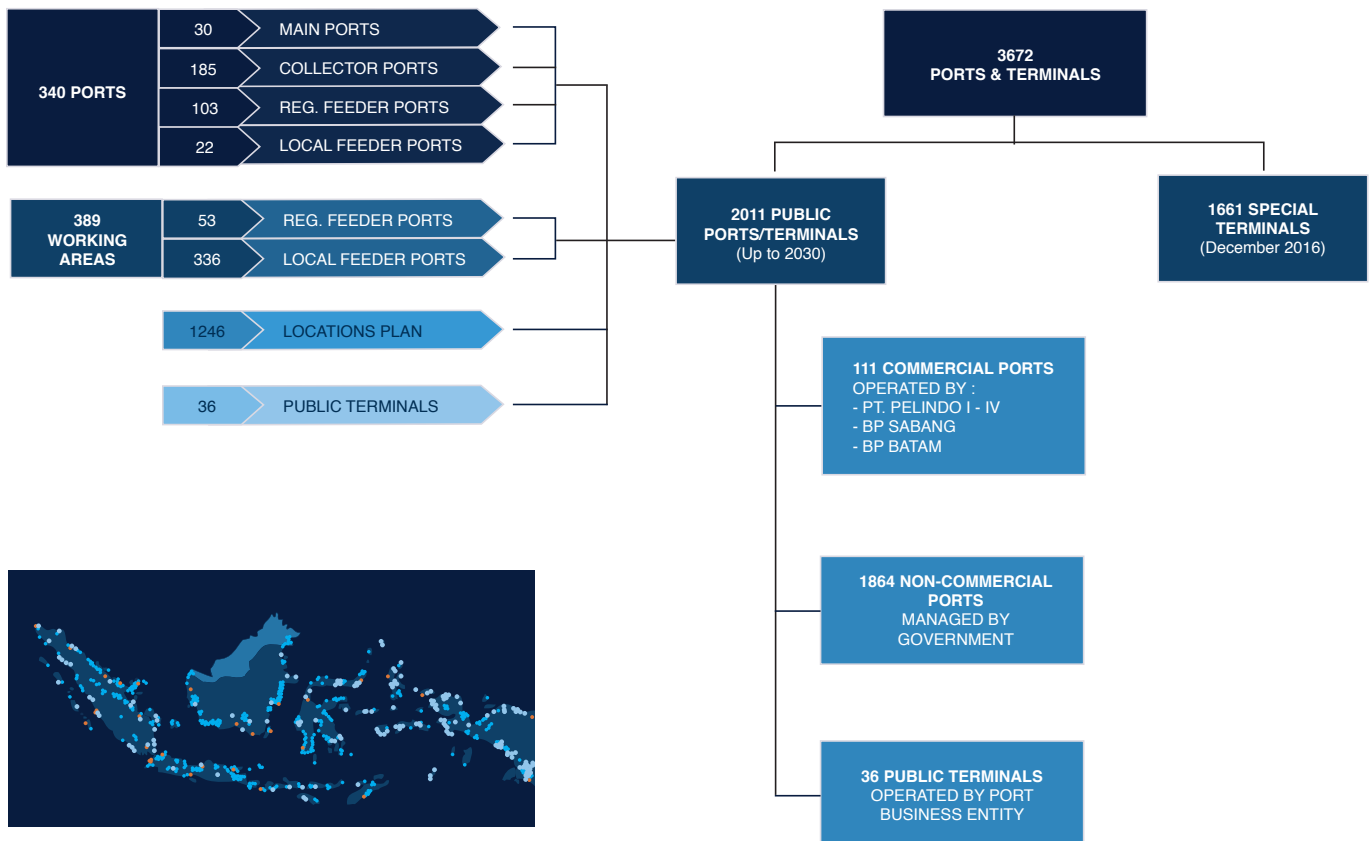
IV. The Port Sector

A. Sector context and performance

As an archipelago nation with thousands of islands, Indonesia relies heavily on maritime trade and has a wide range of ports serving its international trading links and domestic needs. In terms of attracting private sector financing, there are approximately 111 commercial ports that can handle international and domestic cargo. Non-commercial port terminals are largely under the control of the MoT and are maintained for social equity and access reasons. There are also private dedicated ports and terminals, which serve individual companies in a number of sectors, including: fisheries, logging, extractives, oil

and gas, coal, and other bulk cargoes. Of the 111 commercial public ports, the 2016 National Port Master Plan classifies 28 as 'key ports', which have priority for further development (see Annex F, Part B for the list of these 28 ports). In the National Port Master Plan, 5 of the 28 key ports (Jakarta, Surabaya, Medan, Makassar, and Bitung) were also prioritized as hub ports to form a string of hubs along an East-West corridor. The first 4 handled about two-thirds of Indonesia's container volumes in 2015. The fifth was intended to become the hub port for eastern Indonesia, to spur economic and social development.

Figure 3.7: Indonesia's port network



Source: National Port Masterplan, 2016.

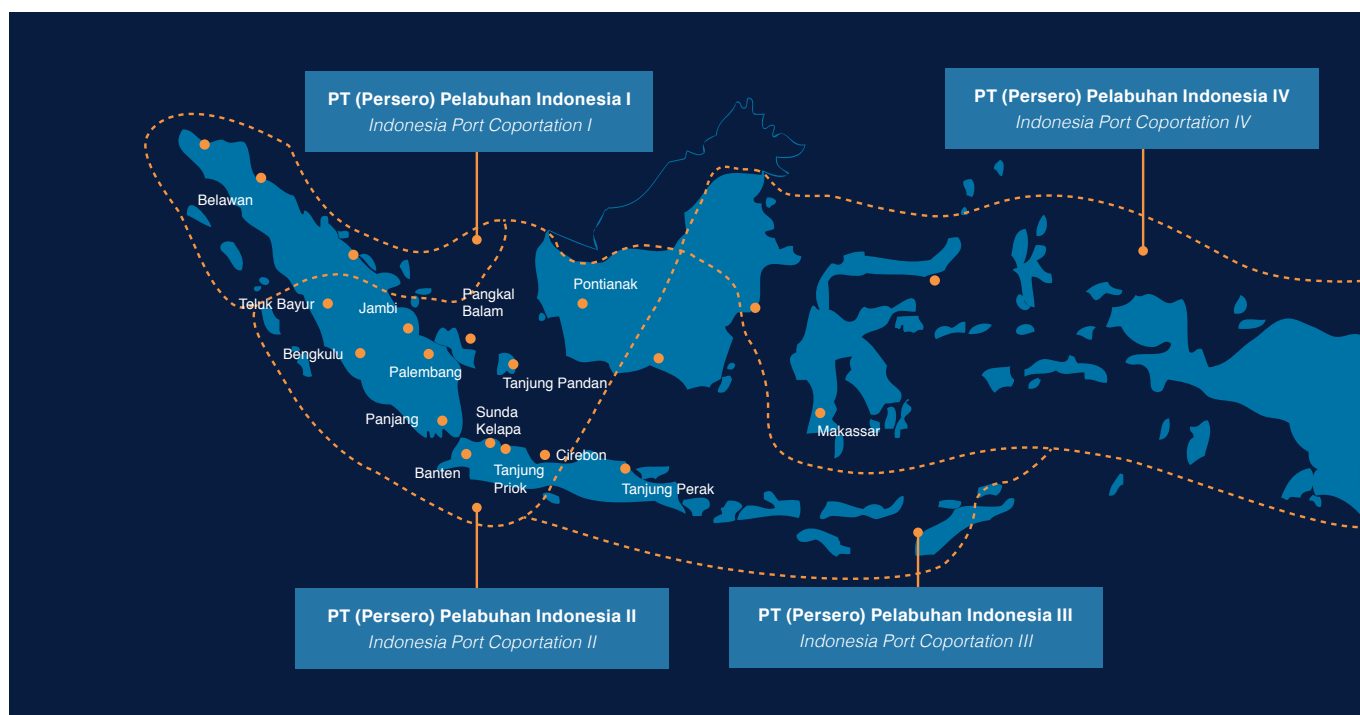
The four state-owned port operators dominate the sector, each controlling a separate region of the country.

Commercial ports are regulated by port authorities and operated by four state-owned enterprises, namely Pelindo I to IV. Each Pelindo operates all the commercial ports in a designated geographical region. Pelindo I operates the ports in North Sumatra, Aceh, and Riau; Pelindo II those in South Sumatra, West Java, and West Kalimantan; Pelindo III those in Central

Java, East Java, Nusa Tenggara, and South Kalimantan; and Pelindo IV those in East Kalimantan, Sulawesi, Maluku, and Papua. The 111 ports are divided into 6 classes: main ports and classes 1 to 5. This refers to a hierarchy of ports only from a network configuration perspective, with the main ports being the largest. The classification affects the staff composition of the port authority and the tariffs applied in the port.

³⁰ Australia Aid (2012) Academic Paper to Support National Port Master Plan Decree.

Figure 3.8: Division of territory between the four Pelindo firms



Source: Dowry Consultancy

Shipping demand is growing rapidly, especially in the container category. The total volume of Indonesian shipping was 1.3 billion tons in 2016, including containers, with a compound annual growth rate (CAGR) of 5.6 percent between 2011 and 2016. The total container volumes for Indonesia were 13.7 million twenty-foot equivalent units (TEUs) in 2016, with a 2011–2016 CAGR of 8.9 percent. It is estimated that Indonesia’s total volume will grow to 2.1 billion tons by 2030.²⁹ Container volumes are expected to grow even faster, to approximately 48 million TEUs by 2030—see Annex F, Part B for forecasted volumes. This analysis focuses on container terminals, given the growing trend of containerization in trade both globally and in Indonesia, and the interest shown by private operators in container ports. More than 50 percent of cargo movement is estimated to be international. Moreover, it is

possible that some of the cargo recorded as domestic is also international (since some domestic cargo is eventually exported through a hub port).

The operational performance of Indonesian ports is viewed as poor, based on feedback from port stakeholders, including the Indonesian National Shipowners’ Association.³⁰ USAID examined data from 19 strategic ports, including berth occupancy rate, vessel turnaround time, and working time, and concluded that port performance was weak;³¹ it should be noted, however, that improvements have been made since. Port infrastructure is, in general, inadequate. A striking example of this is Indonesia’s main gateway, Tanjung Priok, the 27th largest container port in the world, which, prior to the opening of New Priok in 2016, could not handle vessels larger than 5,000

²⁹ Australia Aid (2012) Academic Paper to Support National Port Master Plan Decree.

³⁰ OECD (2012) Regulatory and Competition Issues in Ports, Rail and Shipping.

³¹ USAID (2008) Indonesian Port Sector Reform and the 2008 Shipping Law.

TEU (standard size for any major port). Even though New Priok is able to handle ultra large container ships (about 18,000 TEU), limited draft remains a challenge in the domestic terminals and in other commercial ports throughout the archipelago, especially in the river ports of Sumatra and Kalimantan. Lower-class commercial ports often do not have berths with sufficient bearing capacity to install cranes, with the result that cargo handling operations are slow. Domestic cargo vessels spend over 50 percent of their time in ports. Unfortunately, as many other studies have noted, there is not enough reliable data readily available for operational benchmarking.

Half of the participants in the World Bank's 2016 Logistics Performance Index indicated that Indonesia has low quality port infrastructure and low quality of maritime services. Indonesia was ranked lower than China, Malaysia, Singapore, and Thailand in the World Economic Forum 2016 for quality of port infrastructure, and was also assessed as being below the East Asia and Pacific average (see Figure 3.9).

Indonesia's ports perform poorly relative to global benchmarks.³² Average productivity of ports under Pelindos 3 and 4 is approximately 22 boxes/hour, ranging from 13 boxes/hour at some

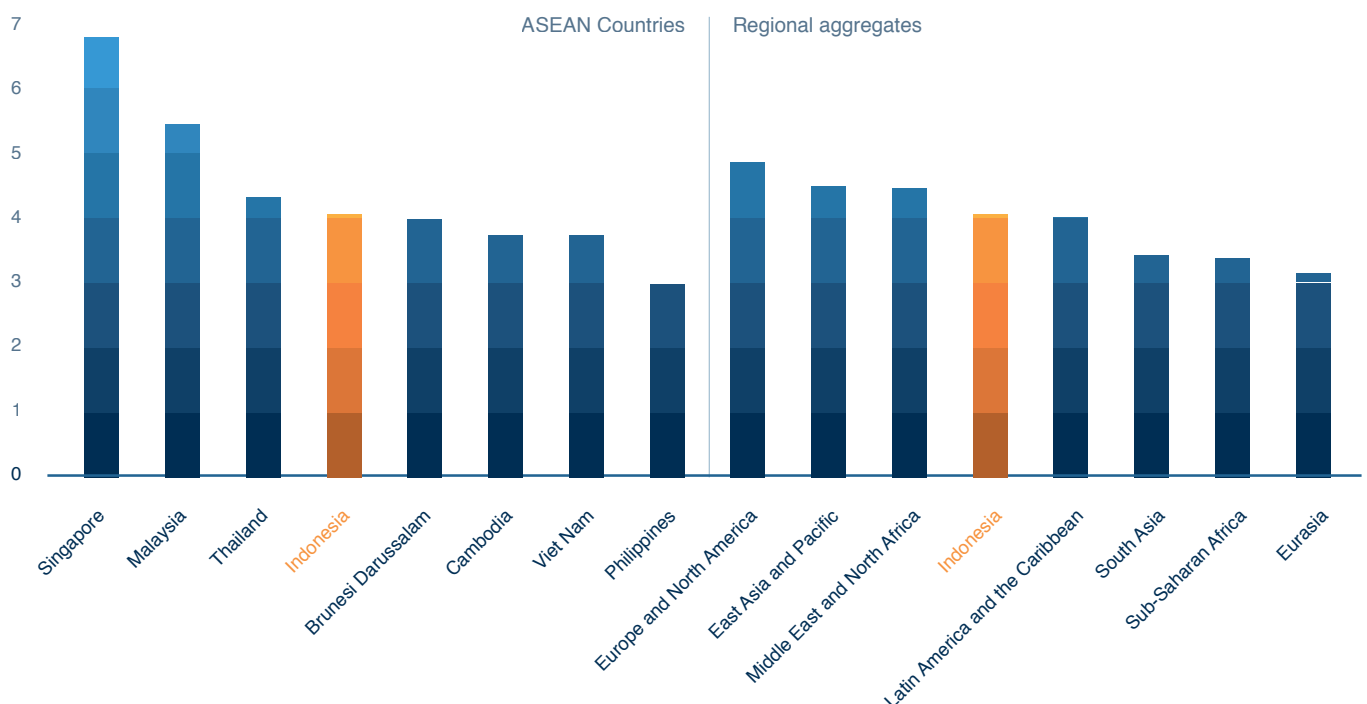
terminals to 29 boxes/hour at dedicated container terminals. There are four terminals in Indonesia operated through joint ventures with international terminal operators. Although performance in such container terminals is on a par with international benchmarks, the performance in lower class ports is concerning. The average vessel turnaround time is about 2.13 days. This is comparable to the slowest tier of ports in South Asia, operating in low competition environments³³ (the global average is about 1.4 days).³⁴ Vessel effective time is only slightly above half at 54 percent.³⁵

There is strong growth in container volumes, and high utilization rates at a few main commercial ports. Jakarta, Surabaya, Medan, and Makassar handled about two thirds of Indonesia's 2015 container volumes. This reflects the commercial importance and infrastructure deficit, especially of a few main ports, which operate at a high utilization of over 80-90 percent— see Annex F for capacity estimates.

In addition to the significant growth in cargo volumes the global trend of increasing vessel size and containerization also requires additional investment in the port sector to accommodate the new technology. Currently, many Indonesian ports are not equipped to take the significantly larger vessels deployed on international trade lanes and, more recently, on

³² 2015 data for key commercial ports (Pelindos 3 and 4).
³³ World Bank (2016) Competitiveness of South Asia's Container Ports.
³⁴ Ducruet, C., H. Itoh, and O. Merk (2014) Time Efficiency at World Container Ports.
³⁵ ADB (2015) Indonesia's Summary Transport Assessment.

Figure 3.9: Quality of port infrastructure



Source: World Economic Forum, Executive Opinion Survey, 2017. The Quality of Port Infrastructure measures business executives' perception of their country's port facilities. Data are from the World Economic Forum's Executive Opinion Survey, conducted for 30 years in collaboration with 150 partner institutes. (1 = extremely inaccessible; 7 = extremely accessible).

some domestic routes.³⁶ It was estimated that a total investment of over USD 47 billion³⁷ would be required up to 2030 for port development, with about USD 17.3 billion required for container facilities alone. About 68 percent of the total port investments could be provided by the private sector, under commercial port terminal concession agreements. The remaining 32 percent of the funding from the public sector would largely be for land provision, common

port infrastructure such as channels, and non-commercial port terminals.

Since the 1990s, nearly USD 33 billion has been invested by the private sector in seaports in developing countries, with 44 percent of these investments in the East Asia–Pacific region. However, there has been no significant private sector investment in Indonesia's port sector.³⁸

B. Sector environment

The Pelindos were created following the corporatization of various public port utility companies in 1992. This corporatization coincided with the introduction of the 1992 Shipping Law that replaced a Shipping Act dating back to 1937. All port assets (including berths, terminals, and land) were placed under the Pelindos as assets, which they then subsequently managed. These management duties included operation of dedicated terminals (including joint ventures, JVs), revenue sharing operations with private stevedores, lease of land to own use terminals (special ports), wet services (pilotage and tugging), construction, and maintenance.

Poor port performance in the early 2000s was attributed to the perception that Pelindos acted as both operators and regulators and were therefore not subject to competition stimulants. In 2008 a new Shipping Law was established introducing the landlord port management model, a model in which the ownership of port land and assets is held by a public port authority, so that operation of the terminal can be offered through concession to the best proposal by the private sector. The newly established port authorities would grant the concessions, while the Pelindos would bid to become operators, alongside other private sector operators. In high-volume ports, it was expected that the concession model would result in intra-port competition, with multiple container terminals competing to provide standardized container handling services. However, the implementation was incomplete as all port assets had been placed under the ownership and management of the Pelindos since 1992 and, in consequence, the port authorities have so far not been able to offer any attractive operational concessions to meet market expectations.

Under the 2015 port regulation,³⁹ port business entities can receive concessions for new developments without tender, if the land is controlled by the business entity and the investment does not require state budget.

The regulation provides that for concessions for ports developed and/ or operated before the 2008 Shipping Law, direct assignment shall be conducted. These include state-owned enterprises and non-state-owned enterprises.

These regulations have resulted in concessions being granted almost exclusively to the Pelindos, relating to port infrastructure in two categories: i) Build-Operate-Transfer (BOT) of new ports; and ii) operation of existing infrastructure:

- For the BOT concessions of new port developments, the four Pelindos started development of new port infrastructure in their key ports for example in Jakarta, Surabaya, and Makassar. These developments are being carried out through BOT concessions of 60+ years, which means that the assets will only be transferred to the port authority for subsequent tendering of operating concessions after 60+ years. It should be noted that the Pelindos started project preparation and, in some cases, already began construction before obtaining the concession. In the case of Teluk Lamong/ Surabaya, the 72-year concession was granted one week prior to the official opening by the President on the 22nd of May 2015. This approach would be unimaginable with private sector participants.
- For the concessions to operate existing port infrastructure assets, the port authorities issued concessions allowing the four Pelindos to continue operating their assets for 30 years, with the exception of Pelindo

³⁶ In this regard, domestic container shipping should be seen as an extension or integral part of intra-asia services. Some domestic routes are operated with larger ships than regional international feeders.

³⁷ Australia Aid (2012) Academic Paper to Support National Port Master Plan Decree.

³⁸ USAID (2008) Indonesia Port Sector Reform and the 2008 Shipping Law.

³⁹ Government Regulation No. 61/2009 as amended by Government Regulation No. 64/2015.

II, which was given a 50-year concession. This concession allows for a continuation of business as usual, including the honoring not only of pre-2008 agreements on the leasing of land for own-use terminals and revenue sharing agreements with private stevedores (mainly in domestic terminals), but also of existing JV operating agreements, such as with DP World in TPS Surabaya Terminal. In contrast to the BOT concession, these four concessions do not specify the investments to be made by the concessionaire.

In recent years there has been a trend of assigning concessions for new developments at key commercial ports directly to Pelindos. As described above, Pelindos were directly assigned the concession to manage new developments in hub ports, for example Jakarta Kalibaru and Surabaya Teluk Lamong. Private sector stakeholders believe there will be continued direct assignments. Medan's Kuala Tanjung Port is one of the five key hub ports and is on the KPPIP/Bappenas PPP 2017 lists to be tendered through the competitive PPP process. However, it was reported that Pelindo I signed agreements with the Port of Rotterdam and Dubai Ports to develop Kuala Tanjung Phase I. In addition, stakeholders advised that Presidential Decrees could be enacted for the direct assignment of other main ports in the Port Master Plan, i.e. Patimban and Sorong Ports (both currently on KPPIP's and Bappenas PPP lists).

Regulations introduced between 2008 and 2015 have not met the expectations of the market in terms of new port tenders for the private sector. The concession agreements to the Pelindos, which range from 30 to over 60 years, force all investors in public commercial ports to recognize the dominant position held by the Pelindos.

As a result, the primary method of financing commercial ports in Indonesia has been through SOEs. These companies can fund operations through their own balance sheets. Some SOEs also issue bonds, which diversify their sources of finance, but it should be noted that the domestic market is limited and market perception is that there is an implicit Gol guarantee to support SOEs as they are fully owned by the government. For example, when rating Pelindo II's bonds in 2015, Moody expressed the view that Gol would provide a high level of support, in the event that extraordinary financial support was required.⁴⁰ Such bonds are also supported by the SOE banks, something which could place an

excessive burden on the government. Pelindos also request periodic equity injections and VGF for specific ports, if they view projects to be non-commercially viable (as Pelindo II could do in the case of Sorong port).

Given the operational dominance of SOEs, there is limited opportunity for equity participation by private sector companies, except for those operating jointly with Pelindos. These include: (i) the Jakarta International Container Terminal (JICT) and the KOJA Terminal, operated by a JV between Pelindo II and Hutchison Port Holdings; (ii) Jakarta's Kalibaru Terminal Phase 1, operated by a JV between Pelindo II and a consortium led by Mitsui; and (iii) Surabaya's Tanjung Perak, operated by a JV between Pelindo III and Dubai Ports World. In 2017, it was reported that Dubai Ports World announced it will be leaving the contract in 2019, due to an inability to agree with Pelindo III on a commercially viable extension.

The Pelindos own a majority stake in all these JVs. In 2014, Pelindo II extended its JV concession with global operator Hutchison by 20 years for the largest container terminal in Indonesia, JICT. This extension was, however, on condition that Pelindo II become the majority shareholder and doubled the annual rent payments from Hutchison (from USD 60 million to USD 120 million), in addition to a one-off, upfront payment of USD 250 million. Foreign private sector companies are only able to invest directly in a port up to a maximum shareholding of 49 percent. Some private sector investors expressed the view that this is not ideal, as port investments are capital-heavy and minority shareholdings pose risks. This may be more acceptable in a few key main ports where strong demand mitigates some of this risk, but may not be attractive for other commercial ports.

The port sector in Indonesia needs to finance large capital expenditure programs against a background of restricted public funding. International experience shows that SOEs may have only a limited capability to solve these issues, unless they can operate on commercial terms and in a competitive environment similar to other private companies. There are many private companies that have invested in developing cutting-edge technology and can extract efficiencies from international operations. Good practice and technology can be transferred from such companies to local companies. It is understood that, generally, the Pelindos do not pay an upfront concession fee, but instead share around 2.5 percent of their gross revenue. Experience shows

⁴⁰ Moody's Investors Service (27 April 2015) Moody's assigns definitive BAA3 to Pelindo II's senior unsecured bonds.

that revenue sharing eventually increases when activities are awarded to private actors through tendered concessions. Moreover, the exercise of preparing projects for award to private operators can also serve as a market test for analyzing the commercial viability of projects and contribute to better identification of Indonesia's investment needs.

The government has expressed a willingness to increase the role of the private sector in Indonesia. Some ports have been included in the PPP program, but the implementation of the program does not indicate that major progress is being made. In recent years, only one major development, Jakarta's Kalibaru Terminal Phase I was awarded to the private sector, to be operated in a JV with Pelindo II.

C. Infrastructure roadmap

The following roadmap is intended to improve port infrastructure performance and financing in Indonesia by (i) enhancing the efficiency of the existing port stakeholders, given that the Pelindos are currently operating almost all the commercial ports, and (ii) improving the enabling framework for more private sector participation. These proposals, such as strengthening the separation of functions of regulators, SOEs and private sector companies, would require strong support from the Gol leadership to be effective.

(i) Enhance the efficiency of the existing port stakeholders

Strengthen the capacity of the port authorities to execute their duties independently of operators. The port authorities expressed unfamiliarity with the instrument of concession agreements, which are a key feature in the international landlord model. The agreements manage the relationship between the port authority and the private sector concessionaire. The agreement should clearly state the obligations on each party and the penalties for failing to meet them. Concession agreements, in line with international standards, would also attract international private sector investors.⁴¹ Furthermore, the responsibilities of the fairly new port authorities include duties such as master planning, developing common port infrastructure, and ensuring standards, which were previously the responsibility of the Pelindos. The more equipped the port authorities are to discharge their duties, the more independent they will be in executing their regulatory roles. It may also be challenging for port authorities to penalize incumbents if there are few alternatives to operate the ports. New private sector stakeholders may also be concerned about the close relationship between the Pelindos and the port authorities and if

common infrastructure would be fairly allocated to new entrants.

Improve the port authorities' capability to monitor and enforce KPIs of operators. The port authorities do not collect port operating data directly and request the Pelindos to report their operational performance. It is therefore difficult to independently monitor whether the operational KPIs have been met. MoT has defined some operational KPIs for the various ports. Port authorities can suspend the activities of the port operators or revoke their concession agreements if they do not meet KPIs. However, it is understood from various port sector stakeholders that, in practice, there are also no strict, immediate penalties. It is also difficult for the port authorities to suspend Pelindos, as there are few alternative port operators capable of quickly taking over the operation of Indonesian ports. Co-operation with international port operators experienced in establishing global benchmarks should lead to increased operational efficiencies.

Incentivize state-owned enterprises to work with private companies via KPIs and incentives. Stakeholders in the transport sector advised that the ministry responsible for SOEs mainly assesses SOEs on the basis of their financial revenue indicators, placing less emphasis on their operational indicators. One KPI that could be considered is the amount of additional private sector finance leveraged or attracted by SOEs. Using only limited state or SOE finances has an opportunity cost and may not be maximizing the returns to public funds. Assets with sufficient demand could be monetized through tenders. Limited public funds could then be channeled to economically strategic but non-commercially viable projects. SOEs could be incentivized to do so with state funds. SOEs request periodic equity injections from MoF for specific projects they do not deem

⁴¹ The concession agreements should state the penalties for failing to meet operational KPIs and spell out the investment obligations or maintenance targets for the existing assets. Concession fees and revenue sharing arrangements with the government should also be set out in the agreements. Government guidelines should clearly determine fees/revenue sharing arrangements that are equitable for both the government and concessionaire.

commercially viable. The award of funding could be contingent on the attraction of private sector financing. For example, the MoT and the MSOE could be awarded more funding by the MoF, if specific financial and operational KPIs (in particular, internationally benchmarked returns) are met across the SOE's portfolio of ports to ensure that the SOE is maximizing returns and reinvesting appropriately.

Review the profit structure of Pelindos' JVs to ensure alignment with the private sector.

It was reported by Moody's in 2015 that Pelindo II would receive a one-off, upfront payment for the extension of the concessions for JICT and KOJA. Private sector companies also reported that, in previously awarded concessions, Pelindos sometimes obtained a fixed lease fee from their concessionaire partners which means the Pelindos get fixed returns and do not have incentive to maximize profits for the JV. Alternatively, concession terms structured to provide the Pelindos most of their returns through the JV's profits would bring the Pelindos in line with their private sector JV partners, in terms of operational and financial efficiencies. JV profit maximization would also encourage the JV to continue to invest, and to upgrade the infrastructure and equipment for future JV profits.

Explore transforming the port authorities into Public Service Bodies to operate more effectively. Port authorities are not allowed to retain earnings, with the result that the port authority cannot directly commit to investments in common-user infrastructure, for example channels, because it is dependent on the budget cycle and fund availability of the MoT. Also, Port authorities can only be staffed by civil servants; the lower the class of the port, the lower the corresponding echelon levels of the staff working there. This makes it difficult to attract non-civil servant staff with more developed skills in forecasting, designing, financial modeling, etc. The possibility of transforming the port authorities into Public Service Bodies (BLU) should be explored. Such bodies would be allowed to retain earnings, attract specialized staff (as in national hospitals and universities), and would be subject to different procurement procedures that allow the entity to execute activities independently of the MoT.

(ii) Improve the enabling framework for more private sector participation

Strengthen the new port projects offered to the private sector under the PPP Program. A survey of the ports included in the PPP Program revealed sometimes conflicting critical information about the PPPs. To address these issues, the PPP Program could be improved. Detailed examples are provided in Annex F, Part A.

- Resolve conflicting information in the various lists of PPP projects being offered. When the projects were compared, in some cases the investment requirements and amounts for the same ports were different.
- Show how the operation of some of the PPP projects would take account of existing ports nearby to avoid overcapacity. To indicate clearly the phasing of the investment required, with future phases being built in parallel with actual growth demand.
- Make projects more attractive to private sector investors by providing critical assurances such as land acquisition, environmental impact assessments and government financial support.
- Be clear about the status of PPP projects in the lists. Private sector stakeholders believe some of the PPP projects are already/will be directly assigned to SOEs and therefore may not be available for full tender via the PPP process.
- Clarify the role of Pelindos in some PPP port concessions. Many of the PPP projects on the KPIP website, such as Sorong and Makassar, also list the Pelindo as the project manager. It is unclear whether any potential private sector investor would have to partner with the relevant Pelindo under such concessions. For some of the ports, the advertised concession periods are as long as 70 years. Some international port tenders are set at around 20-30 years to give the government the flexibility to change a concessionaire in the event of non-performance.
- Boost investor confidence by avoiding sending out conflicting signals about the ports. For example, it was reported in the Jakarta Post in 2017 that the government would delay the introduction of Kuala Tanjung Port as the maritime hub in western Indonesia. The view of the Indonesian Logistics Association was that the unclear direction of the long-term plan was causing investor uncertainty.
- Evaluate private investment in projects on the project's own merits rather than requiring one model for all ports. Investors have indicated that the JV agreement reached between Pelindo II and Hutchison for the JICT concession extension is being used as the benchmark for all other port JVs with SOEs.

The JICT case is a unique one which only applies to a port as commercially attractive as Jakarta. Jakarta is and will continue to be by far Indonesia's leading port, so SOEs in other locations and in other sectors cannot be expected to match JICT's terms.

Avoid crowding out the private sector, by reconsidering the awarding of direct assignments to SOEs. There has been a recent trend of awarding direct assignments to SOEs as described above, for example Jakarta and Surabaya. There are also reports of Pelindos developing ports such as Kuala Tanjung and Patimban. Some private sector companies, which took part in meetings, expressed interest in investing in the port sector, but viewed the process as not conducive, as it crowds out private sector participation via full competitive tenders. Some private sector companies are also concerned that, if they were to enter into partnerships with SOEs under direct assignments, there could be a risk that these assignments could be reversed if they were found to be non-compliant with the 2008 Shipping Law which mandated full tenders. In ports like Jakarta, the private companies had to form a JV with the incumbent Pelindo. There was no competition among the Pelindos for the terminal operation. International best practice is not to mandate compulsory partnership with a specific SOE.

Introduce open, competitive bidding processes for financially viable ports, so that the government can select the best operator.⁴² Some government stakeholders held the view that direct assignments to SOEs were required to expedite the process, given the slow progress of PPPs to attract private sector participation. The stakeholders also thought that direct assignments to SOEs require significantly fewer levels of approval. This shows, however, that improvements are required to the PPP process. Awarding the development of new ports to SOEs also entails financial, construction, and demand risks. Historically, the government has also been expected to provide financing to SOEs in event of shortfalls, which places a financial burden on the government. Through PPPs, private investors in the ports sector are expected to bear some of these risks. Ideally, in the landlord port model adopted by Indonesia it should be the MoT or the relevant port authority, and not the incumbent operator, that manages the concession tender.

Consider divesting SOEs of their upstream and downstream businesses in the value chain, to avoid discouraging the private sector. The Pelindos have subsidiaries which operate port-related businesses, such as pilotage, marine, port equipment, and logistics services, further extending their presence in the port sector. International experience has shown that vertical integration and dominance in a sector also creates barriers to private sector participation, as new entrants need to rely on the upstream and downstream suppliers owned by the competitor. In the landlord port model, navigation-related services, such as pilotage and towage, can be provided by the port authorities or other private sector companies. Furthermore, globally, operations such as port equipment and logistics services are frequently undertaken by private sector companies. Such businesses could be divested by the SOEs to focus their limited management and financial resources on infrastructure that is strategically important to Indonesia, but where private sector appetite may be poor.

Reconsider domestic port tariffs for sustainability in port financing. The domestic tariffs in Indonesia are too low for sustainability in port infrastructure financing. The port dues for domestic vessels are only 6 percent of those for international vessels. Although applying lower port dues for domestic traffic is not uncommon, the gap in Indonesia is too large. Rotterdam and Kaohsiung apply a domestic fee of around 40 percent of international rates.⁴³ Calculations comparing the same total port services for domestic and international volumes reflect that total charges for domestic volumes can be a fraction of charges for international volumes. Therefore, the apparent solution thus far has been for the Pelindos to cross subsidize. Ministerial regulation requires that, before they make a tariff adjustment request to the regulator, port operators should consult with associations of port users, such as the import/export association, freight forwarders association and the Indonesian Ship-owners Association. These parties have natural incentives to oppose tariff increase, which allows the domestic tariffs to remain low. Market-based tariffs could be less rigid and require the regulator only to act when escalation of tariffs signals potential uncompetitive behavior.

⁴² For example, in a bid to increase investment, competition, and efficiencies in the 1990s, the Port of Hong Kong, which is currently one of the top global ports, awarded concessions to six operators for various terminals. Chinese ports on the mainland have likewise followed a similar trend. Ports such as Qingdao and Ningbo awarded 5–6 terminal concessions each from 2010 to 2013, and were ranked the second and third most productive ports globally (by average container moves per-ship, per-hour on all vessel sizes).

⁴³ The gap between domestic and international dues also applies to services provided by the Pelindos as operators, such as pilotage, which is 15 times higher for international, tugging (6 times higher), and wharfage (21 times higher).

V.

Urban Transport

Indonesia's urban population increased at an average annual rate of 4.4 percent from 1970 to 2015, compared to 3.8 percent in China, 3.1 percent in India, 3.1 percent in Vietnam, and 3.37 percent in Thailand.⁴⁴ It is predicted that by 2025, 68 percent of Indonesia's population will live in cities.⁴⁵ In 2016, Indonesia had 14 so-called metropolitan cities with a population of more than 1 million inhabitants, 12 big cities with a population between 500,000 and 1 million inhabitants, and 72 medium-sized cities, with populations of less than 500,000 inhabitant.⁴⁶

Despite stable and strong growth in GDP over the last decade, the economic returns from urbanization are much lower than in other countries in the region. When managed properly, urbanization presents opportunities for accelerated growth, rising incomes, and poverty reduction. Indeed, the primary driver of poverty reduction in Indonesia has been growth-led job creation in cities. Between 2001 and 2011, 20 million jobs were created, 89 percent of which were in urban areas. In 2017, the urban poverty rate of 7.72 percent was much lower than in rural areas (13.93

percent).⁴⁷ Conversely, between 1970 and 2012, every 1 percent increase in Indonesia's urban population correlated with an average per capita GDP increase of 4 percent, compared to 13 percent in India, 10 percent in China, 8 percent in Vietnam, and 7 percent in Thailand.⁴⁸

Large gaps in urban transport infrastructure and low-quality transport services are stifling the productivity of cities and reducing their economic and social development potential.

Transport connects people to markets, services, and employment opportunities and is a critical factor behind competitiveness and economic growth. A lack of reliable alternatives to private vehicles, combined with insufficient and poorly managed road systems, are causing enormous congestion problems and other related externalities, such as air pollution, noise, and accidents, in major Indonesian cities. This increases the cost of urban logistics, decreases people's productivity, and has negative impacts on their health. These problems reduce the attractiveness of cities for companies and people alike.

A. Sector context and performance

Indonesia has insufficient mass transit capacity, given the size of the urban population and the increasing cost of congestion. Only a few of the 14 metropolitan cities, which are all heavily congested, have some form of mass transit in operation or under construction. The metropolitan area of Jakarta, which has around 25 million inhabitants, has six commuter rail lines with a total of 235 km and a Bus Rapid Transit (BRT) system with 231 km, most of it with dedicated lanes. The construction of a first metro line (MRT) of 14 km, two light rapid transit (LRT) lines with a total of 31.6 km, and a train to the airport are ongoing. Palembang, which will host the 2018 Asian

Games together with Jakarta, is constructing two LRT lines with a total length of around 24 km. Medan has a railway line to the airport. A few other Indonesian cities, such as Surabaya, Yogyakarta, Bandung, and Surakarta, have suburban railway lines, which are outdated and underutilized but have the potential to improve mobility in these cities. Other large cities in the region have invested much more heavily in mass transit. Kuala Lumpur, for instance, has six metro lines, three LRT lines, and one BRT line. New Delhi has six metro lines and Manila has one metro line and two LRT lines.

⁴⁴ World Development Indicators (WDI) database.

⁴⁵ Indonesia Central Statistical Bureau, 2008.

⁴⁶ Ministry of Home Affairs.

⁴⁷ Indonesia Central Statistical Bureau, 2018.

⁴⁸ World Development Indicators (WDI) database.

The few mass transit systems there are in Indonesia are not integrated with the other public transport modes. Commuter rail users in Jakarta often need to walk considerable distances without sidewalks to get to a BRT station. While the same smart card can be used on the BRT and commuter rail system, there is no integrated and reduced fare for the use of both systems. For the other public transport modes in Jakarta, such as minibuses, payment is still in cash.

Existing mass transit systems are underutilized and the overall modal share of public transport in Indonesia is low. The commuter rail system in the Jakarta metropolitan area only serves one million passengers per day. Jakarta's BRT system caters for about 450,000 passengers daily, while, for instance, the BRT system in Bogota, at about half of the length, carries 2.2 million passengers a day. This situation is due to operational inefficiencies, inadequate access to stations, lack of integration between the different public transport modes, and the preference of users for private, over public, transport. The public transport modal share in large Indonesian cities has drastically decreased in the last 10 to 15 years. A survey by JUTPI⁴⁹ (see Figure 3.10) showed that from 2002 to 2010, the modal share of bus travel in the Jakarta metropolitan area decreased from 38 percent to only 13 percent. In the same period the share of motorcycles

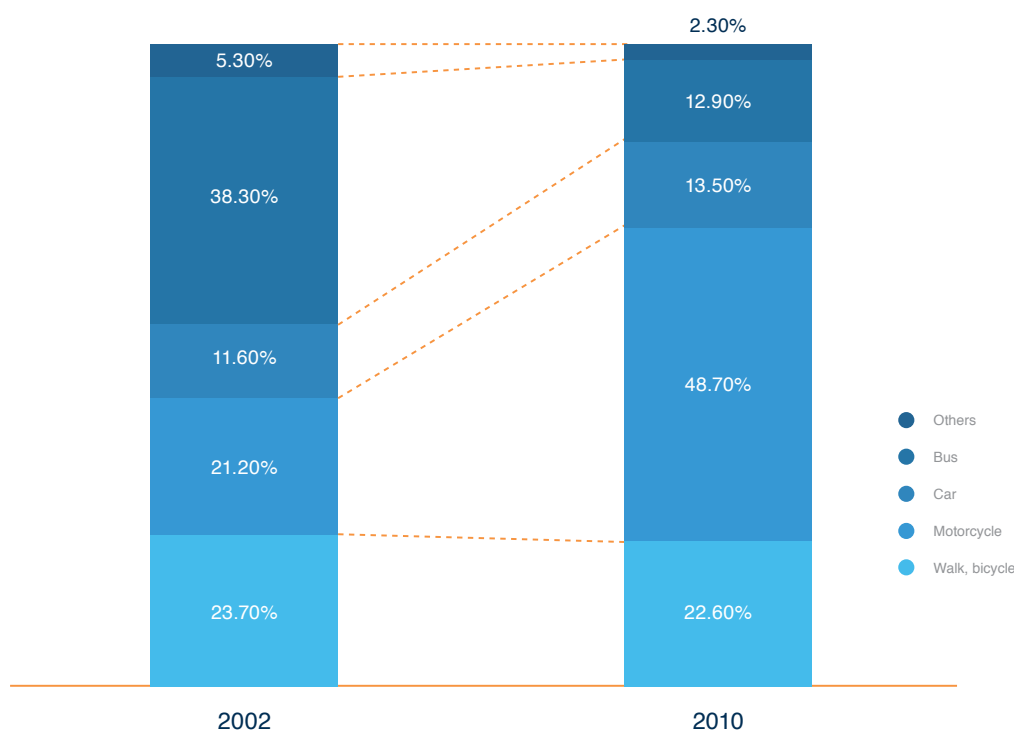
grew rapidly from 21 percent to 49 percent. Currently, the public transport modal share in large Indonesian cities is between 5 and 20 percent of all motorized trips. Elsewhere in the region, Manila, Cebu, New Delhi, and Bangkok have public transport modal shares of 60 to 80,⁵⁰ 57,⁵¹ 42, and 40 percent of motorized trips, respectively. Kuala Lumpur is on the lower side with 20 percent of public transport modal share.

Given the lack of mass transit, most public transport services in Indonesia are provided by old, badly maintained, uncomfortable, and unsafe minibuses or by three-wheelers, motorcycle taxis, and ordinary taxis.

Formalized public transport⁵² only exists in a limited number of cities and has no citywide coverage. Microbus services are provided by owner-operators, who have licenses to operate specific routes. Some cities, such as Bogor, Surakarta, Yogyakarta, Semarang, Bandung, and Palembang have started to implement an Indonesian-style BRT system, which in essence is a formalized bus system with standard buses, a schedule, fixed stops, but no dedicated lanes. These systems, which were initiated through the MoT's Bus Grant Program,⁵³ are not operating on a city-wide scale. In smaller cities, urban bus services often do not exist at all and public transport is exclusively provided by taxis (cars and motorcycles) and three-wheelers.

⁴⁹ Jabodetabek Urban Transportation Policy Integration Project (JUTPI).
⁵⁰ This is for specific corridors only and includes buses, jeepneys, and pooled taxis.
⁵¹ The roadmap study for sustainable urban development in Metro Cebu, Japan International Cooperation Agency (JICA), 2015. This includes jeepneys, buses, and tricycles.
⁵² Formalized public transport system in this document means a bus system with at least standard buses, a schedule, and fixed stops. This terminology is used to distinguish it from formal public transport, which operates legally based on a license often with small buses or vans, as opposed to informal public transport.
⁵³ Under this Program the Ministry of Transport distributed high-floor buses to cities. The program is not an efficient way to incentivize the introduction of public transport since some cities were not prepared to receive the buses, so the buses stayed idle. Cities also had no choice to opt for low-floor buses or different bus sizes to better match demand and supply. Additionally, the maintenance of buses received for free has been a challenge. The program was stopped at the end of 2016 but has been recently resumed.

Figure 3.10: Transport modal shares in the Greater Jakarta Area



Source: JUTPI commuter survey, 2011.

Public transport fares in Indonesia are lower than in neighboring countries, but do not seem excessively low given affordability considerations. Public transport fares in Indonesia are between USD 0.30 and USD 0.40 per trip, while in New Delhi, Kuala Lumpur, Manila, and Bangkok they are between USD 0.48 and USD 0.80. In the Jakarta metropolitan area, 47 percent of the population spent 20 percent of their income, and 20 percent of the population spent 30 percent of their income, on daily transport needs.⁵⁴

Congestion costs estimated for Jakarta alone are in the range of USD 2.5 to 3 billion a year.⁵⁵ As previously mentioned, all other metropolitan cities, such as Bandung, Denpasar, Makassar, Medan, Palembang, Semarang, and Surabaya, and some of the large cities, are also seriously congested. This situation is expected to worsen drastically since currently only 5 out of 100 Indonesians own a car (37 out of 100 own a motorcycle) and car ownership has increased at an average rate of 8 percent annually between 2011 and 2015. Table 3.2 shows the number of motorized vehicles in Indonesia between 2011 and 2015. Consequently, there is an urgent need to accelerate the implementation of mass rapid transit systems in Indonesian cities because of their space advantage per passenger carried compared to other modes.

The 2015–2019 Medium-Term National Development Plan (RPJMN) includes public transport as one of its strategic agendas and sets ambitious targets. These targets include: (i) increasing public transport modal share in cities with more than 500,000 inhabitants to at least 32 percent; (ii) introducing mass transit systems in 34 cities; and (iii) increasing average travel speed in big cities to above 20km/h. The activities envisaged in the MoT's 2015-2019 Renstra (sectoral strategic mid-term plan) to reach these targets include, among others, the construction of rail-based mass rapid transit systems, such as MRT, LRT, and commuter rail in the metropolitan areas of Jakarta, Surabaya, Bandung, and Palembang; the development of urban rail in 10 metropolitan cities (Batam, Medan, Palembang, Jakarta, Bandung, Semarang, Yogyakarta, Surabaya, Denpasar, and Makassar); and the development of Indonesian-style BRTs in 34 big cities (among others, Medan, Pekanbaru, Batam, Padang, Palembang, Bandung, Jakarta, and Bogor). Since 2015, only the construction of LRT systems in Jakarta and Palembang have initiated, and 13 large cities have received buses from MoT. The provision of buses does not mean that these cities established BRT systems and several cities do not even use the buses they received due to lack of resources for operating subsidies or difficulties to create decent operating conditions.

Table 3.2: Number of registered motorized vehicles in Indonesia

Vehicle Type	2011	2012	2013	2014	2015	Average Growth
Passenger Cars	9,548,866	10,432,259	11,484,514	12,260,247	12,947,447	8%
Growth		9%	10%	7%	6%	
Trucks	4,958,738	5,062,424	5,615,494	5,765,639	6,526,952	7%
Growth		2%	11%	3%	13%	
Bus	2,254,406	2,273,821	2,286,309	2,327,438	2,803,145	6%
Growth		1%	1%	2%	20%	
Motorcycles	68,839,341	76,381,183	84,732,652	92,529,925	96,565,221	9%
Growth		11%	11%	9%	4%	
All Vehicles	85,601,351	94,149,687	104,118,969	112,883,249	118,842,765	9%
Growth		10%	11%	8%	5%	

⁵⁴ JICA, Updating SITRAMP Data, 2010.

⁵⁵ IDR 35 trillion in 2013 according to research by Pustral. The SITRAMP II report by JICA and Bappenas in 2004 estimates that congestion cost Jakarta IDR 5.5 trillion/year in the early 2000s and that it will reach IDR 65 trillion/year in 2020.

Source: Elaboration by WB based on "Ministry of Transport in Figures," 2016.

This is the case for Trans Sarbagita in Bali, which only operates three corridors with extremely low ridership and a number of buses are not used, and Trans Pakuan in Bogor, which terminated operations in 2017 due to bankruptcy. Cities that are relatively successfully operating a limited formalized bus system include Surakarta, Semarang, Yogyakarta, and Palembang.

Mass transport systems are also part of Indonesia's priority infrastructure projects. Various national infrastructure project lists, i.e. Government of Indonesia (GoI) Priority Project List, KPPIP, Bappenas PPP Book 2017, BMI/IJ Global/PPIAF, include rail-based, mass transit systems in Jakarta and a number of other large cities, some of which are already under construction by municipal or state-owned enterprises (SOEs). Some projects appear on several lists and the information in these different lists often does not match. These infrastructure project lists provide limited and, in most cases, outdated information.

The sector's investment needs are substantial, but hardly any funds have been allocated in the national budget. Different background papers used in the preparation of the 2015–2019 RPJMN estimate public transport-related capital investment needs between USD 7 billion and USD 13 billion.⁵⁶ The MoT's 2015–2019 Renstra anticipates USD 5.5 billion⁵⁷ for public transport, of which USD 4.8 billion is for rail-based systems, but hardly any resources

for public transport were allocated in the MoT's annual budgets.

Mass transit proposals by cities are not well prepared and lack financing plans. Many cities have come forward with mass transit project proposals, but in most cases, their preparation is incomplete, focusing on engineering aspects only, and there is an absence of financing plans. None of the Indonesian cities, except for the few largest ones, has the resources and/or borrowing capacity to finance a substantial part of a mass transit system.⁵⁸

The GoI expects some of these projects, such as the Batam Island railway, the Medan urban railway, and the Surabaya tramway to be funded through PPPs.⁵⁹ It is not clear how these PPPs would be financed. Given the limited success of private sector funding of rail-based mass transit systems internationally, coupled with the low public transport modal share and the need for operating subsidies in all formalized public transport systems in Indonesia, it is not realistic to expect that the investment cost of these systems can be funded through future fare revenues. For this reason, any type of PPP scheme for these systems would most likely have to include considerable public financing for the infrastructure, either through upfront payments, availability payment schemes, or a combination of both.

B. Sector environment

(i) Regulatory environment

Public transport services may be contracted out to the private sector or a publicly owned enterprise, or can be provided in-house.

Law No. 22/2009 requires the provider of public bus services to be a legal entity. As such, the owner-operators providing most of the public transport services in Indonesia seem to violate this requirement.⁶⁰ There are, however, several private companies that provide public transport services, mainly for TransJakarta. New entrants are also engaging in the market. For instance, the Pancaran Group, a local port cargo and trucking company, is about to enter the public bus transport market in Jakarta and sees it as a promising business line.

To encourage competition, Indonesian law requires the separation of rail infrastructure provision from the operation of services, but the law has still not been fully implemented.

The separation of rail infrastructure provision from the operation of services is in line with international good practice and aims at enabling competition in the railways sector. It does generally not apply to MRT and LRT projects. The separation is envisaged in Railway Law No. 23/2007, according to which the MoT's Directorate General of Railways (DG Rail) is responsible for rail-based transport, including sector policy, planning, and regulation, and the provision of rail infrastructure and signaling. P.T. Kereta Api Indonesia (PTKAI), which reports to the Ministry of SOEs, operates all services. The law allows the private sector and local governments to provide

⁵⁶ IDR 90 to IDR 170 trillion.

⁵⁷ IDR 72 trillion.

⁵⁸ World Bank assessment (not published).

⁵⁹ These projects are included in the Bappenas PPP Book (see Annex G: Urban transport).

⁶⁰ The formalization of these entities could be one of the first steps to achieving commercial financing for the renewal of the fleet.

railway services in the form of special-purpose railways. Government Regulation No. 56/2009 states that the operation of rail services requires a concession agreement between DG Rail and the operator. Rail freight rates and passenger fares are regulated by Ministerial Regulation No. 64/2016, which sets a minimum and maximum level. Ministerial Regulation No. 198/2015 provides for public service obligation (PSO) payments for economy class passenger services. PTKAI received PSO payments of IDR 1.8 trillion (USD 138.46 million) and IDR 2.1 trillion (USD 161.54 million) in 2016 and 2017, respectively. PTKAI maintains the rail tracks on behalf of DG Rail under an infrastructure maintenance obligation. PTKAI pays a track access charge to DG Rail for the use of the tracks. The track access charge corresponds exactly to the amounts PTKAI receives for the maintenance of the tracks. The legal texts are not clear on whether the separation of infrastructure provision and service operation under Law No. 23/2007 also applies to LRT and MRT systems since when the law was issued Indonesia did not yet have such systems.

The only major institutional reform since the introduction of the Railway Law has been the transfer of the commuter rail operation in the Jakarta metropolitan area from PTKAI to a subsidiary, PTKAI Commuter Jabodetabek, that collects revenues and carries out its own maintenance. The separation of infrastructure from rail operations and the introduction of private sector operators through special-purpose railways have not yet taken place. Although the performance of PTKAI has improved significantly in the last few years through better management practices,⁶¹ until the institutional changes envisaged in the Railway Law are in place, the railway system is unlikely to become fully commercially oriented.

(ii) Institutional and capacity aspects

The responsibility for the provision of public transport infrastructure and services is fragmented and lacks an institution or instrument to ensure coordinated provision at metropolitan level. Since the administrative and fiscal decentralization that took place in 2000, the provision of urban public transport has been the responsibility of cities. Based on Law No. 22/2009 covering Traffic and Road Transport, bus services and any other road-based mass transit are the responsibility of national or local government, depending on whether the service is provided within a city, within a province, or crosses municipal or provincial borders. If public transport service crosses two or more municipalities, it becomes the responsibility of the

province, and if it crosses one or more provinces, it becomes the responsibility of the MoT. With responsibility for the metropolitan area of Jakarta only, a committee was recently established within the MoT to coordinate the planning and provision of public transport infrastructure and services at metropolitan level. However, this committee has no authority over different cities and/or provinces making up the metropolitan area nor an investment budget of its own.⁶²

Transport departments in Indonesian cities have very little experience in managing public transport and cities have resorted to municipal-owned enterprises or SOEs to exploit their enhanced capacity and increased operational flexibility. Transport departments currently do not have the capacity to implement and operate mass transit systems because there is very limited formalized public transport. Given low salary levels and high staff rotation rates, these departments are not able to retain highly qualified staff and are not allowed to hire top-level international consultants. Consequently, most cities have created or use existing municipal enterprises or SOEs to plan, implement, and operate mass transit systems. SOEs and municipal-owned enterprises can pay higher salaries and hire top-level international consultants.

The SOE model has been used as an implementation mechanism to override the procurement and operating capacity barriers faced by local authorities. For example, the BRT system in Jakarta is operated by TransJakarta, a municipal-owned company. The Jakarta MRT is being implemented by PT MRT Jakarta, a municipal-owned company specifically created to implement and operate this system. One of Jakarta's LRT lines is being implemented by JakPro, a municipal-owned property company. JakPro plans to create a second, municipal-owned company, PT LRT, to operate the system, potentially further outsourcing the operation and maintenance to the private sector. JakPro also plans to create another company, JakOne, to manage the LRT ticketing system.⁶³ Jakarta's second LRT line is being constructed by Adhi Karya, a construction SOE. PT. KAI, PT. KAI Commuter Jabodetabek, or a new SOE is expected to operate this line. The LRT in Palembang is being constructed by Waskita Karya, also a construction SOE. PT. KAI will operate this system.

⁶¹ Passenger numbers increased steadily from 159.42 million to 325.95 million in 2015 (Source: BPS). Annual net profit also gradually increased from IDR 83 billion in 2008 to IDR 943 billion in 2015 (Source: PTKAI).

⁶² President Regulation No. 103/2015 on Jabodetabek Transport Management Agency and MoT Regulation No. 66/2016 on Delegation of Authority from Minister of Transport to Head of Jabodetabek Transport Management Agency.

⁶³ Discussions between the World Bank team and the Director of JakPro in June 2017, reconfirmed in March 2018.

In the limited number of cities that have formalized public transport systems, bus services are largely provided by the public sector. Formalized public bus services are either managed by a technical unit of the city's transport department (UPTD – Unit Pelaksana Teknis Daerah), which is not a legal entity and has no budget of its own; by a service provision department (BLU – Badan Layanan Umum), which is a legal entity and has more autonomy; or by a municipal-owned enterprise (BUMD – Badan Usaha Milik Daerah), which acts as a separate company. In some cases, these entities operate the bus services directly. In other cases, the managing municipal-owned enterprises give permission to operate the services to Damri, a bus operator SOE, or PPD, a provincial-owned bus operating company. In a few cases, the municipal-owned enterprises contract the services out to the private sector in a competitive manner.

In the short term, the municipal-owned enterprise model is probably the only way to manage and oversee the implementation and operation of mass transit systems given the limitations of capacity and resources, among other things, faced by municipal departments. If the private sector is to be involved in the planning, construction, and operation of these systems, which is desirable based on international experience, there seem to be no effective alternatives to municipal-owned enterprises, since municipal departments are not yet able to act as business partners on a par with the private sector. However, a more thorough assessment of the municipal-owned enterprise model and the alternatives for the delivery and operation of mass transit systems and other large urban infrastructure projects is required, taking into account the metropolitan dimension of many of these investments.

The municipal-owned enterprise and SOE model for public transport provision also has its limits. Firstly, Jakarta has seen a proliferation of municipal-owned enterprises in the public transport space, and they are likely to stay. The large number of different companies involved makes integration of public transport services very difficult, if not impossible, thereby undermining the essence of a successful public transport system. Secondly, SOEs and municipal-owned enterprises are expected to provide commercial services, yet without public subsidies public transport in Indonesia, like in most other places, is not likely to be viable. Additionally, the financing of SOEs implementing mass transit systems has recently become a major issue. For example, in the case of Adhi Karya, which

was assigned by the President of Indonesia to implement the LRT in the Jakarta metropolitan area, public and private banks were called in to finance a large part of this system. The banks will be paid back through public service obligation payments from the MoF channeled through PT. KAI, the future operator of the system. This way of implementing mass transit systems means that the national government is forgoing the advantages of competitively bidding out the construction of a system and is spreading the debt into the future at a higher interest rate, 8.25 percent, than for instance concessional lending or national bonds. It is probably also not sustainable since the banks were asked to reduce the interest rate to 8.25 percent and because most likely they do not have the means to finance mass transit systems in the 20 cities with a population of close to or over 1 million inhabitants.

(iii) Efficiency in public transport provision

Formalized bus systems only carry a small number of passengers and require relatively high subsidies. As previously mentioned, the few formalized bus systems in Indonesia cover only a small part of the cities in which they operate. They carry a limited number of passengers (e.g. 14,636 daily passengers in Semarang, a city with 1.6 million people, and 21,920 passengers in Palembang, a city with 1.5 million people—and these are some of the best performing systems). They also rely on high operating subsidies. In Jakarta the subsidy to TransJakarta in 2016 on a per passenger basis was 300 percent of the fare. In Semarang and Palembang, it was 64 and 30 percent, respectively. In Bogor, the subsidy was 128 percent of the fare, and since the city could no longer afford these subsidies, the company, a municipal-owned enterprise, went bankrupt in 2017 and the service stopped.

Bus operating costs in Indonesia seem high,⁶⁴ especially considering that most buses have been provided for free by the MoT through the Bus Grant Program, which means that they do not count towards operating costs. As it was not possible to obtain information on bus operating costs, the assumption is that, with fare revenues plus subsidies, if any, operators break even. In the case of TransJakarta, which owns about 30 percent of the buses and whose operating costs do not include the capital cost of these buses, the fare plus subsidy per passenger is USD 1.1. In the case of Semarang, Palembang, and Bogor, which only use buses provided for free by the MoT, the fare plus subsidy per passenger is USD

⁶⁴ Working on assumption that revenues plus subsidies is equal to operating costs (no figures on real operating cost are available).

0.44, USD 0.50, and USD 0.88 respectively. In comparison, in the Bogota TransMilenio, where the trunk system operates without subsidies and all buses are provided by the private sector, the fare is USD 0.59.

(iv) Financing

The GoI has no comprehensive plans to fund, finance, or implement mass transit systems.

So far, for the few mass transport systems implemented or under implementation, decisions were made on a case by case basis. Funding came from the national government through the general budget or foreign loans, through capital injections to SOEs, and from the Jakarta Government. To repeat, in the case of Adhi Karya the national and private banks were called in. The Jakarta Government is the only local government with sufficient resources to finance a substantial part of a mass rapid transport system. The World Bank is currently assisting the MoF, the Coordinating Ministry of Economic Affairs, and Bappenas, to design a national urban transport support program to potentially co-fund mass transit investments in Indonesian cities and create the necessary capacity at local level.

Interest in transit-oriented development (TOD) and land value sharing (LVS) is emerging in Indonesia. On October 10, 2017, the Ministry for Land and Land Use Planning issued Ministerial Regulation No. 16/2017 with guidelines on TOD, including incentives, such as incentive zoning, transfer of development rights, fiscal zoning, and land consolidation. These incentives are an attempt to involve the private sector in TOD. For example, bonus zoning by increasing the floor space can be given to developers who provide public facilities, including public transport stations and improved pedestrian facilities. A TOD area can be declared a fiscal zone and, in that case, higher land taxes and fees will apply. However, many challenges to the successful implementation of TOD and LVS in Indonesia still lie ahead.⁶⁵

DKI Jakarta, Indonesia's capital city, is experimenting with a unique form of LVS, referred to as Floor Area Ratio Violation Penalties or Compensations. In Indonesian cities, a Building Area Coefficient (KLB) is assigned to delimit the total floor area that can be constructed on a given area of ground. Jakarta's Provincial Regulation No. 175/2015, amended by Gubernatorial Regulation No. 119/2016 (Nailufar 2016), establishes that if the floor to land area ratio exceeds the KLB, developers must provide in-kind compensations to the local authority in the form of assets or facilities for public use. Based

on this mechanism, Jakarta has negotiated in-kind compensations from 15 developers for a total asset value of IDR 4.5 trillion (USD 338 million). These compensations include a road interchange and a bus station.⁶⁶

While LVS and other planning-related instruments are important for the success of public transport, they are unlikely to be a panacea for public transport financing and operation. Resources from LVS used to finance mass transit investments and instruments, such as densification along a mass transit corridor, are essential to enhance the efficiency of public transport. However, except for a few large cities with thriving real estate markets, LVS may not generate significant resources for the financing of public transport. A more detailed and practical study on value capture of mass transit systems in Indonesia is desirable.

A successful example of LVS is provided by Hong Kong, where the city government granted the public transport company (HKMTR) land leases for stations and railway tracks at below market prices. HKMTR developed the land together with private developers using a TOD and mixed-use property development approach. The TOD created high-quality built environments that improved circulation and physical integration of public transport with the surrounding residential, commercial, and retail facilities, all of which further boosted land values and increased use of public transport. With the selling prices (or rentals) of the constructed units set at the post-development land value, HKMTR and its partners were able to capture fully the land value increments created by their investment. This rail plus property development business enabled HKMTR to finance the capital and operating costs of its transit developments.⁶⁷

⁶⁵ Draft report on Land Value Sharing for Public Infrastructure Investment in Indonesia: Possibilities and Limitations, Yu Hung Hong, Sandy Juli Maulana, Handi Chandra Putra, 2017, commissioned by the Urban GP.

⁶⁶ Idem footnote 68.

⁶⁷ Idem footnote 68.

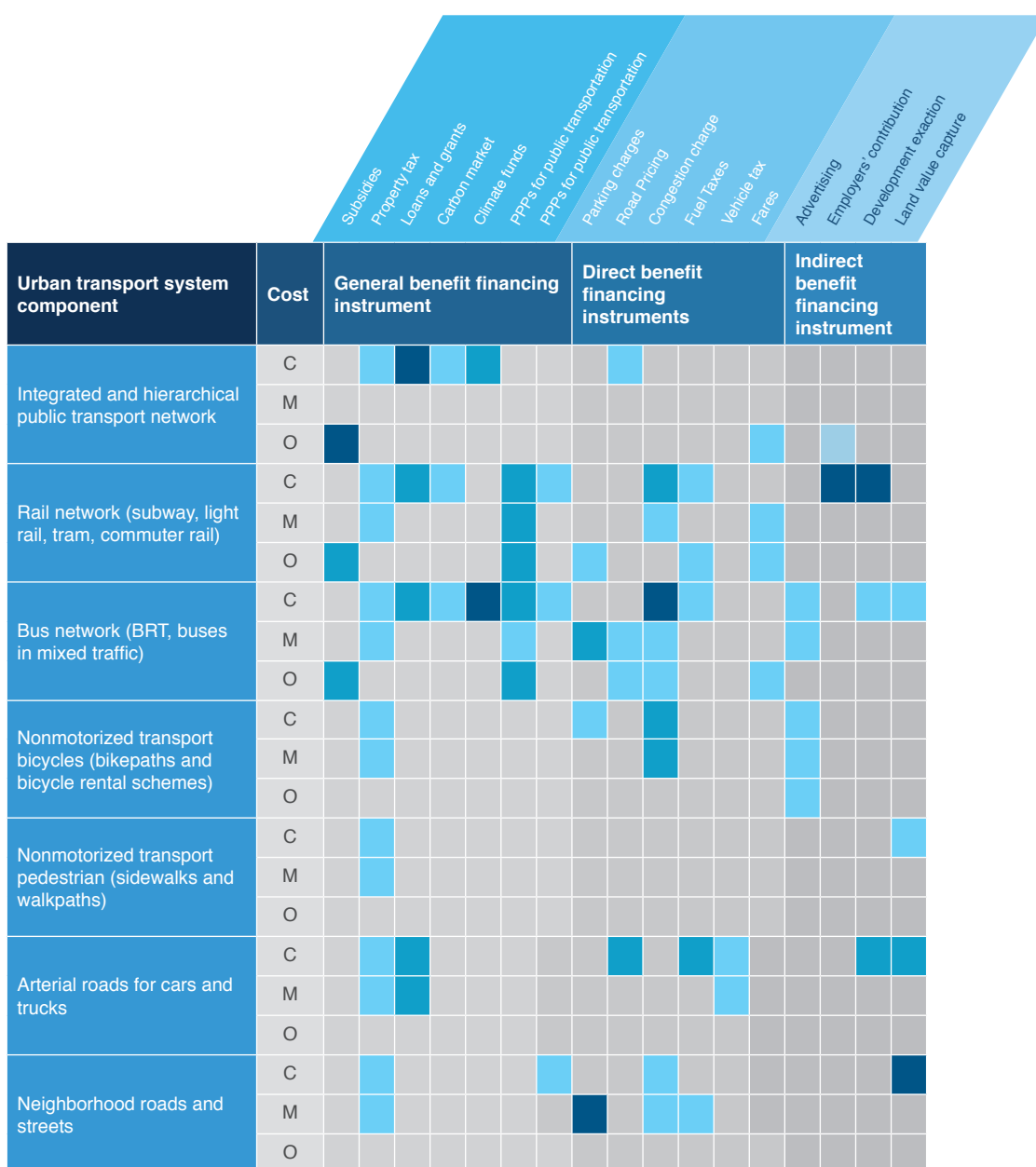
C. Infrastructure roadmap

If Indonesia wants to escape its urban transport crisis, substantial resources will be needed to build mass transit systems in major cities and these resources are unlikely to come from local governments.

Gol has recognized the need for mass transit infrastructure and, in the last few years, several cities have developed proposals for mass transit projects. However, most Indonesian

cities do not have the fiscal capacity to finance a substantial part of public transport systems on their own. Except for Jakarta, they also still lack the technical capacity to plan, implement, and operate these systems.

Figure 3.11: Use of financing instruments by cost type and transport mode



Source: Ardila-Gomez, A. and A. Ortegón-Sánchez. 2016. "Sustainable Urban Transport Financing from the Sidewalk to the Subway: Capital, Operations, and Maintenance Financing." Policy Research Working Paper. Washington, DC: World Bank.

Note: C=capital; M=maintenance; O=operation; darker color blocks indicate greater use of the instrument within the observed examples. BRT=Bus Rapid Transit.

With few exceptions, mass transit infrastructure around the world is funded by the public sector. In the cases where mass transit infrastructure does not require large amounts of public money, the infrastructure investments are mostly, if not completely, funded by revenues from real estate development and not through fare revenues. Since the public transport modal share in Indonesia is very low and none of the formalized public transport systems recovers its operating costs, it is likely that any new mass transit system in Indonesia will also require operating subsidies.

Other sources of public transport funding should be explored, but setting up these instruments will take time and they offer no short-term solutions. Such instruments could include dedicated taxes and fees on private transport, including parking charges, fuel levies reserved for public transport, local motoring taxes, employer/employee taxes for public transport, revenues from the sale or lease of public assets, real estate development, or, in some cases, even value capture instruments, which have the advantage of creating a stable source of funding not dependent on annual budget cycles. However, most of these instruments are not easy to implement, even in the developed world, and it will take time until Indonesia can count on these additional resources.

For this reason, the national government must increase its support to cities for the implementation and operation of mass transit infrastructure. As previously stated, the Bus Grant Program and in-kind support provided by the MoT have not been very efficient. Only two cities have received financial support from the national government to implement mass transit systems. This support has been granted in response to specific requirements, such as in the case of the Jakarta MRT, and so cities have no certainty that their mass transport proposals will eventually be financed or co-financed. By providing support in an unstructured and arbitrary way, the national government is foregoing many of the benefits it could generate through the setting up of a formal and transparent public transport financing and support mechanism.

Considering the success of national transport financing mechanisms in a number of countries, Gol should create a formal public transport support program, including technical assistance and financial resources for cities, in order to:

- Enable the national government to support urban transport policy objectives and set eligibility and readiness criteria, thus ensuring that public transport is given priority in enhancing the competitiveness, attractiveness, and economic potential of cities;
- Enable the national government to ensure that project proposals are justified, well prepared and complete, and that public resources are used as efficiently as possible, for instance, through competitive bidding and the leveraging of private finance;
- Avoid the national government being called in to rescue projects when they have funding problems;
- Increase the chances of systems being successful; and
- Save time for cities and the national government, by replacing the current unsystematic approach and lengthy negotiation process with clear rules and formal criteria for obtaining resources for mass transit systems.

This program needs to include clear and transparent rules on infrastructure financing, proposal preparation, and approval processes and should be accompanied by a substantial technical assistance component for cities. To qualify for national financing, mass transit projects should be proposed, implemented and operated by cities. They should be part of an integrated urban and transport plan. Cities should be required to co-finance public transport projects to show ownership and commitment, and private sector and commercial financing should be leveraged. Operating deficits should be borne by cities to the extent possible within the constraints of their fiscal capacity.

Any type of PPP arrangement for mass transit infrastructure provision will require considerable amounts of public funding, either through upfront investments, availability payments, bundling with real estate deals, or a combination of these.

The Gol is interested in using the existing PPP instruments to finance mass transit systems in Indonesia, including viability gap funding, availability payments, and/or guaranties. However, some form of mainly upfront grant in combination with these instruments is likely to be necessary and desirable given the large amounts

of public funding required. Additional work is needed to assess how the PPP instruments can be adapted to mass transit.

A preferred area for private sector expertise and financing is the provision and operation of buses and other public transport vehicles.

International experience has shown that private sector operation of public bus services can lead to significant efficiency gains and cost savings. After putting bus services out to tender in 1995, Britain experienced cost reductions of 50–55 percent as patronage and fare box recovery increased. Swedish buses and trains were able to reduce costs by up to 33 percent, while passenger trains in the Netherlands benefited from efficiency increases of 20 to 50 percent. The US bus industry was able to obtain substantial cost savings of between 30 to 46 percent. In Sydney, private bus operators are able to operate with 20 to 30 percent lower labor cost than public operators.⁶⁸ Therefore, even if mass transit investments are implemented through municipal-owned enterprises, procurement of civil works and operating services should to be carried out in a competitive manner.

In addition to setting up the above-mentioned public transport support program, the GoI should also consider the following:

- Evaluate the current support programs to cities in the urban transport space and if necessary stop or revise them to be in line with the newly created public transport program.
- Examine the feasibility of the alternative sources for mass transit financing mentioned above in the Indonesian context and introduce the necessary legal changes and incentives. This should especially look at value capture for mass transit infrastructure in Indonesia.
- Critically evaluate the relative merits of private sector versus municipal-owned enterprise models for provision and operation of mass transit system and other major urban infrastructure projects. The evaluation should include consideration of the metropolitan dimension of many cities.
- Assess the capacity gaps in cities to plan, contract out, and supervise bus services/ other public transport services and set up the structures and systems to create this capacity.

⁶⁸ Public Transport, Private Operators, delivering better services through franchising, Tourism and Transport Forum (TTF) Australia, July 2012.

VI.

Summary Roadmap for the Transport Sector

TRANSPORT SECTOR ROADMAP			
NATIONAL HIGHWAYS			
Activity Pillar	Short-term	Medium-term	Long-term
Pillar 1: Developing a robust, fully-funded, and phased Expressway Development Program (EDP) that is attractive to private investors.	1. BPJT undertakes a comprehensive Capacity Building Program, linked with the review and reform of organizational processes and structure, targeting: (i) Project planning, preparation and management; (ii) Resource planning; (iii) Asset management; (iv) Safety; (v) Corporate governance; and (vi) Research, training, and capacity building.	1. MPWH and MoF issue a Report on the EDP, specifically identifying: (i) BPJT estimates for key expenditures, such as the cost of land acquisition and the cost of meeting government's payment obligations during construction and O&M periods; (ii) BPTJ estimates of revenue sources for meeting those expenditures (e.g. tolls and government support); (iii) MoF and MPWH options for bridging the gap between estimated costs and revenues (e.g., direct government support; direct and indirect user charges, including special taxes; secondary revenue streams, such as LVC; securitizing existing assets); (iv) MoF cash flow(s) from the option(s) above are reliable and credible over the life of the EPD (e.g. ring fencing).	1. BPJT issues a detailed Action Plan for Phased Implementation of the EPD. 2. BPJT launches land acquisition and procurement for phase one of the EPD. 3. BPJT issues screening criteria / business plans for roads in phase two of the EPD.
Pillar 2: Facilitating, and creating more space for, private sector participation.	1. MSOE and MoF launch a Task Force on Asset Recycling, to assist with asset recycling by SOE toll road operators (e.g., selling concessions or securitizing revenue). 2. BPJT, in coordination with MoF and PT. PII, issues revised Standard Concession Agreements to conform with good industry practice, particularly with respect to the following: (i) Default and early termination events; (ii) Cure periods; (iii) Termination compensation; (iv) Compensation for delays, changes in scope, and other cost escalations attributable to the government (e.g. inordinate delays in land acquisition); and (v) Provision of a direct agreement between BPJT and the lender.	1. MSOE issues regulation to reform SOE KPIs and incentives to ensure commercially prudent behavior in bidding for projects and/or the Government considers excluding SOEs from at least a few projects.	

AIRPORTS			
<p>Pillar 1: Reforming the state-owned airport operators and opening the market to more private investment.</p>	<p>1. MoT and MSOE publish a Joint Action Plan to Enhance the Operational Efficiencies of State-Owned Airport Operators, applicable to Angkasa Pura I and II, to include: (i) An asset-based model with yardstick competition between AP1 and AP2; (ii) A defined series of policy objectives, linked to KPIs, and targets for aeronautical and non-aeronautical activities benchmarked to regional and international norms; and (iii) Amended KPIs covering return targets linked to regional and/or international benchmarks.</p>	<p>1. MoT issues a regulation to strengthen the enforcement mechanisms for SOE airport operator KPIs. 2. MoT and MoSOE release guidelines on mobilizing commercial finance and allowing international operators to bid for controlling interests in airports.</p>	
PORTS			
<p>Pillar 1: Enhancing the efficiency of existing port stakeholders.</p>	<p>1. MoT, in coordination with MoSOE, issues regulation to modify the incentives and KPIs for the Pelindos by: (i) Limiting the percentage of earnings they can obtain from fixed payments; (ii) Incorporating revenue sharing in their joint ventures; (iii) Introducing a new KPI for the amount of private sector finance leveraged; and (iv) Making public funding (e.g. VGF) contingent on performance against financial and performance KPIs.</p>	<p>1. MoT implements a capacity building program for the port authorities aimed at increasing their ability to: (i) Understand and implement concession agreements in line with international practice; (ii) Monitor and enforce globally benchmarked KPIs, including the introduction of a system of incentives and penalties; and (iii) Undertake their master planning and related duties. 2. MoT and MoF issue a report on transforming the port authorities into public service bodies (BLU).</p>	
<p>Pillar 2: Improving the enabling environment for private sector participation.</p>	<p>1. Bappenas and MoT resolve inconsistent or conflicting information in the lists of PPP projects being offered, including project-level data (e.g. investment cost) and the status of each project. 2. MoT issues instruction clearly accounting for existing ports to avoid overcapacity, providing assurances on critical issues such as land acquisition, environmental impact, and government financial support; clarifying the role of the Pelindos in new concessions (this new regime should not use the JV agreement between Huthchison and Pelindo II as the benchmark for such agreements). 3. MSOE, MoF, and MoT launch a task force to assist the Pelindos in bringing private investment into some of their up/down stream operations.</p>	<p>1. MoT issues guidelines on the practice of directly assigning projects (e.g. to SOEs) with a view to end or phase out the practice and prioritize open, competitive tender for all financially viable port projects, in accordance with the landlord model established by the 2008 Shipping Law. 2. MoT publishes a review of domestic tariffs and the practicalities of a period of tariff adjustment, including any necessary or beneficial regulatory reforms.</p>	

URBAN TRANSPORT

<p>Pillar 1: Targeting private investment for mass transit projects.</p>	<ol style="list-style-type: none"> 1. MoHA issues guidelines to municipal governments to focus on procuring private participation in the provision and operation of bus mass transit projects, in a programmatic manner coordinated by the MoT. 2. MoT publishes a report on the capacity gaps in cities to plan, contract out, and supervise bus services (and/or other public transport services) and on structures and systems to build this capacity. 3. MoF publishes a report on the feasibility of using special instruments for financing mass transport, including dedicated taxes and fees, revenues from the sale or lease of public assets, and value capture instruments. 	<ol style="list-style-type: none"> 1. MoF issues regulations creating a formal, national-level public transit support program, to include: (i) Defined project eligibility, readiness, preparation, and procurement requirements; and (ii) Clear rules on financing, project proposals, and approval processes. 2. MoT issues a report on current urban transit support programs to cities and the extent to which they align with the new public transport support program. This report will advise whether such programs need to end or be revised to achieve this alignment. 	
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A black and white photograph of an industrial water treatment facility. The scene is dominated by large, complex piping systems with various valves and flanges. In the background, there are tall structures and a cloudy sky. A large, semi-transparent blue circle is overlaid on the right side of the image, containing the chapter title. The overall composition is industrial and technical.

Chapter 4

Water Supply and Sanitation

I. Introduction

Indonesia has made considerable progress in the water, sanitation, and hygiene (WASH) sector in the past 25 years. In terms of access, the UN Joint Monitoring Program reported that as of 2015, 87 percent of Indonesians have access to improved drinking water and 61 percent to improved sanitation. Progress in rural areas accounts for a large part of this achievement, increasing from 24 percent to 47 percent for sanitation and 61 percent to 79 percent for water supply between 1990 and 2015 — three times greater an increase than in urban areas, where the increase was from 89 percent to 94 percent over the same period. However, the level of service provision, i.e. water supply and sanitation services provided to the population by service provision entities, remains inadequate. Piped water supply to households is unable to keep pace with population growth, while formal sanitation services in urban areas (where it is needed most) is very low with only 1 percent of wastewater collected and treated properly.

Nevertheless, Indonesia has set very high service provision targets. Its National Medium-Term Development Plan (RPJMN) calls for universal provision of basic services by 2019. This is far ahead of its 2030 Sustainable Development Goal commitments. The RPJMN targets have been translated by the Ministry of Public Works and Housing (MPWH) into its '100-0-100' program of eliminating slums and providing universal basic services for water and sanitation, including an end to open defecation, by 2019.

Universal provision of basic services represents an ambitious challenge of scale and sustainability. To achieve the water supply target, MPWH has set out a criterion of 60 percent of the urban population having access to piped water supply and 85 percent of the total population having an improved level of service, as defined as an availability of 60 liters of clean water per capita per day. At the projected size of population for 2019,¹ this requires 16 million additional pipe water supply connections and the need for the national total clean water production capacity to be increased from about 125,000

liters per second (lps) to about 165,000 lps. For sanitation, the criteria set are: (i) 15 percent of the population having access to basic sanitation (toilets that ensure hygienic separation of excreta from human contact); (ii) 12.5 percent connected to centralized or decentralized sewerage systems; and (iii) the majority (72.5 percent) connected to on-site sanitation with improved fecal waste management. This calls for the building of an additional 409 septage treatment facilities and for 438 cities and districts to be provided with city, area, and community scale sewerage.²

The distribution and quality of natural water resources also represents a constraint to universal access. Indonesia is a water-rich country where the overall water availability exceeds demand almost four-fold. However, the distribution of water resources is highly imbalanced to the population distribution. Java, with 60 percent of total population, only has four percent of the available surface water. On the other hand, Kalimantan and Papua, with 13 percent of total population, have about 70 percent of the national water resources. This natural imbalance is aggravated by the fluctuating availability of water during seasonal cycles made more unpredictable by climate change, poor quality of water due to natural causes (e.g., peat soils) and pollution, and the wasteful use of water. Large cities in Java, such as Jakarta, Bandung, and Semarang, rely heavily on ground water for drinking and other purposes. This has led to unsustainable groundwater abstraction causing environmental damage and increased vulnerability due to land subsidence.

The water sector faces unique socio-political and commercial characteristics that justify a prominent role for the public sector. Positive externalities arising from WASH services are often not captured in what consumers are willing to pay for the service. WASH is a basic need and its infrastructure usually caters to a localized population (confined markets) that may not offer the full magnitude of revenues required to cover operations and capital development costs. While the required role of the public sector is clear,

¹ 269 million in 2019 according to World Bank Health, Nutrition and Population data.

² A Sanitation Needs Assessment conducted in 2014 under the National Program on Accelerating the Development of Sanitation (PPSP) estimated that universal access through the most common available technology would translate into the development of 47 million septic tanks, 16,400 decentralized-sewers (SANIMAS), 2,364 area-scale and 53 city-scale wastewater treatment and sewerage plants, and 497 septage treatment plants.

the private sector can bring about operational efficiency and bring commercial financing under the right conditions.

This chapter is organized around six sections that explore: (i) the structure and funding

of the water sector; (ii) initiatives to facilitate sector improvement and financing; (iii) private investment in the water sector; (iv) the market potential for further private sector engagement in the water sector; and (v) the chapter concludes with a series of recommendations.

II. The Structure and Funding of the Water Sector

A. Water supply

(i) Institutional and legal

Water supply services is a devolved function, but while local governments have primary responsibility for provision of basic services to the population, central and provincial governments also have specified responsibilities. This principle of concurrent responsibility is provisioned in the decentralization law, i.e. Law No. 23/2014 on Local Governments. Under this framework law, Government Regulation No. 2/2018 on Minimum Service Standards spells out further the roles and responsibilities of different levels of government. The general principle is for local governments to be responsible for services that are solely operated and provided within its boundaries, while cross-boundary operations and services come under the appropriate higher level of governments. Indonesia has 542 autonomous local governments (provinces, cities, and districts) and of these, 514 cities and districts have a water supply system.³ Most urban water supply is delivered through local government-owned utility enterprises, known as PDAMs (Perusahaan Daerah Air Minum). There are 448 water supply providers,⁴ of which: (i) 391 are PDAMs, (ii) 26 are constituted under various legal forms, including UPTD (technical departments), BLUD (local service bodies), or BPAM (local water service bodies), and (iii) 30 are private entities, of which a significant number are special purpose entities that were developed as part of specific housing or industrial areas and serve the

narrow function of providing services exclusively to the specific areas (not concessionaire as commonly understood).

The roles and objectives of local government enterprises (including PDAMs) are as yet not well defined. Most PDAMs were created prior to decentralization, through local ordinances based on the Law on Local Enterprises (Law No. 5/1962). Under this law, PDAMs had the objective to deliver public services, collect revenues for those services, and hold assets that have been separated and assigned from local governments. PDAMs therefore hold water supply assets and manage the water systems on behalf of local governments. Except in a handful of cases, PDAMs hold and operate the assets along the entire system - from intake, treatment, and transmission to distribution. Law No. 5/1962 did not provide for commercial or profit motives. Neither did it provide for clear autonomy for PDAMs to make key decisions (e.g. retaining surpluses for reinvestment). The outdated Law No. 5/1962 has been repealed through Law No. 23/2014. However, this latter law provides for the implementing regulations under the former law to continue to be in effect unless it contradicts any implementing regulation under the latter. Unless and until adequate superseding implementing regulations related to PDAMs are issued under the latter law, some uncertainties are likely to continue.⁵ Very recently, Government Regulation No. 54/2017 on Local Government-owned Enterprise was issued in December 2017. These

³ BPP SPAM Kinerja PDAM 2015.

⁴ Based on the BPPSPAM 2017 data.

⁵ There have been government attempts to mitigate the uncertainties — through the issuance of a series of ministerial regulations, decisions, instructions, and guidelines instruments. However, given that implementing regulations derived from a law take precedent over these instruments, their mitigating impact has been limited.

enterprises are defined to have the objectives to contribute to the economic development, provide services, and generate revenue or profit. This regulation includes good governance provisions similar to those applicable to commercial companies. However, it needs to be confirmed that the provisions of Law No. 5/1962 are fully superseded.

The legislative framework governing the water sector has been in a state of adjustments and transition over the last few years.

Following decentralization, Law No. 7/2004 on Water Resources Management was enacted. This law provided for the decentralization of administrative and financial responsibilities in the sector, laying out the delineation of responsibilities and authority between central, provincial, and local governments. Implementing regulations provided for under this framework law, including one on drinking water and sanitation, were mostly issued when the law was revoked by the Constitutional Court following challenge related to private sector control over water resource⁶ in February 2015 (placing the associated implementing regulations into an uncertain status⁷). The Court reinstated the preceding Law No. 11/1974 on Waterworks/Irrigation. Following this, Government Regulation No. 122/2015 on Water Supply Systems was issued (under Law No. 11/1974) as a bridging regulation while efforts are made to enact a new water law.

Government Regulation No. 122/2015 sets out the responsibility for water supply planning, development, and operation and identifies the institutions responsible,

the specific ruling of the Constitutional Court notwithstanding. Under the updated institutional framework, MPWH has technical oversight and provides guidance and support to water supply providers.⁸ Private sector involvement in water supply is provided for in the regulation and subject to certain principles and scope. Water abstraction rights remain with a state or local government enterprise and service provision to the poor needs to be assured. Private investments in any part of the water supply system is permitted, subject to the operations and management of water supply distribution remaining under the purview of the state or local government enterprise (these enterprises may however cooperate with the private sector in the operations, maintenance, and management of the services through performance-based contracts). The role of the Development Board for Water Supply (BPP SPAM), which previously included advising on private sector cooperation, has been revised⁹ to focus instead on improving the capacity and performance of PDAMs.

(ii) Funding needs and sources

The medium-term plan calls for an investment in new water supply infrastructure of around USD 20 billion (IDR 253 trillion) over five years.¹⁰

The MPWH projects that the largest portion (47 percent) of the investment will come from local government. It also aims to attract USD 1.5 billion in private sector financing through PPPs and business-to-business schemes, and USD 860 million in commercial bank financing. The anticipated sources of funding for water supply is shown in Figure 4.1 .

These projections represent a step scale up of financing to the sector, in particular from the private sector, commercial banks, and local governments.

Based on historical spending in water from different public sources from 2001 to 2013 of 0.2 percent of GDP, projected public spending from 2014 to 2019 could climb to around USD 14 billion, USD 3.5 billion short of the expected USD 17.6 billion. More importantly, the magnitudes of historical local government investment in the sector (See Table 4.1) averages about USD 0.5 billion a year or somewhere closer to USD 2.5 billion over the medium-term planning period, instead of the USD 10 billion (47 percent of the total USD 20 billion) anticipated by MPWH.

PDAM retained earnings could be an important source of sector funding, but the majority of PDAMs currently do not have sufficient internal cash generation capacities.

The revenues of a significant number of PDAMs (74 percent of 356 PDAMs with available reports in 2014) do not cover their operating expenses, constraining this potential investment funding channel until significant operational and financial improvements are achieved. The evidence suggests that fixed asset increase seen in PDAMs in the last few years is primarily attributed to transfers from central government programs.¹¹

The overall poor profitability of PDAMs stems from capacity weaknesses and challenging tariff levels and structures, however the lack of accurate operational data underpins an inability to plan and implement improvements.

The prevailing tariff setting guidelines¹² stipulates a target benchmark of 20 percent non-revenue water (NRW) to calculate full cost recovery (FCR) and 'efficient' tariffs on the principle of not penalizing consumers for unreasonably poor performance. Affordability related principles also tend to result in highly imbalanced and unsustainable cross-subsidy structures between consumer categories. The current national average NRW is estimated at about 32 percent, based on the self-reported data from PDAMs.

⁶ Following a legal challenge, the Court ruled against provisions in the law which allowed for the practice of private entities being given ownership of particular water sources (contradicting the Constitution, which treats water sources as owned by the State).

⁷ There are as yet no new laws that provide for the validity of these regulations, in parts or in full.

⁸ Note that there is no overarching economic regulator of water providers, i.e. tariff decisions remain within the purview of individual local governments.

⁹ Through a specific separate Government Regulation No. 90/2016 on BPP SPAM.

¹⁰ This includes the development of raw water intake facilities and downstream facilities (production, transmission, and distribution), but does not include upstream water resource management facilities such as raw water storage (e.g., dams and reservoirs).

¹¹ World Bank, More and Better Spending: Connecting People to Improved Water Supply and Sanitation in Indonesia (2015).

¹² Minister of Home Affairs (MoHA) Regulation No. 71/2016 on Tariff Calculation.

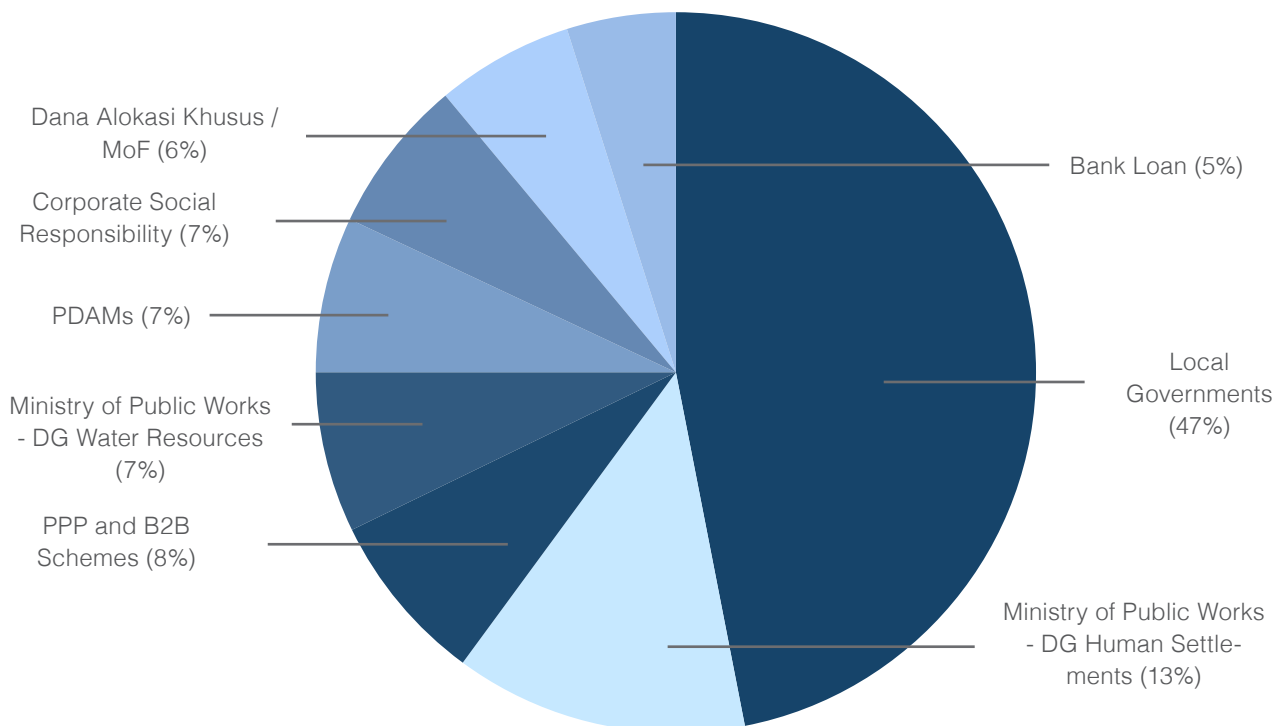
Owing to the lack of accurate meters and lack of technical knowledge,¹³ actual NRW figures are likely higher. Difficult improvement planning due to inaccurate baseline data coupled with ongoing operational deficits creates a vicious cycle of performance deterioration.

Local government significantly influences how water utilities perform, but does not currently face any compulsion or incentive to discharge these responsibilities well. There is no national economic regulatory authority in water. Various models of economic regulation are observed around the world, including regulation through: (i) centralized national regulator (e.g., the UK); (ii) river basin commissions (e.g., France); and (iii) local governments and/or sector ministries. Indonesia is akin to the third model, where the Ministry of Home Affairs (MoHA) plays this role, aligned with its broader oversight mandate of local government and local government-owned enterprises under the country's decentralized structure. As part of its oversight functions of local government-owned enterprises, MoHA has issued MoHA Regulation No. 71/2016 on the Calculation and Setting of Drinking Water Tariffs, which set out directions on how to ensure affordability, set full cost recovery (FCR) tariffs,

and utilize cross-subsidies to balance the two objectives. Tariff decisions rest with the local government chief executive (i.e., Mayor or Bupati). However, currently only 30 percent of PDAMs have FCR in accordance with the criteria set out in the guideline. An accompanying MoHA Regulation No. 70/2016 on Subsidies from Local Government to its drinking water service provider also directs local governments that set tariffs below cost recovery to set aside funding from their local budgets to cover the deficit. Evidently, MoHA is not able to ensure or compel local governments to adhere to these two ministerial regulations. However, MoHA is expected to carry out an evaluation of the implementation of these new regulations soon, and plans to link the implementation of these regulations to Government Regulation No. 2/2018 on Minimum Service Standards as well as the performance evaluation of mayors and Bupati.

¹³ Some PDAMs calculate NRW based on the volume of water billed rather than produced, leading to an underestimation of NRW.

Figure 4.1 Anticipated sources of funding for Water Supply



Source: MPWH 2017.

Table 4.1: Composition of water and sanitation expenditure by level of government

	2001		2005		2010		2013	
	IDR Billion	%	IDR Billion	%	IDR Billion	%	IDR Billion	%
Central	385	18	793	25	3,737	36	9,554	51
Province	186	9	243	8	878	8	1,888	10
District	1,572	73	2,129	67	5,725	55	7,447	39
National WSS	2,142	100	3,165	100	10,341	100	18,889	100

Source: World Bank estimates based on data from APBN, APBD/SIKD, Ministry of Finance.

B. Wastewater and sanitation

(i) Institutional and legal

The authorizing documents for the role of government in wastewater management are contained in a number of statutes. These include Law No. 23/2014 on Local Governments, Law No. 11/1974 on Waterworks/Irrigation, Law No. 32/2009 on Environmental Protection, and Government Regulation No. 82/2001 on the Management of Water Quality and Pollution. The sector was similarly affected by the revocation of Law No. 7/2004 on Water Resources Management as discussed in earlier sections, hence Law No. 11/1974 on Waterworks/Irrigation applies for now. Similar to the water supply services, the responsibility for provision of basic sanitation (domestic wastewater) services is primarily devolved to local governments, following the principle of concurrent responsibility with central and provincial governments as provided for in Law No. 23/2014 on Local Governments. Local governments are responsible for the development of sewerage, wastewater, and septage management services. Central government may support local governments by providing financing for infrastructure development. Business entities are expected to provide their own means of treating wastewater before disposal.¹⁴ The control of pollution is a mandate of government, national and local, based on jurisdiction, however the responsibility for developing the environmental infrastructure is distributed between local

governments and business entities.

The institutional context for the development of environmental infrastructure and service provision only began to take shape in recent years. This contrasts with the water supply services, where typical institutional and service provision structures have been established at the local government level well before decentralization. Few local governments deliver environmental infrastructure services and, for this reason, few have designated institutions to take responsibility for such services. Most local governments implement sanitation programs and operate and manage sanitation infrastructure through units (UPTD or BLUD) under their environment, public works or housing and settlements departments. A few local governments have established local government enterprises for wastewater (i.e., PDPAL) or have incorporated these responsibilities into PDAMs.¹⁵

(ii) Funding needs and sources

The utilization of installed capacity in sanitation is low. Sanitation services have improved in recent years but Indonesia lags significantly behind many neighboring countries. Partial sewerage coverage is only available in a small number of urban centers. New investments in sanitation have suffered from significant delays.¹⁶ At the same time, existing

¹⁴ Wastewater treatment requirements for business entities is included as part of permit application for business and building, depending on the type of business.

¹⁵ Usually in cities where a central sewerage network exists.

treatment systems typically have idle capacities and have deteriorated due to lack of repair and maintenance.

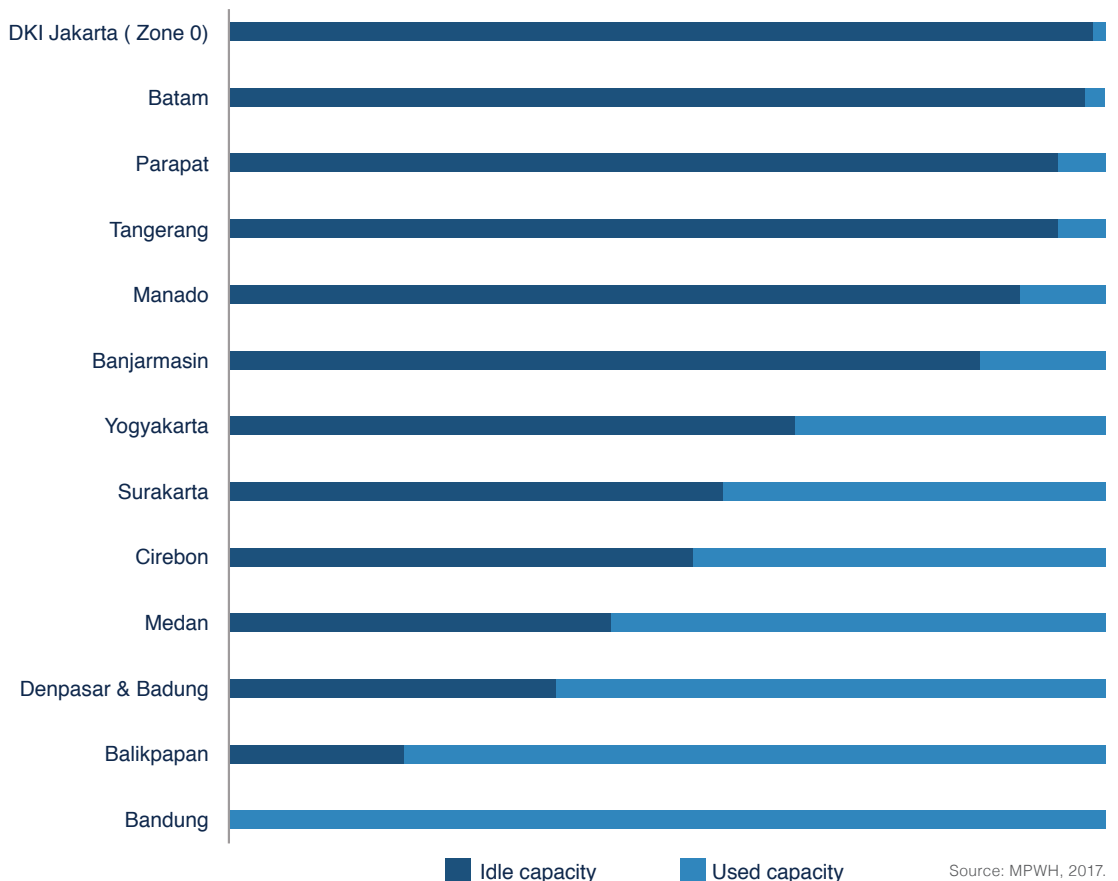
Around 90 percent of sludge treatment plants (STPs) built since the 1990s are either no longer in operation or perform poorly, according to data from 2012. Construction of STPs has not been accompanied by improved fecal sludge management (collection and transport), nor the upgrading of household sanitation systems. Most household toilets connect to a soak pit, where septage merely seeps into the ground. Almost 70 percent of onsite units have never been emptied and less than 5 percent are emptied at regular intervals.

The investment for wastewater infrastructure needed to achieve universal provision of basic wastewater services is estimated to be USD 15.5 billion (IDR 202.4 trillion).¹⁷ Of this amount, central government is expected to fund USD 8.2 billion and local governments another USD 2 billion. A significant amount of funding (USD 5.5 billion) is expected to come from users and communities (see Figure 4.3). Some of this expected users and communities provided funding contemplates investments in private or

onsite facilities such as toilets and sanitation systems for households, neighborhoods, or buildings.

There are significant resource mobilization challenges. A first challenge is that among the public, there is generally a low willingness to pay for a service that is not commonly considered a basic necessity.¹⁸ In addition, municipal wastewater and sewerage infrastructure typically costs three times more per person compared to water supply. Thus, cost-recovery user tariff rates are unlikely to be possible in the near term. On the other hand, the Indonesian wastewater and environmental protection laws envisage the availability of three types of revenue streams: (i) a service fee for the provision of wastewater management facilities; (ii) a permit charge for the disposal of wastewater; and (iii) a levy aimed at funding or incentivizing the protection of the environment. These revenue streams can be used in tandem, but few Indonesian cities have taken advantage of these legal provisions. Where user fees exist, these have primarily targeted commercial and industrial establishments. The revenue stream from this limited base is, by itself, unlikely to be adequate to attract capital investments.

Figure 4.2 Indonesian cities with sewerage systems: idle versus used capacity

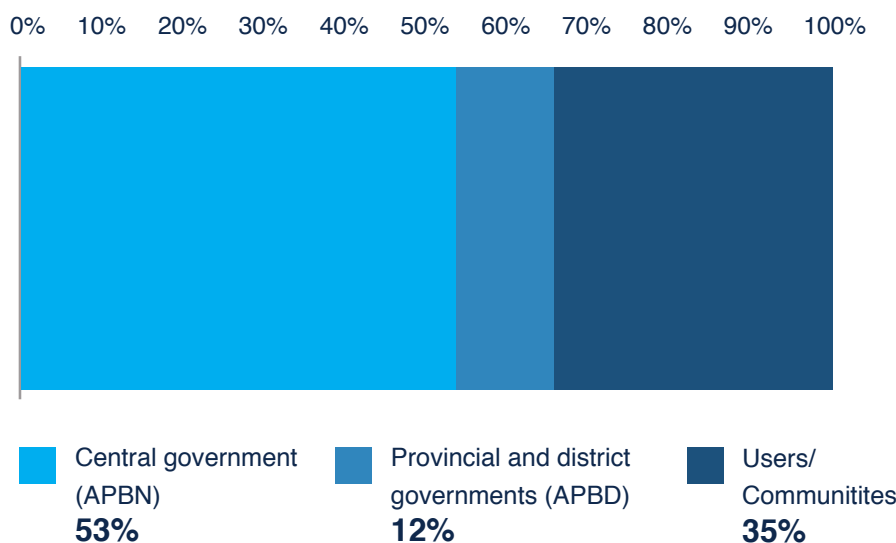


¹⁶ Due to various preparation challenges.

¹⁷ If other sanitation services i.e., solid waste and drainage services are included, the total funding needs to achieve universal access to sanitation by 2019 are estimated around USD 21 billion (IDR 273.7 trillion).

Source: MPWH, 2017.

Figure 4.3 Anticipated sources of funding for Wastewater



Source: MPWH, 2017.

C. Water resources management

(i) Institutional and legal

The water resources management sector was significantly affected by the revocation of Law No. 7/2004 on Water Resources Management (discussed in earlier sections) and the sector has been in a state of adjustments and transition over the last few years. In a move similar to that taken for the water supply sector, Government Regulation No. 121/2015 on Water Resources Business was issued (under the reenacted Law No. 11/1974 on Waterworks/Irrigation) as a bridging regulation while efforts are made to enact a new water law. The prevailing regulation defines the scope and responsible agencies for water resources planning, permit management, and development. Indonesia manages over 8,000 watersheds through 131 river basins, which are overseen by river basin organizations (RBOs). Table 4.2 sets out the distribution of authority among different levels of government over river basin organizations responsibilities.

Water resources allocation is also covered by Government Regulation No. 121/2015, and in the Ministry of Public Works Guidelines (Guidelines No. 25/PRT/M/2016). It sets the framework for allocation of water, both above and below ground, which can be used for drinking water and non-drinking purposes. It enunciates basic principles of water resource utilization,

which emphasize people’s rights over water and the obligation of the state to preserve the environment as a human right. State-owned enterprises, including regionally- or locally-owned companies (BUMDs), have priority in water allocation. Licenses can also be granted to private parties, but with strict requirements and controls, and subject to water availability.

Uncertainties created with the revocation of Law No. 7/2014 on Water Resources has been mitigated with the issuance of interim regulation on water resource management.

Government Regulation No. 121/2015 on Water Resources Business includes provisions for the involvement of the private sector in the financing and management of water resources. However, various conditions apply and certain water resource utilization priorities are prioritized for public institutions and entities. There has been no amendment of the respective government regulations permitting the private sector to finance the management of water resources and providing for the collection of user fees to cover the management, operation, development, and financing of water resources management activities. While regulations permit the private sector to finance the development and management of water resource facilities (such as dams and reservoirs), there is no private participation in the water resources management sector to date. The regulation also

¹⁸ The evacuation and treatment of grey and black water from households is not regarded as being tangible, such water could seep underground or be discharged in rivers, roads, or drains without notice.

Table 4.2: The distribution of responsibilities for river basin organizations

Management responsibility	River basin organization	River basin (WS)
Central control	33 (31.7%)	63 (48%)
Provincial control	57 (54.8%)	53 (40%)
District/city control	14 (13.5 %)	15 (12%)
Total	104	131

Source: Indonesia - Country Water Assessment Report, ADB, 2016.

provides for the collection of user fees to cover the management, operations, development and financing of water resources infrastructure, which could underpin investment of private capital in these projects, but to date, there has been no such participation. Instead funding, construction, and management of dams and reservoirs rely on public agencies. See Table 4.3 .

(ii) Funding needs and sources

The total investment required for water resources infrastructure is estimated at USD 3 billion over the medium term. Investments include the development of additional storage and headworks to transfer water and make it available for use in irrigation and agriculture, hydropower, and water supply. They do not include investments for water distribution discussed earlier. The government’s medium-term goal is to ramp up the development of storage nationally to add a capacity of 8.2 billion

cubic meters (BCM) through 65 new reservoirs. This implies a 30 percent increase in the number of dams and roughly a 50 percent increase in overall storage capacity. These developments are expected to: (i) increase raw water intake from current levels of 51,440 lps to 118,600 lps; (ii) increase the irrigated area served by headworks by roughly 8 percent (from 950,000 to 1,400,000 hectares, out of a total of 8.6 million hectares); (iii) increase the supply for hydropower five-fold, from 65 megawatts to 400 megawatts in total; and (iv) increase flood control resilience by reducing 20,000 m3/sec of potential floods. Along with these 65 new dams, under its Renstra 2015-2019, the MPWH has targeted the rehabilitation of 46 existing dams and 1,175 storage tanks (*embung*). The plan also includes the development of 1 million ha of new irrigation areas and the rehabilitation of 3 million ha of existing irrigation schemes. These efforts are expected to contribute to the production target of 82 million tons of rice in 2019.

Table 4.3: Institutional roles in the management of dams and reservoirs

Central government	Management of dam infrastructure (technical recommendation, water allocation, etc.). Construction of new dams. Rehabilitation of existing dams. O&M for dams and river.
Province	N/A
City/district	N/A
SOE (PJT)	Operate and manage selected dam infrastructure (PJT I and II).
Private (PLN, mining)	Operate and manage their own dams.

Source: World Bank COFIS database using MoF data.

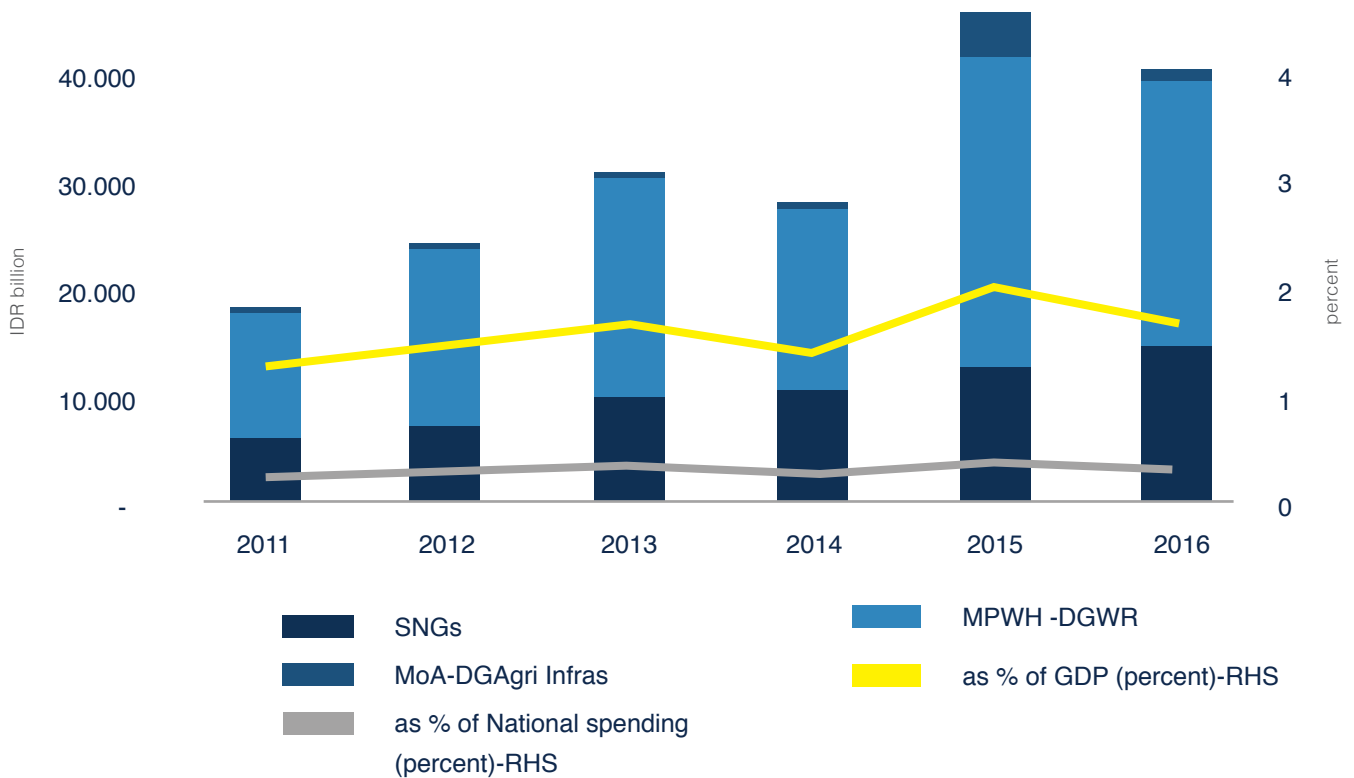
Note: Central government spending on water resource development includes MPWH and MoA. Total government spending comprises central government spending including subsidies, interest payments excluding transfers, provincial spending, and district-level spending.

Past spending on the development of water resources has come exclusively from the public sector – 65 percent from national budgets, with the balance coming from local government (see Figure 4.4). No significant private financing of this program is envisaged, exacerbated by the uncertainty in the policy environment caused by the annulment of the Law on Water Resources (Law No. 7/2004).

stakeholders and institutions. The Annual Report of PJT I portrays a profitable organization that is able consistently to provide a return on equity of around 25 percent. As the nature of the PJTs' business is confined to the development, operation, and management of dams, there could be a role for private investments in this area.

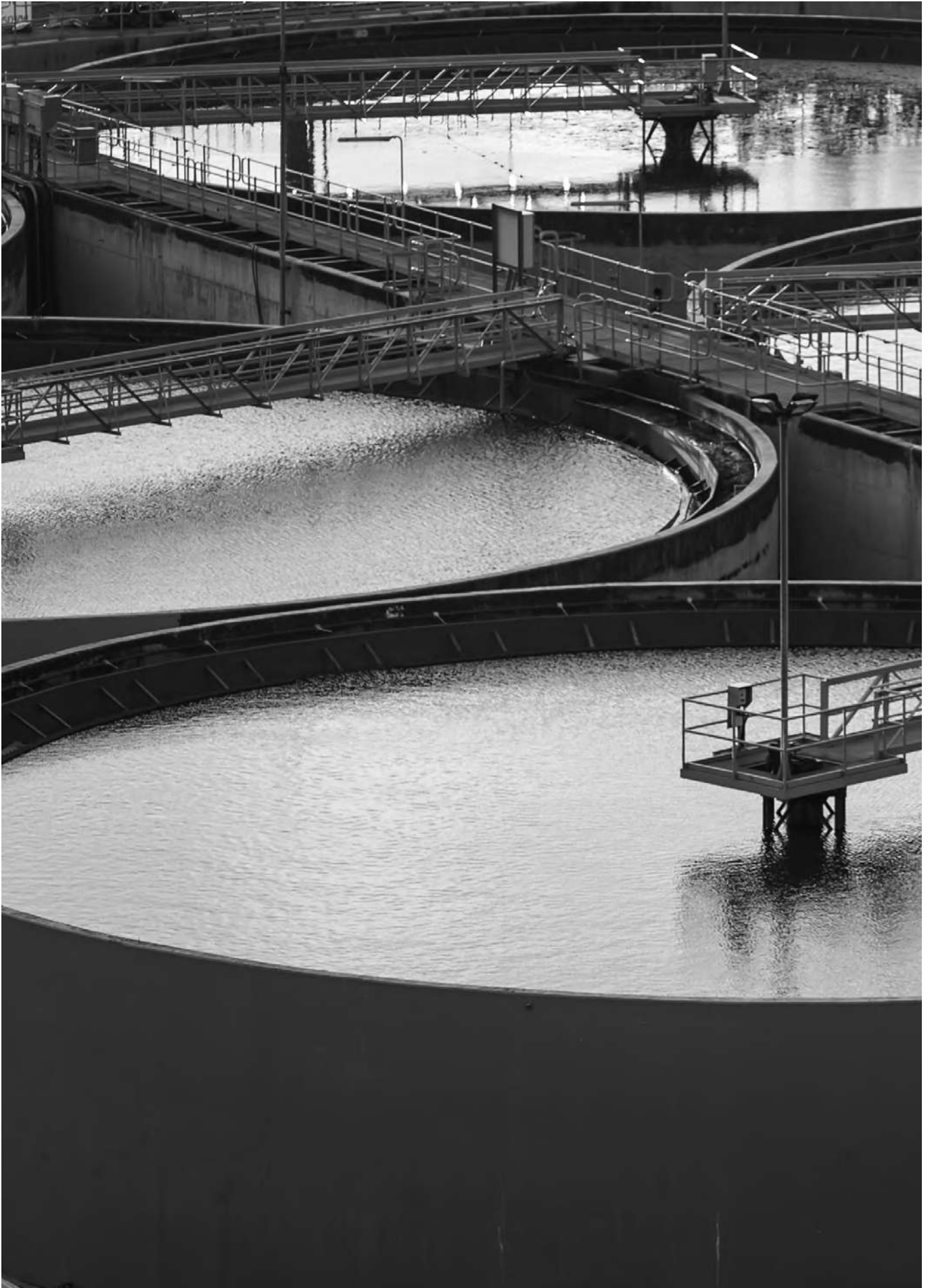
Two state-owned enterprises (SOEs) on the island of Java operate and maintain basin management services on a financially sustainable basis and could be ripe for private investments. On Java, the government created Perum Jasa Tirta (PJT) I to cover five river basins in East and Central Java, and PJT II to cover two basins in West Java and DKI Jakarta. The SOEs operate reservoir systems and sell bulk water and bulk water services for drinking, industry, agriculture, and power, as well as irrigation systems (canals) and other water-related services, including domestic water treatment facilities. As operating companies, they have no authority in terms of enforcement, basin planning, public infrastructure development, or tariff fixing, and must work through other

Figure 4.4 Spending on the development of water resources 2011–2016



Source: World Bank COFIS database using MoF data.

Note: Central government spending on water resource development includes MPWH and MoA. Total government spending comprises central government spending including subsidies, interest payments excluding transfers, provincial spending, and district-level spending.



III.

Initiatives to Facilitate Sector Improvement and Financing

Local governments hold the key to the operational and financial sustainability of the urban water supply sector.

Profitable local government-owned PDAMs generate internal funding for reinvestments, as well as attract interest and financing from various sources, including the private sector. As the main water off-takers, PDAMs also predominantly determine the profitability and the investment attractiveness of production and bulk supply schemes. Over the last two decades, government initiatives in the urban water supply sector have focused on putting PDAMs on a path to operational and financing sustainability. However, progress has been inconsistent and slower than hoped.

By 2000, many PDAMs were in difficulties and in arrears with the Ministry of Finance (MoF) following a long period of poor cost recovery and lack of support from local governments.

With impetus from a series of Infrastructure Development Policy Lending

(2006-2010) schemes, the government began to implement initiatives aimed at: (i) rebuilding the capacity of PDAMs; (ii) enhancing their access to finance through commercial banks; (iii) providing incentives to local governments to invest in urban water supply; (iv) tackling the PDAM debt overhang; and (v) promoting increased private sector participation. These initiatives included: (i) technical assistance, capacity-building, and corporate governance reforms for PDAMs; (ii) debt restructuring of MoF loans to PDAMs; (iii) a novel financing mechanism to encourage domestic commercial banks to lend to creditworthy PDAMs with the support of government partial credit guarantees (PCG) and interest rate subsidies (Presidential Regulation No. 29/2009); and (iv) development of financial instruments and the establishment of non-bank financing institutions (i.e. PT SMI, PT IIF, PT IIGF) to support the PPP framework for encouraging potential private investors to deliver a whole range of infrastructure services.

A. Technical assistance for professionalizing PDAMs

While government initiatives mentioned above have resulted in overall aggregate improvement in PDAM performance, only half of the PDAMs are currently classified as 'healthy'. MPWH's technical assistance program to improve the condition of PDAMs, started in 2007, took a range of forms including: (i) the provision of technical and financial/commercial advice; (ii) operational equipment and systems; and (iii) training programs. Starting from a baseline of only 37 in 2007, there are today 197 PDAMs classified as 'healthy'. However, the current categorization system is based on a combination of technical, financial, and commercial criteria.¹⁹ Thus, a 'healthy' PDAM may reflect good performance in non-

financial aspects, but may not be profitable. From a financial and commercial viability point of view, the most recent audits in 2015 show that only a quarter of PDAMs generate operating surplus and about the same portion operate at cost-recovery tariff levels.²⁰ The need to have an improved categorization system notwithstanding, the predominance of unprofitable PDAMs points to a systemic problem beyond the individual operational and capacity issues of PDAMs. It is noted in the earlier Section II.A.ii that many PDAMs are faced with the vicious cycle of operational deficits, where FCR tariff levels are premised on a level of Non-Revenue Water (NRW) significantly better than actual conditions.

¹⁹ The performance assessment indicators used include: the financial aspect, with a weighting of 25 percent; the service aspect, with a weighting of 25 percent; the operational aspect, with a weighting of 35 percent; and the human resources aspect with a weighting of 15 percent.

²⁰ BPPSPAM, MPWH 2015.

B. Debt restructuring of PDAMs

Completing the restructuring of non-performing loans (NPL) owed by PDAMs to the Ministry of Finance (MoF) has taken over a decade, but now appears to be in its final stages. Since 2005, MoF has been implementing various versions of PDAM debt restructuring programs, including: (i) partial or full write-off of arrears, and (ii) debt to equity conversion. MoF Regulation No. 120/2008 provides for PDAM debt restructuring through partial or full write-off of accumulated interest, arrears, and late payment penalties on sub-loans, provided that the local government and PDAM agree to certain governance conditions, including: (i) full cost-recovery tariffs; (ii) fair and open staff appointments; (iii) preparation of business plans; (iv) local government support for loan repayment; and (v) local government authorization to allow 'intercepts' of its general budget transfers from central government in the event of noncompliance with debt servicing.

Most recently, MoF Regulation No. 31/2016 initiated a revised debt-release program.

Under this debt swap program, the PDAM's non-principal arrears are written off and the loans converted into a non-cash grant to the local government, on the condition that the local government makes an equity contribution to

the PDAM equal to the grant. The debt write-off would be permanently reflected in the PDAM's accounts following achievement of the following key performance indicators: (i) the ratio of average tariff to average production cost should be approximately 1 to 1; (ii) Non-Revenue Water (NRW) post-restructuring should be reduced to a 20 percent level (national average 40 percent); (iii) bills for usage must be sent out within a maximum of 45 days (it is currently close to 3 months); and (iv) improved service coverage.

While it is too early to assess the success of this recent restructuring program, about 103 PDAMs had signed up by the deadline of 31 December 2016, representing a total debt of about USD 295 million (IDR 3.86 trillion).

The main challenges to persuading more PDAMs to enroll were as follows: (i) PDAMs had little cash to pay the principal amount, even by the extended cut-off date (28 February 2016); (ii) local governments had to pass a regulation committing to inject the same amount of non-principal loans to relevant PDAMs from their 2016 local budget; and (iii) a lack of commitment on the part of district/city mayors to increase the current water tariff of the PDAMs to full cost recovery level and reflect the same in their approved business plans.

C. Guarantees and interest subsidy on commercial finance

The 5-year program begun in 2009 to encourage banks to finance investments in the sector through a credit subsidy scheme initially faltered, but ended with a handful of successful transactions. The scheme, introduced under Presidential Regulation No. 29/2009 on Interest Subsidies, sought to provide credit support for loans to PDAMs from eight participating national commercial and regional development banks. Through the scheme, the central government would provide up to a 5 percent subsidy on interest rates to narrow the gap between the commercial lending and central bank rates and guarantee up to 70 percent of defaults (of which 30 percent was in the form of counter-guarantees from local governments). This scheme was targeted at PDAMs with no debt arrears. Apart from supporting PDAM access to financing, the program also has the aim of introducing banks to business potentials in the water sector. This scheme did not take off as expected in the initial years. However, 11 PDAMs

successfully accessed loans from five banks (to the total amount of USD 25 million) prior to the program's conclusion. This amount represents only 6 percent of the program's total target but is a positive sign. Lessons were distilled at the end of the program, including:

- the reluctance of, or the difficult process to, obtain local government counter-guarantees;
- the lack of capacity of PDAMs in preparing bankable proposals, extremely complex procedures requiring MoF to approve each umbrella agreement between all parties in order to issue a partial credit guarantee (the first three cases, for Bogor, Ciamis, and Lombok Timur, took between 411 and 594 days to process the approvals);²¹
- the limited borrowing capacity of PDAMs, which was measured by different studies as only 0.6 to 1.6 times Earnings before Interest, Tax, Depreciation, and Amortization (EBITDA);²²

- a lack of clarity about the terms of the loans to the PDAMs (for example, whether the interest rate over the loan period would be on a fixed rate or floating rate basis);
- a general lack of exposure of banks to the water supply industry and PDAM businesses.

D. Output-based incentives for inclusive water supply

The success of output-based grants for water connections demonstrated the importance of incentivizing local governments and PDAMs.

The government piloted the Water Hibah program in 2010 with development partner grant funding. This output-based incentive reimbursed local governments for investments made in PDAMs towards densifying service connections for the poor. The Water Hibah Program was generally successful in using excess production capacity by stimulating local government investment in service connections. This resulted in an additional 97,000 low-income households being connected to piped water and about 5,000 low-income households to piped sewer systems, thereby helping over 485,000 people gain access to improved water supply, and 25,000 people to improved sanitation. While the main focus of the Hibah program was on improving access to water for the poor, it also helped PDAMs to utilize its idle production capacity and generated additional revenue (program reimbursement includes conditions to demonstrate payment of the consumer water bill for three consecutive months). It also provided an incentive for participating local governments to invest in PDAMs. Following the success of the pilot, the Hibah program has now been mainstreamed into the government program. A mainstreamed Hibah program that is fully funded through central government budget has been in place since 2016.

reduction-based incentive programs, which can directly contribute to improved PDAM financial performance.

The Hibah program has significant potential for further improvements in Indonesia.

The Hibah program demonstrated how central government funding can be used to incentivize direct action at the local level. Consistent with experience in other countries, a sufficient Hibah payout early into the term could enable commercial financing for a project by effectively bringing down the cost of capital (the grant settles an equivalent part of the principal owed), rendering the project bankable. A Hibah-supported enhancement of commercial viability of this nature also has the potential to incentivize private partnerships.

²¹ Based on PT CRM (and EBD) in association with PWC was involved for Presidential Regulation No. 29/2009 related efforts to conduct Business Plans for several PDAMs funded by INDII (DFAT).

²² Financing PDAM investment through Presidential Regulation No. 29/2009; Technical Report prepared by KPMG and IndII; 2012 Incidentally research by INSEAD for water utility companies, quoted by the report put the borrowing capacity as equal to 6.2 times EBITDA for Europe and 3.0 times EBITDA in America, 1.8 times EBITDA in the Philippines, and 2.0 times EBITDA in Brazil.

Efforts have begun to expand the Hibah program to include other forms of investment beyond water connections.

The Hibah program is focused on increasing water connections where a PDAM has existing unsold water surplus or idle production capacity. The current short term one-off payment program does not lend itself easily to address larger and longer-term investment requirements, such as water transmission, pressure management, or non-revenue water reduction. While the mainstream Hibah program continues, the government (with the support of development partners, including the World Bank) has begun an effort to develop other performance-based grant programs. Initial focus is on non-revenue water and energy

E. Sector improvement platform

The Government has recently developed and established the National Urban Water Supply (NUWAS) Framework, which will provide an integrated and streamlined program to improve the governance, technical, commercial, and financial urban water service providers. Under this framework the existing but inadequate PDAM categorization system discussed earlier has been further refined and expanded into five categories to enable a more detailed capacity and performance category stratification of PDAMs and local governments. Figure 4.5 shows the grouping of PDAMs from Category 1 to Category 5 based on their performance status and the fiscal capacity of their local government owner. This refinement of categorization has been done to the level adequate for the purposes of basic targeting of differentiated support packages aimed at helping PDAMs at a given capacity and performance level to reach the next level of capacity and performance.

The framework utilizes various existing initiatives discussed earlier, and improves or augments them to form a comprehensive and integrated PDAM improvement program.

Where gaps are identified that are not yet addressed, additional activities are developed to fill these gaps. The emerging framework provides a broad and comprehensive range of technical assistance, capacity building, and investment financing support packages which can then be targeted to various PDAMs to achieve specific improvement aims. These tailored support packages in effect form an incentive-based structure. Each package is aimed at lifting the PDAM to a higher level of performance and towards eligibility for the next support package, leading to gradual and continuous improvement.

²³Grants from the Australian government and USAID.

²⁴Source: <http://dfat.gov.au/about-us/business-opportunities/tenders/Documents/revise-concept-note-indonesia-infrastructure-program.pdf>.

²⁵Similar approaches have been used in Uganda and Kenya in urban and small towns' water supply.

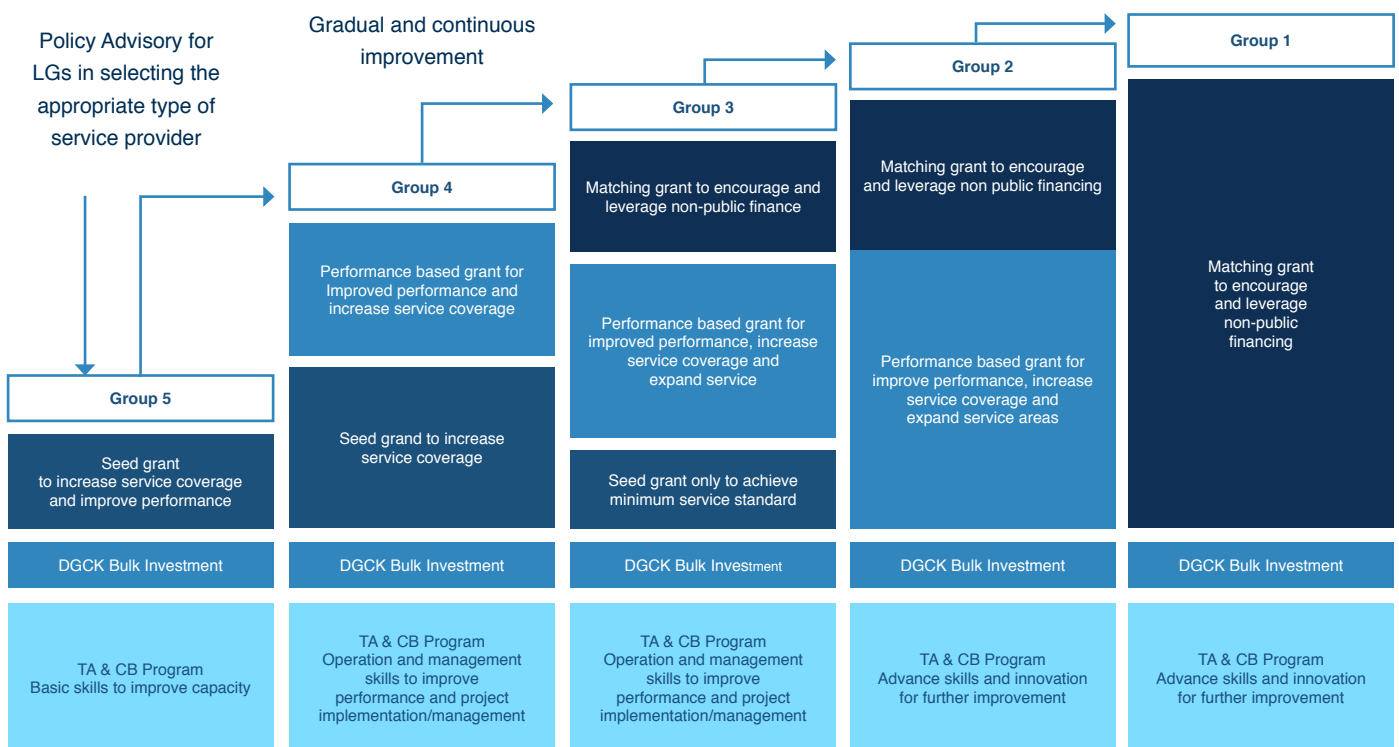
Figure 4.5 National Urban Water Supply (NUWAS) categorization framework

LG'S FISCAL CAPACITY	PDAM CATEGORY				
	SUSTAINABLY HEALTHY	HEALTHY	POTENTIALLY HEALTHY	LESS HEALTHY	SICK
VERY HIGH	GROUP 1	GROUP 2	GROUP 3	GROUP 4	GROUP 4
	APBD, PDAM	APBD, PDAM	APBD	APBD	APBD
HIGH	APBN through MG, IG, TA & CB	APBN through PBGMG, IG, TA & CB	APBN through PBG, MG, SG and IG	APBN through SG, PBG, and IG	APBN through SG and IG
MEDIUM	GROUP 2		TA & CB	TA & CB	TA & CB
	PDAM, APBD				
LOW	APBN through PBG, MG, IG				
	TA & CB				

Source: MPWH, 2017.

The framework operates at scale by simultaneously targeting the approximately 350 - 400 existing urban water service providers, offering differentiated packages of support tailored to the differing performance statuses, needs, absorptive capacities, and other circumstances of the many urban water service providers. Each package is designed to integrate central government, local government, PDAM, and other financing. Figure 4.6 illustrates the packages available for each category. The figure also illustrates the arrangement of available packages that forms the incentive-based mechanism described in the preceding paragraph. Importantly, the framework incentivizes performance and rewards the leveraging of public funds, supporting PDAMs to utilize commercial financing,²⁶ including to partner with private sector, as they reach levels of performances that will begin to attract non-public financing. The framework is now being operationalized.

Figure 4.6 NUWAS incentive-based structure



Note: Size of the box does not reflect the available amount of each grant
Source: MPWH 2017

²⁶ Including by providing matching grants.

IV.

Private Investment in the Water Sector

Current private investments and operations in the water sector in Indonesia can be classed into “Government Cooperation with Enterprises” (KPBU), which includes “Public-Private Partnership” (PPP) and “Business-to-Business” (B2B) transactions. The former concerns projects for which some form of central government financial support is requested, while the latter are financed through SOE or private financing sources. This classification system is based on Presidential Regulation No. 38/2015 on Government Cooperation with Business Enterprises. In turn, this regulation was issued alongside several government instruments (e.g., an infrastructure guarantee fund, a viability

gap funding instrument, an availability payment mechanism) aimed at providing more tools for the government to provide support to private sector transactions in infrastructure. There are considerably more B2B transactions currently in existence, as these do not require central government oversight or approvals, and so are seen as simpler to implement. However, it is important to note that the term B2B is loosely defined, and is commonly used to refer to a range of very different types of private sector-related transactions. Further information about these classifications and instruments can be found in the “Bringing Projects to Market” chapter.

A. Business to business (B2B) transactions

Local governments and PDAMs had already been contracting with private parties through B2B arrangements since 1993, i.e. before the current regime of infrastructure PPPs was put in place. Today there are 71 water projects commonly referred to as B2B covering a range of modalities, such as full concessions, Build-Operate-Transfer (BOT), and Build-Own-Operate (BOO). Table 4.4 shows the types of B2B contracts in place throughout Indonesia, together with the number of contracts of each type and their size in liters per second.

Most B2Bs have been used for the development, refurbishment, or operation of water treatment plants (bulk supply). By their nature, B2B transactions are generally found in projects that are commercially sound, where financial and other risks are relatively low and/or where the payment arrangements relatively simple (e.g., bulk water sale to a single purchaser, as retail sales to individual water users). Although B2B contracts have the potential to cover a range of activities,

including the operations and management of distribution networks, most transactions to date (55 percent) only involve the construction and operation of water production and treatment plants, at sizes ranging from 100 to 500 lps production capacities. Where there are existing B2B involving the development of greenfield or rehabilitation of brownfield distribution areas, they have been mainly in enclave private real estate developments (e.g., Lippo Karawaci near Jakarta), and in industrial estates (e.g., Jababeka Industrial Estate, Delta Mas City, Bukit Indah, and KIIC in Karawang Regency). These form a distinct class of B2B, where the private sector developers have been permitted to develop, construct, and operate water services for the exclusive needs of their development. Typically, permission is given as part of the area development approval process. There are no specific water supply related contracts between the authorities and the developer or operator.

Table 4.4: B2B contracts in the water sector

No	B2B contract modalities	Number of contracts	Contract volume (in liters per second - lps)
01	Full concession contract (water treatment plant — WTP — up to end-users)	10	14,620
02	BOT (WTP + transmission & main distribution)	20	9,530
03	RUOT (Refurbish-Upgrade-Operate-Transfer)	14	14,220
04	O&M for intake and WTP	2	3,040
05	BOO/BOT for housing & industrial estates	25	6,495
	Total	71	47,905

Source: World Bank estimates based on interviews with ASPASINDO members, BPPSPAM, GWI.

Despite various difficulties, ten full concessions have remained in force over recent years. The oft-cited PT Bangun Cipta, the operator for the Batam concession, has shown a high level of operational efficiency and careful management of their capital development program, despite a 7-year tariff freeze. However, this is a concession located in the special industrial development zone of Batam Island, having been let out by the Industrial Development Authority Batam Island. Neither local governments nor their PDAMs

are involved in the contract. At the other end, several concessions have continued to be in force but have suffered from frequent and ongoing disputes which have negatively impacted the expected financial and operational gains, the expected expansion of infrastructure, and improvement of service provision. Unfortunately, these negative examples, including the two high-profile concessions in Jakarta, have served to reduce the appetite of stakeholders for private sector involvement.

Table 4.5: A sample of B2B transactions

B2B Contract and GCA	B2B modalities	Contract duration	Estimated capex (USD in million)	Capacity (lps)	First year bulk water tariff	Expected return on investment
PT Tirta Gajah Mungkur (PDAM Kota Semarang)	RUOT	2004-2024	4.5	600	Rp. 3,750/m ³	18.0%
PT Moya Bekasi (PDAM Tirta Bhagasasi – Kab Bekasi)	ROUT/BOT	2012-2037	20.0	1,000	Rp. 2,150/m ³	16.0%
PT Moya Tangerang (PDAM Tirta Benteng - Kota Tangerang)	ROUT/BOT	2013-2038	120.0	1,950	Rp. 3,750/m ³	16.0%
PT Drupadi Agung Lestari (PDAM Intan Banjar, Kab Banjarbaru)	ROUT/BOT	2014-2034	5.8	500	Rp. 3,750/m ³	18.0%
PT Drupadi Agung Lestari (PDAM Giri Tirta – Kab Gresik)	ROUT/BOT	2013-2038	7.2	400	Rp. 2,500/m ³	18.0%

Source: World Bank estimates based on interviews with ASPASINDO members, BPPSPAM, GWI.

There is a group of ongoing B2Bs between the private sector and PDAMs that may serve as examples for further improvement and future scale up of private investments and operation in urban water supply. These have generally taken the form of long term Refurbish-Upgrade-Operate-Transfer (RUOT) and Build-Operate-Transfer (BOT) bulk water supply contracts between the private sector entity and the PDAM. Table 4.5 provides a sample of these B2Bs, showing type of contract, duration, capital requirements, capacity (in lps), tariffs, and expected return on investment based on preparation studies accompanying those projects.

These B2B contracts are not without problems. An earlier proposed B2B in Tangerang failed to materialize. The current Tangerang B2B is smaller and less complicated. Nevertheless, it went into arbitration over the size of residual payment at final transfer related to rate of return provisions before being amicably resolved with both parties agreeing to move forward. Some B2B transactions underwent changes of ownership. For instance, PT Adaro Energy Tbk bought out the two concessions of the insolvent PT Drupadi Agung Lestari in Gresik and Banjarbaru. These and other instances (Table 4.6) of ownership change may have been motivated by a strategic business decision to engage (or reengage) in the water sector on the part of the buyer, who is often already engaged in infrastructure development in other sectors. The below examples suggest that some B2B arrangements in the last decade have continued to operate and private sector interest in the sector continues to be present.

While the operating environment may not have been ideal, the resolution of disputes and adjustments made provides valuable lessons for further improvement. Going forward, the potential exists to develop a more competitive market for these B2B projects.

B2B transactions present a more organic path to bringing projects to market, relying on the stakeholders to strike a satisfactory deal. Even prior to the issuance of Presidential Regulation No. 38/2015 on Government Cooperation with Enterprises, a number of concessions and BOT agreements for the development of water treatment plants had been concluded between local government-owned water companies and private companies under business-to-business arrangements. These arrangements were entered into according to processes dictated by the policy of the local government-owned water company. Except for a few cases, such as Tangerang and Bekasi, these contracts were usually a result of a simplified competitive process between the PDAM and the private company. The procurement process usually starts with a pre-feasibility study undertaken either by the PDAM or submitted by a private company. Following the pre-feasibility study or proposal, at least three private sector companies are invited by the PDAM to present their ideas or technical solutions. The one selected by the PDAM procurement committee carries out a full feasibility study, which then forms the basis for negotiations and contracting. Although this method of procurement is shorter and simpler, it fails to benefit from significant

Table 4.6: Changes of ownership in B2B transactions in the water sector in Indonesia

Purchaser (Buyer)	Seller	Remarks
PT Tamaris Hidro	Moya Indonesia	Transaction described below
	Acuatico	
PT Adaro Energy Tbk, through subsidiary PT Adaro Tirta Mandiri Invests in energy and mining	PT Drupadi Agung Lestari having two concession contracts in Gresik (400 lps) and Banjarbaru (500 lps)	PT Adaro Tirta Mandiri acquired 68.9 percent shareholding of PT Trimitra Tirta Sarana amounting to Rp 34,34 billion, equivalent to USD 264 million
PT Nusantara Infrastructure Tbk through subsidiary, PT Potum Mundi Infranusantara Parent company started in the toll roads sector and now invests in energy and ports	PT Sarana Catur Tirta Kelola has two concessions in Serang Regency	PT Potum has increased the existing capacity to 325 lps to serve industrial estates

competitive pressures. In fact, several PDAMs have been reluctant to use this channel because of questions raised by the national auditing board on procedural aspects of these transactions. Clear and consistent guidance is necessary to enhance competitive elements of B2B procurement without overburdening market participants. For example, rules on disclosure and insistence of competition on price (the

current practice leaves price as a negotiated aspect of the transaction) can benefit PDAMs and consumers with potentially increased value-for-money, and at the same time protect the private contracting parties from questions on the validity of the procurement. Box 4.1 describes how the latest regulations have streamlined the process of setting up B2B arrangements.

Box 4.1: Bringing B2B to market

B2B contracts do not require central government support (such as VGF) but still need to be supported and approved by LG, as outlined in the PPP regulations. These regulations have helped MPWH facilitate the entry of the private sector into water projects by creating an opportunity for contracts to be signed directly between PDAMs and private sector parties.

While the ministry's Board for Increasing Service in Water Supply (BPP SPAM) exchanges information with the Association of Private Water Companies in Indonesia (Aspasindo) about existing B2B contracts, there is no formal, central tracking of B2B projects and no guidance given to PDAMs in pipeline development and promotion.

B2B contracts follow the PDAMs' procurement mechanisms and, until recently, allowed for direct negotiation. Under the previous regulatory regime, B2Bs required the approval of the local executive and parliament, but under the latest regulations, the arrangement is directly approved by the PDAM Board of Directors, acting as the government contracting authority. The new guidelines (including Presidential Regulation No. 38/2015) require even unsolicited B2B proposals to be subject to competition. This is a step in the right direction since previous practice leaves no competition on price, nor in certain cases on technical approaches.

Guidelines to PDAMs on B2B procurement, the standardization of contracts, and tracking their performance can all help develop the market for private participation in the sector.

B. Public-Private Partnership (PPP) transactions

Recent creation of government instruments to provide support to the private sector for infrastructure development have made it possible for less viable or more risky water projects to be offered for private sector partnerships. These instruments include: (i) the Indonesia Infrastructure Guarantee Fund (IIGF), (ii) MoF's Viability Gap Funding (VGF) instrument, and (iii) most recently MoF's Availability Payment instrument. These instruments allow more risk-sharing between public and private parties and are not premised on commercially independent projects.

Importantly, Presidential Regulation No. 38/2015 on Government Cooperation with Enterprises on Infrastructure Provision provides for return on investments to be recovered through availability and other payments and revenues, which is a departure from previous regulations that allowed returns to come only from tariffs. Under an availability payment contract, the government contracting authority (GCA) makes fixed payments to the private contractor for making a service/ infrastructure asset available. Often the availability payment is made on a 'take or pay' basis i.e., payment is made as long as the service or asset is made available under the

conditions and standards set in the contract, regardless of its utilization. VGF provides a specific cash grant to cover a portion of capital costs to make economically desirable projects financially viable. If the revenue stream of a project cannot cover the full capital and financial costs, VGF can be used conjunctively to cover the shortfall. Various forms of guarantees, provided through the Indonesia Infrastructure Guarantee Fund (IIGF) or directly by the Ministry of Finance, can also be used to provide further risk mitigation if required. In addition, a project development fund has also been created in 2015 to support the preparation of PPP projects. These projects are undertaken through a Cooperation Agreement between the government or government-owned contracting authority and the financier, contractor or operator.²⁷

²⁸ The government or government-owned contracting party can be various government ministry, agencies or government-owned enterprises at central or local level (to suit the structure of the relevant infrastructure sector). The regulations encompass a range of financier/contractor/operator types.

The Ministry of Public Works Guidelines No. 19/PRT/M/2016 on Provision of Support from National and/or Local Government within Cooperation Agreements in Water Supply provide specific guidance for the application of Presidential Regulation No. 38/2015 to the water sector. These guidelines stipulate that government cooperation with the private sector in water supply must take place through a state or local government owned enterprise acting as an intermediary. The private sector cannot be contracted directly by the central or local

governments. This policy is understandable from a political economy as well as a legal perspective - the infrastructure assets sit in the balance sheet of the state or local government owned enterprise, which therefore must be the entities delegating the authority to develop, manage, and maintain them. Risks associated with the state or local government owned enterprise should thus be mitigated, if necessary, with the use of the various government instruments described earlier.

The Ministry of Public Works Guidelines No. 19/PRT/M/2016 allows cooperation with the private sector in distribution systems but stipulate important conditions. The private sector can finance the distribution system infrastructure. However, in regard to operations and maintenance (O&M) of the distribution system the private sector can only invest in O&M 'technologies' through a performance-based contractual mechanism. This is commonly interpreted as seeking to ensure that the private sector is not involved in the direct interaction with customers, including charging and collecting tariffs, which would remain the undertaking of the state or local government owned enterprise. Presently, there are significant uncertainties over how this provision will be applied and implemented. Private participation downstream of bulk water development could

Box 4.2: The Bahamas Build-Operate-Transfer desalination project with a non-revenue water performance-based contract

The Bahamas is an island nation in the Caribbean Sea with a population of about 400,000, 70 percent of whom live on the island of New Providence. Like many inhabited islands, fresh water is a precious resource, dependent on rainfall and susceptible to salt water intrusion. Water scarcity in New Providence is acute—the safe yield from existing ground water was estimated to be less than 50 liters per capita per day. To meet growing demand in New Providence, the Bahamas Water Supply and Sewerage Corporation augmented supplies through barged water from another island. It also invested in a 9,000 m³/day desalination plant in 1998 (Windsor Field). In 2003, the utility entered into an innovative contract that combined a 20-year building, operation and transfer of a desalination plant in Blue Hills with a 1-year performance-based contract to reduce leakage. This was to ensure that, before new capacity was brought in, the network would be in a good shape to receive it. The contractor was obliged to reduce leakage by 4,500 m³/day within a year, otherwise it would provide the equivalent volume from the desalination plant for free until it met the target. At the end of one year, the contractors exceeded the target by almost 50 percent through the establishment of district metering areas, pressure management, large meter replacement, pump control, and leak detection and repairs. Given the short duration of the PBC contract, only investments that made sense in the short term were carried out. Following this successful experience, the utility has since contracted a specialist NRW firm under a longer 5-year performance-based contract.

generate significantly more value-for-money through lifecycle cost optimization and giving the incentive to the private operator to ensure that the water produced is distributed and sold to end consumers. The private operator would be able to time investments in water production in parallel with efforts to manage non-revenue water and the mobilization of customers. However, the private sector will also be assuming more downstream risks, including interacting with more stakeholders, e.g. end consumers and possibly multiple PDAMs. As such, not all distribution related projects may be attractive for the private sector.²⁸ For an example, see Box 4.2 on the Bahamas Bulk Water and Non-Revenue Water Project.

The Umbulan Water Project is presently the only water supply project that has been transacted under the Government Cooperation with Enterprises mechanism.

The project has successfully gone to market and reached financial close (see Annex H for more details of the project structure and challenges). The project has been 46 years in preparation, but no real progress was made until it was designated as a national priority and placed under the watch of the Committee for Accelerating the Delivery of Infrastructure Priorities (KPPIP), an inter-governmental agency created two years ago to remove bottlenecks in the case of priority projects. Most of the recent delays had to do with addressing and negotiating the various needs of six different local governments involved in the off-take of water. A number of factors, listed below, finally allowed the project to achieve financial close, but also increased the residual risks and contingent liabilities for the government by virtue of the risks assumed by the province-owned bulk water company and several government-owned financiers to the project. These include:

- The KPPIP took a strong coordinating lead in resolving bottlenecks.
- From an institutional perspective, the Provincial Government championed the project and took on the primary obligation for the Water Purchase Agreement (WPA). It created a provincial bulk water company (PDAB), which enters into the WPA with the PPP Company and which then entered into sub-agreements with the other five water utilities. The Provincial Government also has a memorandum of understanding with each of the district governments.

- Water purchase tariffs were set at a rate that was ‘affordable’ to the final purchasers—the various PDAMs and local governments. The gap that such tariff levels left in project funding was covered by the MoF through VGF. However, ‘affordability’ was ultimately assessed through negotiation with the final purchasers, regardless of their actual ability to pay, which meant that the level of VGF may not be economically optimal.
- Investment by the MPWH in the rehabilitation of the district PDAMs’ distribution networks provided the PDAMs with some financial capacity to pay for the bulk water at a later time.
- The transaction was managed by market-oriented institutions, rather than by public functionaries alone. PT Sarana Multi-Infrastruktur (PT SMI) is a project development and financing company owned by the government, and PT Penjaminan Infrastruktur Indonesia (PT PII – Indonesia Infrastructure Guarantee) is an infrastructure guarantee company established with support from government and multilateral development banks.

While successfully completed, the Umbulan Water Project still points to weak regulation of the role of local governments in the sector which had made negotiations cumbersome and has left the central government with a number of residual risks.

The Bandar Lampung Water Project, which was unsuccessfully tendered under the previous legal regime, is the next target for a Government Cooperation with Enterprises project.

The earlier bidding was based on the amount of VGF needed. The amount was capped, however, and potential bidders considered the ceiling too low to make the project viable. This project is being restructured under the Government Cooperation with Enterprises regulatory regime, with support from PT SMI and PT PII. The contract structure is very similar to that used for Umbulan, except that there is only one PDAM and local government involved. The lessons from Umbulan could help improve commercial and financial aspects when designing the next generation of projects.

²⁸ Where appropriate, risk reduction measures (e.g., guarantees) could be offered, however, this needs to be balanced against the loss of incentives for the private party to maximize distribution efficiency.

C. Current pipeline of PPP projects in the water sector

There are multiple lists of potential private sector projects held by KPPIP, the Ministry of National Development Planning (Bappenas), and MPWH, which appear to reflect the specific priorities of the different institutions and agencies, rather than representing a common national priority.

Stakeholders felt that the disjointed process of pipeline identification and prioritization results in confusion and dissipation of focus and resources, and poor-quality documents at the planning stage. There are different lists of project pipelines, each with slightly varying information and amounts. Except for the list from Bappenas, the projects may not all entail Government Cooperation with the Enterprises. These lists are contained in:

- The PPP Yellow Book, compiled by Bappenas, which includes projects that have been proposed by government agencies. The projects are either 'under preparation',

which means they have been screened as projects potentially suitable for PPP and are undergoing a preliminary study; or are 'ready to offer,' which means that they are ready to undergo a pre-feasibility study leading to a final business case and, if required, in-principle approval for government support.

- The National Priority Projects identified for processing with the support of KPPIP. This list has 30 projects at different stages of preparation, transaction, construction or reassessment.
- The MPWH's list of projects includes projects for which the ministry is expected to provide budget support.

Table 4.7 presents some potential private sector projects compiled from the above lists. Most envisage a BOT arrangement primarily for the development of water treatment plants. A few projects, such as Bandar Lampung, envisage private investment in distribution networks.

Table 4.7: List of project pipelines

Project	Description	Amount (IDR) Billion	Status	Bappenas Yellow Book (2017)	KPPIP National Priority Projects	MPWH Project List
Umbulan	WTP - 4,000 l/s 97 km transmission	2,000	Financial close	X	X	X
Bandar Lampung	WTP - 4,000 l/s and some distribution	1,083	Ready to offer	X	X	X
Pondok Gende, Bekasi			In preparation	X		X
Pekan Baru Water supply	WTP 500 l/s	490	In preparation	X		X
West Semarang Water	WTP 1,050 l/s	824	In preparation		X	X
Jakarta Sewerage	Sewerage for (Zone 1)		In preparation		X	X
Mamminasata Regional Water Supply		1,072	In preparation		X	
Jatigede Regional Water Supply		1,050	In preparation		X	
Mebidang Regional Water		732	In preparation		X	
Wasusokas Regional Water		1,050	In preparation		X	
Jatisari Water Supply Bekasi	WTP 200 l/s	60.17	Ongoing tender			X
Jatiluhur 1 Water Supply	WTP 5,000 l/s	1,670	In preparation			X
Karian Water supply	WTP 6,000 l/s	3,000	In preparation			X
Cisandane 1 Bogor Water Supply	WTP 200 l/s	80	In preparation			X
Ciawi Bogor Water Supply	WTP 100 l/s	50	In preparation			X

V. Market Potential

The size of potential demand for water and the level of development in Indonesia ought to begin to attract significant infrastructure financing from non-public sources, however this has not occurred as the government has hoped. Indonesia is a large and growing economy with a rapidly urbanizing population. Per capita consumption grew an average of 4.6 percent annually during the period 2002 to 2015, with GDP per capita (measured at 2010 constant rates) increasing from USD 2,259 to USD 3,834 in 2015. A healthy macroeconomic outlook, sound fiscal policies, and effective management have allowed the country to improve its sovereign ratings – being rated as investment grade in 2017 by all three credit ratings agencies for the first time since the Asian financial crisis. By 2019 about 57 percent of the total population is projected to live in urban areas, where population grows at twice the rate compared to overall population.

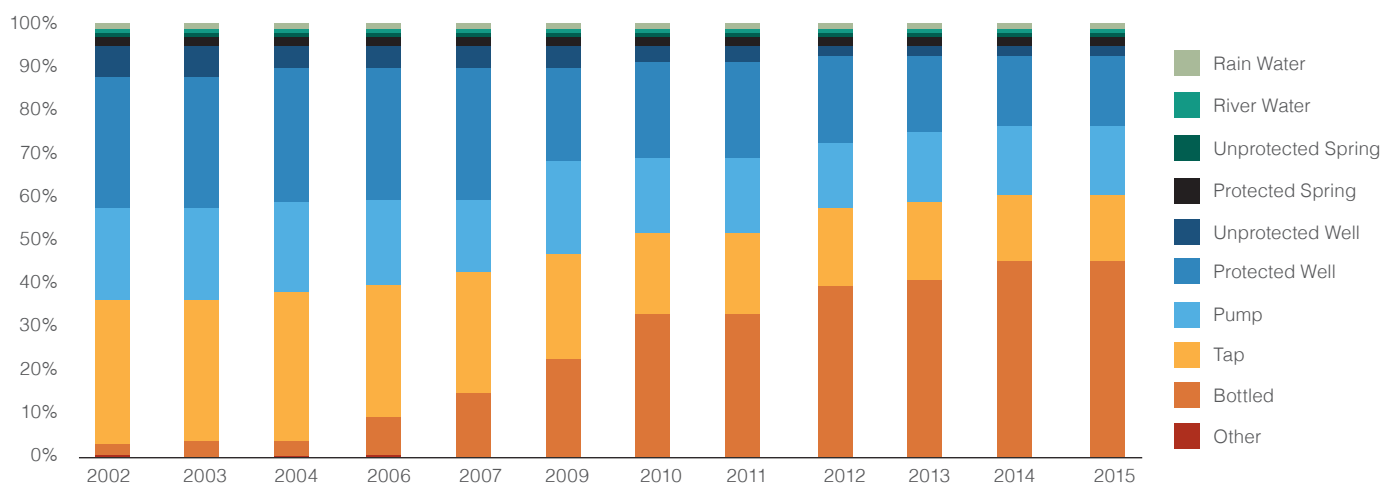
A. Water supply

At present, a third of PDAMs utilize less than 50 percent of their current installed production capacity, yet only one in three people in urban areas have a piped water connection. For the urban poor, the figure is fewer than 1 in 5. In the last five years, there has been a marked increase

in consumer reliance on bottled water for drinking purposes. There has been a corresponding decline in the rate of reliance on urban piped connections. There is also an increasing reliance on the pumping of groundwater for purposes other than drinking water. Consumer perceptions about the better quality of bottled water and concerns over the quality and reliability of water supply services are likely to be one driver behind the switch to bottled water. PDAMs are losing market share. Figure 4.7 shows the various sources of water in Indonesia between 2002 and 2015.

Urban domestic demand for water is predicted to increase from about 160,000 lps in 2015 to 260,000 lps by 2030. The corresponding rural demand will decline from 110,000 lps to 100,000 lps, signaling an urbanization shift that will expand the market for urban water supply (see Table 4.8 for key indicators relevant to the urban service providers). Additionally, industrial demand is predicted to double from about 14,000 lps in 2013 to 29,000 lps by 2030. Also, average PDAM tariffs have grown by an average of 11 percent per year between 2011 – 2015 (at twice the average rate of inflation in the same period). All the above points to increasing potential for the urban water supply sector to mature into a market that can generate a stable and attractive revenue stream.

Figure 4.7 Sources of drinking water in Indonesia between 2002 and 2015



Source: World Bank staff calculations based on Susenas data, various years, BPS.

Table 4.8: Projected key indicators for the Indonesian water sector

No.	Key Indicators	Baseline 2015	Projection 2030	
01	PDAMs' area population (inhabitants)	229,328,918	268,931,732	
02	Water consumption (lpcd)	60	70	
03	Urban water demand (lps)	159,256	255,062	
04	Rural water demand (lps)	110,000	100,000	
05	PDAMs' connections (HCs)	9,867,486	20,450,742	
06	Additional new connections (HCs)	0	10,583,256	
07	Population served (%)	51%	65%	
08	WTP installed capacity (lps)	181,642	268,867	
09	WTP production capacity (lps)	132,450	214,374	
10	WTP idle capacity (lps)	49,192	14,758	
11	Add. new WTP production capacity (lps)	0	87,225	
12	NRW rate	Percentage	32%	20%
		Volumetric (lps)	43,194	42,875
14	PDAM coverage service rate > 70%	20 PDAMs	90 PDAMs	
15	PDAM coverage service rate < 70%	347 PDAMs	277 PDAMs	

Source: World Bank staff calculation based on the BPPSPAM's Performance Baseline Data 2015.

Note: Population growth rate 2015-2030 = 1 percent per year.

HC = Household Connection. Assume 1 HC serves 5 persons.

Recovery rate from the current idle capacity = 70 percent through additional distribution pipes and NRW reduction to 20 percent.

Requires additional new WTPs to produce bulk water through PPP (B2B) scheme or traditional procurement modalities. Assume NRW rate in year 2030 = 20 percent.

There is a corresponding expectation for increased need for infrastructure investment, coupled with a need to improve the efficiency of water production and distribution, to meet the projected demand for water supply services. Both needs potentially lend themselves to the involvement of the private sector in terms of financing and operational support. However, these needs occur throughout the strata of PDAM categorization, from the best to the worst performing. Using the new and improved categorization system now being introduced under the new NUWAS framework (see Figure 4.5), PDAMs (and their local government owner(s)) in Group 1 will be most capable of engaging with the private sector. They present the least risk for private sector involvement in financing and/or operations. Group 1 PDAMs should also present the least risk to, and smallest amount of, government support through its various instruments (e.g., guarantee, viability gap funding, and availability payment instruments) to support private sector transaction in infrastructure (if any is needed). The PDAM and local government capability declines, and risks and amount of government support increases, through to Group 5 PDAMs.

Government should align support for private sector projects with the PDAM Categorization system, with the exception of special priority projects of national or strategic importance, as follows:

For regional bulk water supply projects of national or strategic importance, needed due to urgent, special, or strategic circumstances

These projects are typically proposed due to urgent needs to source water from a distance, stemming from local water sources scarcity or security, and/or serious environmental threats posed by the over-exploitation of local water sources. Examples include (i) the Jatiluhur and Karian water supply projects for Jakarta, which are required due to the urgent need to reduce or stop land-subsidence inducing groundwater abstraction in Jakarta, and (ii) the Bandar Lampung water supply, which is needed to supplement a lack of local water sources in Lampung. A list of these proposed regional bulk water supply project is found in Table 4.7 in the preceding section. These projects are expected to have some or all of the following characteristics:

(i) large in size, (ii) technologically sophisticated, (iii) pose significant environmental and/or social risks, (iv) include at least some weak and low performing PDAM offtakers, and (v) require complex commercial and institutional structures. Consequently, they are expected to require a significant amount of government mediation and preparation support, as well as a significant use of government transaction support instruments (e.g., guarantee, viability gap funding, and availability payment instruments). These regional bulk water supply projects are likely to require a high level of capacity to develop and structure. The just concluded Umbulan bulk water project provides key experience and lessons. At the same time, the World Bank's proposed Regional Water Supply Project is also expected to improve the capacity of the government to prepare and structure these projects.

For projects with Group 1 PDAMs

Under the NUWAS categorization system, Group 1 PDAMs are assessed to be sustainably healthy with good governance structures and adequate technical, commercial, and financial capabilities. They also have local government owner(s) that have very high or high fiscal capacity and have demonstrated good support and commitment to their PDAMs. Under these circumstances, the PDAMs are expected to be able to attract private sector lenders, investors, and operators to invest in their projects. These may include additional production / bulk supply, distribution extension, and/or higher technology efficiency or cost-reduction programs. Government support could be minimal, restricted to (i) specialized advice for project preparation, (ii) private sector introductory services, (iii) minimal guarantees to provide assurance to private lenders, investors, or operators (only if need in circumstances including unfamiliarity to the sector), and (iv) targeted subsidy instruments in cases where special social mandates are assigned to the PDAMs. There are currently about 8 PDAMs assessed to be in this Group, including Kota Bogor, Kota Surabaya, Kabupaten Buleleng, and Kota Madiun.

For projects with Group 2 PDAMs

Under the NUWAS categorization system, Group 2 PDAMs are assessed to be sustainably healthy with adequate technical, commercial, and financial capabilities. However, they may have specific challenges related to relatively smaller service coverage areas or high non-revenue water. Their local government owners include those with lower fiscal capacity, less

demonstrated commitment to the PDAM, and less capacity for PDAM oversight. While some of these PDAMs may be able to attract private sector lenders, investors, and operators to invest in specific projects, the NUWAS sector improvement program emphasizes the use of performance based grant instruments to improve operational performance, in particular to reduce non-revenue water and utilization of idle production capacities as a priority ahead of additional new production. There is a potential for private sector investors and operators to participate in these improvement programs (aligned with the MPWH guidelines for private sector involvement in distribution systems via performance based contracts – see Section II.A.i). It is likely that some form of government support in the form of guarantee will be required. As these PDAMs improve in distribution efficiency and fully utilize their idle capacities there should be follow-on potentials for private sector lenders, investors, and operators to invest in new additional production and more sophisticated efficiency or cost-reduction programs, along the lines and with minimal support per Group 1. There are about 100 PDAMs in this group, including PDAM Tirtanadi Medan, Kota Padang, Kota Palembang, Kota Depok, Kota and Kabupaten Bandung, Kabupaten Badung, and Kota Denpasar.

For projects with Group 3 and 4 PDAMs

Under the NUWAS categorization system, Groups 3 and 4 PDAMs include PDAMs that have not yet achieved financial sustainability, and suffer from a variety of technical, commercial, and financial weaknesses. The government's sector improvement program under NUWAS focusses on the use of one-time limited seed grants to provide the PDAM the opportunity to improve specific technical, commercial and financial, and, where feasible, limited performance based grant instruments aimed at achieving specific improvements. In particular, the NUWAS sector improvement program approach relies on the principle of limiting or capping government support to these PDAMs - both to provide the incentive for PDAMs to improve to a more sustainable category and to limit the investment risk for the government. There is potential for the private sector to be involved, but improvement programs are likely to be small and short term in nature. Critically, if any government support is envisaged to support private sector participation in these programs, the extent and value of this support should also be limited to the NUWAS caps. This will avoid negating the incentive and leverage intended by the NUWAS program or inadvertently exposing the government to higher levels of investment risks than intended.

For projects with Group 5 PDAMs

Under the NUWAS categorization system, Group 5 PDAMs are the weakest performers, with questionable potential to achieve technical, commercial, and financial sustainability in the short to medium term.

These 'sick' PDAMs may well be economically unviable due to various circumstances, e.g. potential size, remoteness, economic circumstances of their area of coverage. The

NUWAS improvement program expects to provide only limited technical assistance and capacity building programs, coupled with targeted seed grants where there are potentials to improve to Group 4. In some cases, support will be focused on discussing alternative service types (e.g., lower service standards, regionalization of PDAMs to achieve more viable scales). Significant private sector participation is not expected or prioritized.

B. Wastewater and sanitation

The next five years could see wastewater treatment and sewerage emerge as a business, but not without significant public funding. As discussed above, funding for wastewater and sanitation services face significant challenges. Private investment in the sector is unlikely, where there are no significant revenue streams to underpin payments for service. Although the sector is likely to rely on public funding, international experience shows that the private sector can contribute to long-term solutions in designing, building, and operating wastewater treatment facilities and in providing sanitation services.

Indonesia could pursue specific first mover projects in wastewater and sanitation under a design-build-operate contract for commercially built-up areas and high tourism value assets. Opportunities for developing PPPs that offer more balanced risk-sharing between the public and private sector could be pursued, such as where most of the investment

financing is shouldered by the public sector, possibly with the support of multilateral development banks. To make the projects viable, potential PPPs in the sub-sector should not only feature significant capital buy-down, but also be pursued in highly commercial circumstances, for instance for services in commercially built-up areas (such as central business districts or industrial zones) or in zones that have high value tourism assets.

Several large-scale sewerage projects are in various stages of preparation or implementation (see Table 4.9).

The implementation of the first stages of the Jakarta sewerage and wastewater management plan²⁹ include one sewer zone being assessed and prepared for PPP. Other sewerage projects at various stages of preparation include: (i) Jambi, Pekanbaru, Cimahi, Makassar, and Palembang Cities (with ADB and Australian assistance); and (ii) Batam City (with the assistance of the Korean government).

²⁹ With support from the Japanese government.

Table 4.9: Sewerage and waste water treatment data for Indonesian cities currently being supported by multilateral and unilateral international technical assistance schemes

No	Name of City	Areas covered	Length of sewers (km)	Capacity of WWTP (m3/day)	Nominal area for WWTP (ha)	No. of connections	
						Domestic	Commercial
01	DKI Jakarta ⁴	Zone 1	89.4	200,000	4.2	153,600	38,400
02	Cimahi ¹	Central Business District CBD area, adjacent to housing areas and housing areas on the main sewer routes to the WWTPs	7.6	11,100	2.0	8,900	1,000
03	Jambi ¹		14.6	15,000	6.0	17,700	2,600
04	Makassar ¹		16.4	19,100	6.0	9,000	5,400
05	Palembang ²		13.9	23,100	5.7	19,000	2,300
06	Pekanbaru ¹		13.6	14,700	8.0	15,800	1,500
07	Batam City ³		81.9	20,000	1.0	10,000	1,000
Total			237.4	303,000	32.9	234,000	52,200

Source: ADB¹, Ausaid², KOICA³ and JICA⁴.

VI. Recommendations

A. Sector capacity and governance needs to be significantly improved

ISSUE #1 Many PDAMs face operational challenges that could benefit from increased technical inputs and capital injections. Many PDAMs suffer from dilapidated networks and operational inefficiencies, including high levels of non-revenue water, an absence of modern commercial and management systems, and the need to upskill the workforce. These operational challenges have a direct bearing on all aspects of their performance, impacting their (i) capacity to manage borrowing and other contracts; and (ii) creditworthiness as well as attractiveness to financiers and investors, including the private sector.

Recommendation #1: Implement NUWAS framework comprehensively and robustly.

ISSUE #2: Almost all existing PDAMs were created and governed by the specific local statute under the Law on Local Enterprise (Law No. 5/1962), which is significantly misaligned from the current institutional structures under the decentralization laws and regulations. However, a new Government Regulation No. 54/2017 has been issued in December 2017. This regulation includes good governance provisions similar to those applicable to commercial companies with profit motives. PDAMs have the mandate to enter into loan and other contracts and can take on key commercial objectives, e.g. maximize profits for owners, retaining surpluses for reinvestment and growth. Under its provisions, PDAMs created with a single, indivisible share held by the local government are currently classed Perusahaan Umum Daerah. Local governments can reconstitute them into Perusahaan Perseroan Daerah, with a divisible shareholding structure which allows for divestiture to investors. The regulation provides for shareholding divestiture and privatization of various types.³⁰ However, divestiture and privatization for any local government-owned enterprise are also subject

to their respective sector's regulations and requirements. Besides debt and equity-based financing, PDAMs can also enter into PPP-type of contracts, whether B2B type or utilizing government support through the Government Cooperation with Enterprises instruments. At present, further clarity is required on the extent to which the new regulation applies to PDAMs.

Recommendation #2: MoHA and MPWH should issue guidelines on the application of Government Regulation No. 54/2017 to PDAMs, including limitations and conditions. These guidelines should be informed by: (i) a legal review to confirm the applicability of Government Regulation No. 54/2017 to PDAMs; (ii) an assessment of the implication of this new regulation on potential for investor participation in PDAMs, including any limitations and conditions imposed by the water regulations; and (iii) issuance of a MoHA privatization regulation.³¹

ISSUE# 3: The lack of autonomy, in regulation provisions and in practice, has historically been a key governance issue for PDAMs. Local government officials do not deal with PDAMs at arms-length, eroding the checks and balances intended by existing laws and regulations to separate business from politics. The performance measurement system instituted by MoHA was also not consistently implemented by the PDAM Supervisory Boards. However, in the last few years, laws and regulations have been issued which provide for more comprehensive corporate governance. Law No. 23/2014, coupled with Government Regulation No. 2/2018 on Minimum Service Standards, specify the roles and responsibilities of different level of governments. Government Regulation No. 54/2017 include good governance provisions similar to those applicable to commercial companies. MoHA Regulation No. 71/2016 on the Calculation and Setting of Drinking Water Tariffs and MoHA Regulation No. 70/2016 on Subsidies from Local Government,

³⁰ The specific provisions for privatization of local government-owned enterprises will be issued through a Ministry of Home Affairs regulation (pending). Note though that an enterprise where the local government does not hold at least 51 percent no longer qualifies as a local government owned enterprise, and likely would then fall under Indonesia's companies law(s).

³¹ As provided by Clause 122 of Government Regulation No. 54/2017.

taken together, require the setting of Full Cost Recovery (FCR) and obliges the local government to subsidize the PDAM otherwise.

Recommendation #3A: Institute performance incentives – including (a) linking MoHA's tariff setting and subsidy regulations to the Government's minimum service standards regulation, which obliges local government to meet these minimum standards, allowing for more robust redressal for failure to adhere to the MoHA regulations, and (b) linking MoHA's performance audit of Bupati/Mayors to these regulations as a direct leverage on Bupati/mayors.

Recommendation #3B: Robust application of the abovementioned laws and regulations by MoHA, including the application of sanctions provided in these regulations. This will balance the reliance on incentives (such as through capacity building and investment grants) with powers of enforcement such as exercising the authority to review tariffs, order inspections and audits, and revoke authorities of the PDAM Board of Supervisors.

B. Recent private sector and PPP transactions should be scaled up, with experiences assessed and lessons incorporated into regulations and procedures

(i) PPP contractual structure should ensure a robust recourse to local governments

ISSUE #4: Current PPP transactions are underpinned by a set of PPP-related regulations, supported by a set of financial support instruments and a set of guarantee instruments that can be utilized to increase the attractiveness and reduce the risk to investors. In principle, this structure provides for a robust contractual structures and risk mitigating arrangements that align the interests and obligations of all stakeholder parties. In the case of the water sector, stakeholder parties include: (i) the private sector party; (ii) the state or local government-owned enterprise; and (iii) as applicable, the local government, provincial government, and the central government. However, the contractual structures tend to be inherently complicated. In the complex process of putting together multiple instruments with multiple contracts, procurement, and negotiations, misalignment of interests can occur in the final agreed contract. A particular risk is the lack of, or the diminishing of, recourse to the local government. The case of Umbulan Water Project provides a good example. In this case, the province-owned enterprise (PDAB) plays an important role as the first-tier bulk water purchaser from the private bulk water producing company. This lowers the perceived risk to the private company. Risks are further lowered with the provision of VGF and IIGF guarantee to the private company. However, the final contractual structure provides a direct VGF and IIGF related

recourse to the provincial government. The second-tier bulk sales contracts from PDAB to the participating PDAMs are not backed up by parallel strong and back-to-back recourse from the province to each local government.³² This leaves the provincial government ultimately liable for obligations that are more under the control of the local governments benefiting from the bulk water project. In Indonesia, central government contingent liability risks stemming from provincial government obligations are high. Additionally, in the Umbulan Water Project, major financing to the private operator came from other government-owned entities. This further adds to the central government contingent liability risks.

Recommendation #4A: For each PPP transaction, extreme care needs to be exercised to ensure that the final contractual structure is robust and clearly assigns each obligation and risk to the correct party. This will include strengthening contractual covenants and events of default to maintain fundamental conditions for continuing project viability, e.g., on tariffs and indexation.

Recommendation #4B: Conduct an assessment of the feasibility of executing intercepts of local government revenue transfers from national government associated with local government obligations under PPPs. The assessment could also explore the possibility to improve this mechanism through the development of instruments for local government guarantees for commercial financing or PPP obligations

³² There are Memorandums of Understanding between the provincial government and each local government. But their enforceability, at least to the same level as the enforceability of obligations taken up by the provincial government for the VGF and the IIGF guarantee, is uncertain.

from their expected budget transfer (i.e. the fideicomisos trust funds instrument used in Mexico could be a reference).

ISSUE #5: The PPP contractual framework could be used to improve sector governance by strengthening contract regulation. As discussed in earlier sections, sector regulatory instruments and institutions are now in place (e.g., tariff setting, subsidy, and good governance regulations) and they need to be implemented and enforced robustly by MoHA as well as MPWH. Nevertheless, PPP contracts could be utilized to help strengthen the governance of service delivery. At the same, the capacity of PDAMs for contracts management should also be improved.

Recommendation #5A: (i) Develop standard PPP contract clauses and terms providing or linking the contract to the adherence of PDAM corporate governance, tariff setting, and local government subsidy regulations referred to earlier; (ii) Develop standard PPP contract provisions and procedures for arbitration and other alternative dispute resolution mechanisms, e.g. mediation; (iii) Utilize payment risk reduction mechanisms in the contract, e.g. payment reserve escrow accounts with minimum opening balances; and (iv) For bulk water sales, utilize contractually provisioned tariff adjustment mechanisms, e.g. indexation formula (note however, that care must be exercised to align any agreed bulk tariff adjustment formula to the retail/consumer tariff setting mechanism set by the relevant MoHA regulation as a misalignment exposes the PDAM, and ultimately the local government, to substantial risk).

Recommendation #5B: (i) Establish a dedicated PPP management support unit in the MPWH (or strengthen this function in BPP SPAM), to support contract development and

management for water PPPs by PDAMs (and local governments). This will also allow the government to gather information and develop expertise in understanding the water market and commercial practices. The unit should provide support to PDAMs to ensure that PPP (and also B2B transactions, as needed) procurement allow for transparent and maximum competition and for value-for-money.

(ii) Sufficiency of VGF

ISSUE #6: In situations where tariffs are too low and VGF is capped, bidders and their lenders are unlikely to be attracted. The water sector competes for private capital and other resources with other sectors (e.g., energy and transport). In Indonesia, private sector companies and infrastructure financiers are more familiar and comfortable with these other sectors. While a project with too high a VGF requirement should not be considered suitable, the ideal maximum level of subsidy may not be the same for each sector (dependent on various issues, e.g. affordability, positive externalities).³³

Recommendation #6: The process of measuring and appraising the viability gap should be improved. A more rigorous appraisal mechanism of water project VGF applications could be introduced (e.g., the use of an independent audit and willingness-to-pay study carried out by an accredited firm). This will begin a process of improving the capacity of VGF appraisal. A PPP management support unit within MPWH recommended in an earlier section would be able to benchmark costs and understanding affordability, which will improve methods of determining VGF. This will eventually allow for a reasonable VGF benchmark for the water sector to be found, as more project experiences are accrued.

C. The uncertainties surrounding the constraints for PPP projects to include water distribution services need to be clarified

ISSUE #7: According to the Ministry of Public Works Guidelines No. 19/PRT/M/2016, private sector involvement in distribution systems is subject to specific conditions. It seems clear that the private sector can finance the distribution system infrastructure. However, in regard to operations and maintenance (O&M)

of the distribution system, the regulation states that the private sector can only invest in O&M 'technologies' through a performance-based contractual mechanism. Presently, there are significant uncertainties over how this provision will be applied and implemented. This provision is commonly interpreted as seeking to ensure

³³ The VGF regulations currently limits VGF at 49 percent across the board.

that the private sector is not involved in the direct interaction with customers, including charging and collecting tariffs. However, this principle may also have the unintended consequence of precluding the opportunity for the private sector operator to have an interest and incentive to ensure water is distributed to, and tariffs collected from, the end user.

Recommendation #7: (i) Conduct a legal assessment aimed at clarifying this issue as much as possible; (ii) develop and issue a MPWH guidance note, aimed at confirming the common interpretation described above; and (iii) Support the identification and development of a few pilot PPP transactions involving participation in provision of O&M services, as a learning exercise and to establish benchmarks for the sector.

D. The PPP project pipeline for wastewater projects needs to be developed

ISSUE #8: Demand for wastewater and sanitation services is low. Local governments would be unwilling to make investments in, and charge for, a service if not demanded by the population. At present, the sector has practically no revenue stream. In fact, the market is so embryonic in Indonesia that many local governments do not even possess a potential government contracting agency, with sanitation responsibilities being assigned to just a few staff in a government unit. Extra resources and efforts will need to be put into an effort to begin to develop a PPP project pipeline for wastewater services.

Recommendation #8A: Explore options for generating revenues for local governments, such as considering an environmental charge or tax to fund wastewater and fecal sludge management projects. Initiatives in other countries, such as Malaysia, that have successfully fostered investment in such services began by capturing some of the economic benefits and including them in a finance stream. There are various ways of doing this, including an environmental fee for funding wastewater programs or pollution penalties for non-compliance with state regulations. For example, in Metro Manila, a 20 percent environmental charge is added to the water bill. While the concessionaires were required to provide desludging services to consumers, this charge is not set against the cost of service, but intended to build up funds that could be invested

in sanitation infrastructure over the long-run. The charge was introduced even when sewerage and septage services were not yet a universal service delivered by the concessionaire and was based on the 'polluters pay' policy. This charge was reviewed and approved by the regulator. Funding from this source helped develop large infrastructure projects, such as wastewater/septage treatment plants and sewers, while the private concessionaires invested in desludging trucks and the operation of the infrastructure. The revenue stream from the environmental charge underpins continued service delivery and investment.

Recommendation #8B: Conduct a market assessment to identify first mover projects. Despite the challenge of a general lack of demand for such services, there are a handful of local governments facing an urgent need to put in wastewater and septage management facilities. Focus on opportunities where there is maximum potential to link municipal and industrial waste management and to diversify revenues, such as through the resale of treated water. In the area of septage management, the first step will be to look at the potential for bundling activities and markets (e.g. there may be more demand for septic tank rehabilitation and pit emptying than septage treatment).

E. PPP project screening and preparation should be improved

ISSUE #9: The cost of identifying and developing investment opportunities, particularly where stakeholders are not yet familiar with the processes, can be very high.

At present, project ideas originate from various sources - from local governments, SOEs, line ministries, and coordinating bodies. There are recognized bottlenecks in the screening of preliminary project ideas, which prevent projects from moving into the formal planning stage. At the transaction stage, a simple process with as few transactions as possible could help, where the relatively small sizes of the transactions taking place do not warrant a prolonged procurement process.

Recommendation #9A: Develop a more robust screening process for water PPP proposals. High-level screening could be introduced to focus efforts on opportunities that have a higher likelihood of succeeding and contributing to national and local development priorities. The criteria could include:

Welfare-creating projects

- Included in government development plans.
- Positive economic cost-benefit (including avoided costs).
- Affordable to PDAM/LG – positive financial cost benefit considering future, whole-life cost, revenues, and risks.
- Affordable to users – e.g. annual tariff increases less than CPI + 2 percent.

Contracting Agency commitment and capacity

- Project contributes to PDAM business plan.
- Written agreement between different agencies involved (e.g. regional project).
- PDAM and LG are willing to set appropriate tariff and/or allocate ongoing payments.
- LG has track record of good business conduct and willing to sign a backstop agreement.
- PDAM ranks high on the NUWAS Framework and is financially viable.
- Public opinion positive.

Procurement options and value-for-money

- Compares favorably to cost, revenue, and risks in public procurement.
- Complexity of PPP model (qualitative score).
- Preliminary risk allocation meets standard commercial practices in scope and value.
- Project scope presents opportunity for private sector to introduce skills, resources, technology, and innovation not available in the public sector.
- Project scope can be clearly contained so that private sector input is clear and measurable.

Attractiveness to private sector

- Positive net present value (NPV).
- Key hurdles/preparations met/completed: right of way, water and other permits, regional agreements between local governments in place.

Recommendation #9B: Appoint a market-oriented agency to function as a one-stop-shop for developing a water PPP pipeline and coordinating the various inputs (e.g. financing) and processes. A water PPP program could be established to develop opportunities with PDAMs that are likely to generate interest in the market and, at the same time, meet local development and sector needs. The program could provide advice on transactions, the payments for which would be largely based on success to ensure that resources are targeted at those opportunities most likely to succeed. Ideally, the program would be housed in an institution staffed with market-oriented teams that coordinate with the various sector institutions at national and local level. The one-stop-shop could develop standard contracting documents to allow the market to become familiar with such transactions and given the decentralized nature of the sector, build an online marketplace system, where concepts would be received, screened, developed and, possibly, offered, in order to lower transaction costs.

¹ The most relevant laws and regulations include: Law No. 23/2014; Government Regulation No. 2/2018; Government Regulation No. 54/2017; MOHA Regulation No. 71/2016; and MOHA Regulation No. 70/2016.

VII.

Summary Roadmap for the Water Supply and Sanitation Sector

WATER SUPPLY AND SANITATION SECTOR ROADMAP			
Activity Pillar	Short-term	Medium-term	Long-term
Pillar 1: Improving sector governance and capacity.	<ol style="list-style-type: none"> 1. MPWH instructs local governments to implement the NUWAS Framework comprehensively and robustly, and issues guidance on how MPWH will assist in this process. 2. MoHA and MPWH issue clarification on the application of Government Regulation No. 54/2017 to PDAMs, including limitations and conditions, including: (i) A legal review to confirm the applicability of Government Regulation No. 54/2017 to PDAMs; (ii) An assessment of the implication of this new regulation on potential for investor participation in PDAMs, including any limitations and conditions imposed by the water regulations; and (iii) A privatization regulation. 3. MoHA issues instruction to strengthen application of the Laws and Regulations on PDAM Corporate Governance,¹ including the use of sanction provisions in addition to the use of incentives to compel compliance. 	<ol style="list-style-type: none"> 1. MoHA issues regulations to enhance PDAM Performance Incentives, including by (i) Linking MoHA's tariff setting and subsidy regulations to the Government's minimum service standards regulation, which obliges local government to meet these minimum standards, allowing for more robust redressal for failure to adhere to the MOHA regulations, and (ii) Linking MoHA's performance audit of Bupati/Mayors to the above regulations. 	
Pillar 2: Developing and accelerating delivery of water PPP projects.	<ol style="list-style-type: none"> 1. MoHA and the PPP Joint Office implement a capacity building program for local governments and PDAMs to increase understanding of PPP transactions. 2. MPWH establishes a dedicated PPP Support Unit for the water sector (or strengthens this function in BPP SPAM), to support project and contract development and management by PDAMs (and local governments). 3. MPWH undertakes a legal assessment of MPWH Guidelines No. 19/PRT/M/2016, to clarify the conditions on private sector participation in water distribution. 4. MPWH appoints a market-oriented agency to: (i) Function as a one-stop-shop for developing a water PPP pipeline and coordinating the various inputs (e.g. financing) and processes; and (ii) Undertake a programmatic approach to water PPP project preparation, financing, and delivery, using common structures and project documents. 	<ol style="list-style-type: none"> 1. MoF publishes a report on the Feasibility of Executing Intercepts of Local Government Revenue Transfers in PPPs. 2. MPWH publishes a report on the identification and development of pilot PPP transactions involving participation in the provision of O&M services. 3. MPWH issues a market assessment to identify first mover projects involving wastewater and septage management. 4. MoF issues instructions on the process for measuring and appraising VGF, with a view to adopting a more rigorous appraisal mechanism of water project VGF applications (e.g., the use of an independent audit and willingness-to-pay study carried out by an accredited firm). 5. Bappenas, in coordination with PDAMs and local governments, issues a robust screening process for water PPP proposals. 	<ol style="list-style-type: none"> 1. MoHA, MPWH and market-oriented PPP institutions (e.g., PT. PII, PT. SMI, PT. IIF) issue Standard PPP Agreements that meet PDAM, GoI, and private investor requirements, while meeting regional market standards.

ANNEXES

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Annex A: Key terms in an IDR infrastructure loan

Summary of the key terms typically seen in an IDR infrastructure loan. It should be noted that each deal will have its own terms and may differ from what is shown in the table.

Table A.1: Summary of typical IDR infrastructure loan terms in Indonesia

Loan type	Senior	
Borrowers	SOEs (e.g. Angkasa Pura, Jasa Marga, Pelindos, PLN, Wastika Karya, Adhi Karya, Wijaya Karya, Hutama Karya, Pertamina) and their subsidiaries (usually, but not always, controlled by the SOE).	Private sector (e.g. Adaro, Astra, Bakrie Group, IPPs, foreign JVs for projects, investment funds as holding companies for a number of interests across the infrastructure sector).
Sectors	Roads, ports/maritime, railway, airports and local currency-financed power assets.	
Lenders frequently lending to the sector in IDR.	Main lenders to the sector: BNI (SO bank); BRI (SO bank); Mandiri (SO bank); SMI (government entity); IIF (quasi government entity); BCA (private).	Others: BTN (SO bank); regional/municipal banks (e.g. DKI); CIMB Niaga, BII/Maybank and other local banks (e.g. Bank Mega); other private commercial banks as participants.
Purposes	Financing new build infrastructure and/or major expansion.	
Guarantees	From government: for PLN obligations as the off taker to a power financing, PII guarantees (selected) From SOE and private sector sponsors: (i) sponsor completion guarantee; and either (ii) sponsor cash deficiency guarantee, subject to the project specifics; or (iii) an undertaking to fund cash flow shortfalls to maintain: (a) operations and maintenance costs over the life of the loan; and (b) the debt service obligations of the borrower where early year revenues are not proven/stable, after which lenders may take the risk (in commercially weaker projects, this may be a shared risk). The period of time over which undertakings (a) and (b) are provided to stabilize revenues may range from one or two years to up to five years.	
Security package	Share pledge: <ul style="list-style-type: none"> • Some SOEs may pledge shares in a subsidiary that is a borrowing entity. • However, a SOE or a wholly-owned subsidiary may not pledge shares to a foreign lender. • A private sector sponsor may pledge shares, and shares in the borrowing entity. Other securities: <ul style="list-style-type: none"> • Charge over the borrower's assets and contracts; • Fiduciary security; • Land which is not registered by the government. Guarantees and support: see guarantees.	
Debt/equity	The split is typically 70/30, but may move to 80/20 for commercially strong projects.	
Amount	<ul style="list-style-type: none"> • Syndicated loan underwriting up to IDR [3–4.5] trillion (approximately USD [200-350] million). The market has experienced this level of underwriting for sole or joint book runners for large deals with strong sponsors, where the loan is largely presold to achieve hold levels of below IDR [1] trillion (approximately USD [75] million). 	

	<ul style="list-style-type: none"> The current level of underwriting is estimated to have decreased to around IDR [1.2-2.5] trillion (approximately USD [90-200] million). The estimated average final holding is IDR [0.2-0.6] trillion (USD [15-45] million). <p>The market is moving to more conservative lending with a return to larger bank groups forming club deals, except for the largest of transactions, where syndication is mandatory and the book runner role is now held by a larger group of banks.</p>
Priority	Most debt obligations are classed as senior.
Term	Infrastructure loans (with guarantees): typically 10 to 12, or 15 years. Corporate loans (on balance sheet): typically 3 to 5 years, in some cases stretching to 7 years.
Amount	Up to 70% of project costs. Up to 75% of working capital requirement. On balance sheet lending for infrastructure development: the bank's discretion is limited to regulatory limits for single borrowers (single borrower limits, or SBL).
Currency	IDR Limited USD, subject to the provisions of the Currency Law.
Interest rate	Base rate + margin; where the base rate is often JIBOR, LPS or average time deposit rate (for long tenors) IDR loans. Typical interest rates for: (i) term loans: IDR [12-13]% per annum, USD [4-6]% per annum; (ii) WCF: IDR [12-13]% per annum, USD [3-5]% per annum.
Interest rate hedging	Not usually required by local banks; market is relatively liquid only to five years.
Repayment	Typically each quarter or semester.
Amortization	Corporate style loans (on balance sheet or to subsidiary), require (some) amortization. Fully amortized for long tenors.
Grace period	Corporate: 6–24 months post construction (36-60 months from financial close). Project lending: construction phase, plus, typically, [6] months.
Debt to equity	See above.
Debt service reserve Debt service coverage ratio (DSCR) (where used)	One repayment period reserved. Backward looking, depending on deal specifics. ¹
Interest coverage ratio (where used)	Typically 1.25–1.50x.
Current ratio (where used)	Typically 1.00x.

¹ Examples of DSCR covenants: some locally funded road projects have a minimum DSCR of $\geq 1.00x$; a locally and regionally funded airport development has a minimum DSCR of $\geq 1.20x$; a non-IDR corporate borrowing from international banks for constructing a greenfield port has minimum DSCR ratio of $\geq 1.20x$.

Annex B: Overview of the KPBU legal framework

Indonesia's KPBU legal framework comprises: (i) the main KPBU regulations; (ii) sector-specific laws; and (iii) other KPBU laws.

A. Main KPBU regulations

The framework regulation for implementation of KPBU projects in Indonesia is Presidential Regulation No. 38/2015. KPBU projects were previously regulated by Presidential Regulation No. 67/2005 concerning Cooperation between Government and Business Entity on Provision of Infrastructure. Presidential Regulation No. 38/2015 has revoked and replaced Presidential Regulation No. 67/2005 in its entirety. Refer to Annex C for a full list of the main KPBU regulations.

Presidential Regulation No. 38/2015 mandates Bappenas, MoF, MoHA, LKPP, and each GCA to regulate the KPBU process in Indonesia, as set out below.

(i) Procurement regulation

LKPP is mandated, among other things, to set the procurement procedures for KPBU projects. Accordingly, LKPP issued LKPP Regulation No. 19/2015 on Guidelines for Procurement of Business Entity on KPBU in Infrastructure Provision availability payments.

(ii) Regulations on availability payments

MoF is mandated, among other things, to set the procedures for availability payments (AP) being made from the state budget. Accordingly, MoF issued Ministry of Finance Regulation No. 260/2016 on Availability Payments for KPBU in Infrastructure Provision.

MoHA is mandated, among other things, to establish procedures for APs from the regional budget. Accordingly, MoHA issued Ministry of Home Affairs Regulation No. 96/2016 on Availability Payments for Regional KPBU in Infrastructure Provision.

(iii) Operational guidelines

Bappenas is mandated, among other things, to issue guidelines for the implementation of KPBU projects. Accordingly, Bappenas issued Ministry of National Development Planning No. 4/2015 on Operational Guidelines for KPBU in Infrastructure Provision.

(iv) Regulations on government guarantee

Presidential Regulation No. 78/2010 on Infrastructure Guarantee for Public Private Partnership Infrastructure Projects through Infrastructure Guarantee Entity.

MoF is mandated, among other things, to set the procedures for the provision of any government guarantee. Accordingly, MoF issued Ministry of Finance Regulation No. 260/2010, as amended by Ministry of Finance Regulation No. 8/2016, on the Implementation Guidelines for Infrastructure Guarantee in Public Private Partnership Projects. Under MoF Regulation No. 260/2010, as amended, PII is mandated to provide infrastructure government guarantees for KPBU projects (other than the national strategic projects as determined by KPPIP) in Indonesia.

MoF also issued Ministry of Finance Regulation No. 60/2017 on Central Government Guarantee Procedures for Accelerating the Implementation of National Strategic Projects.

(v) Regulation on VGF

MoF is mandated, among other things, to set the procedures for provision of VGF. Accordingly, MoF issued Ministry of Finance Regulation No. 223/2012 on Viability Support for Partial Construction Cost in Public Private Partnerships Projects. MoF also issued Ministry of Finance Regulation No. 143/2013 on Guidelines for the Viability Support for Partial Construction Cost in Public Private Partnerships Projects.

(vi) GCA regulations

According to Presidential Regulation No. 38/2015, each GCA is allowed (but not required) to issue guidelines for the implementation of KPBU projects. For instance, MPWH has recently issued MPWH Regulation No. 1/2017 regarding Procedures for Procurement of Toll Road Operations.

B. Sector-specific laws

In addition to the Main KPBU Regulations, there are at least 124 Sector Specific Laws relating to KPBU. Refer to Annex C for full list of Sector Specific Laws.

C. Other KPBU laws

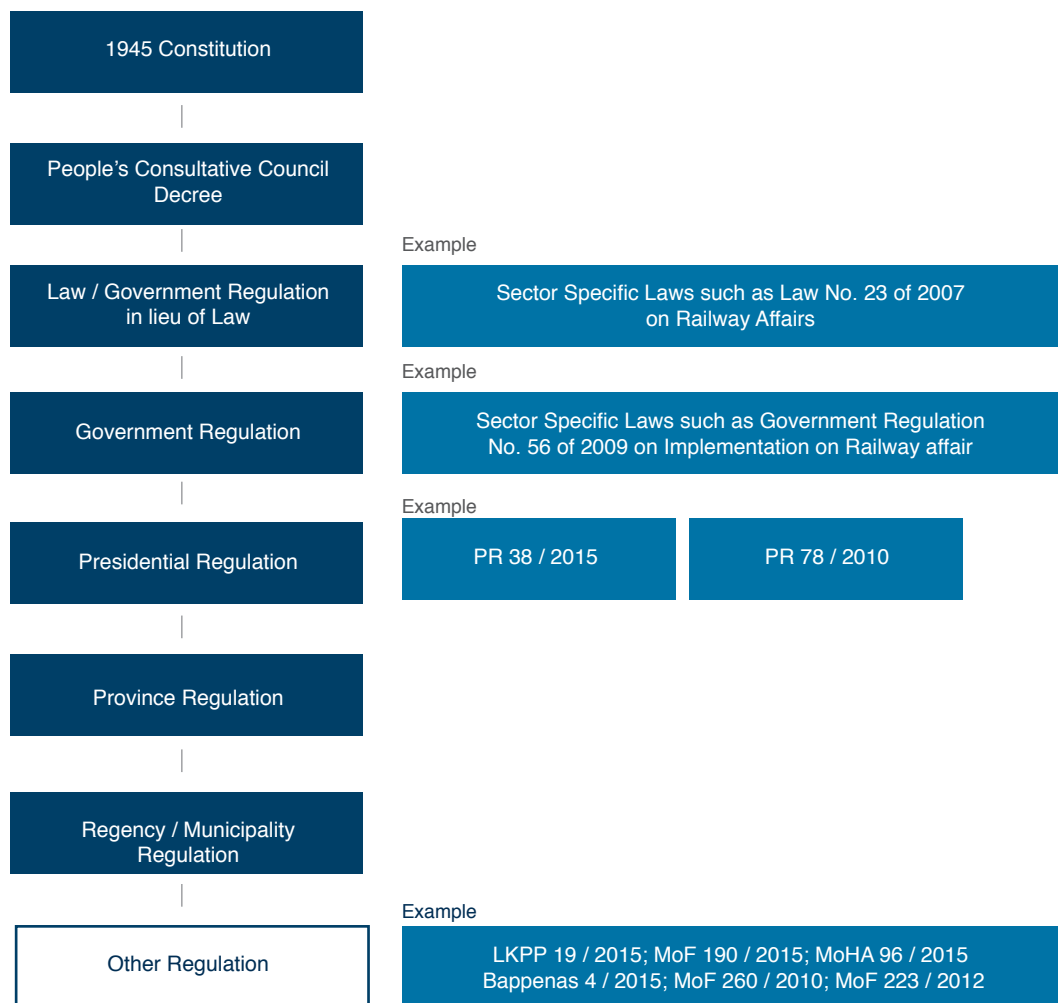
A total of 25 other KPBU laws relate to other matters concerning KPBU projects, such as land acquisition, environment, construction, planning

and permitting, regional cooperation, and others. Refer to Annex C for full list of the other KPBU laws.

D. Rules for the application of KPBU laws

The hierarchy within Indonesia's KPBU legal framework is set out under Law No. 12/2011 on the Establishment of Laws. Figure B-1 shows the hierarchy of the KPBU legal framework in Indonesia.

Figure B-1: The hierarchy of the KPBU legal framework in Indonesia



Source: Law No. 12/2011 on Establishment of Laws and Regulations.

Presidential Regulation No. 38/2015 is a presidential regulation, which comes lower in the hierarchy than a law or government regulation. Most of the sector-specific laws have the status of a law or government regulation.

Other regulations, such as regulations issued by ministries, Bank Indonesia, state agencies, etc., have binding power, if the relevant regulating entity has the authority to make them binding or

is otherwise specifically mandated by legislation higher in the hierarchy. As shown in Figure B.1 above, a number of main KPBU regulations are ministerial regulations.

If a main KPBU regulation conflicts with a sector-specific law higher in the hierarchy, the result is often a delay in a KPBU project until the sector-specific law in question is amended or special rulings are issued.

Annex C: List of Indonesia's KPBU laws

Name of Legislation	Description and Features
Part 1. Main KPBU Regulations	
Presidential Regulation No. 38/2015.	Cooperation between government and business entity in infrastructure provision.
Ministry of National Development Planning No. 4/2015.	Operational guidelines for KPBU in infrastructure provision.
LKPP Regulation No. 19/2015.	Guidelines for procurement of a business entity for KPBU in infrastructure provision.
Ministry of Finance Regulation No. 260/2016.	Availability payments for PPP in infrastructure provision.
Ministry of Home Affairs Regulation No. 96/2016.	Availability payments for regional PPPs in infrastructure provision.
Presidential Regulation No. 78/2010.	Infrastructure guarantee for PPPI infrastructure project through an infrastructure guarantee entity.
Ministry of Finance Regulation No. 260/2010, as amended by Ministry of Finance Regulation No. 8/2016.	Implementation guidelines for infrastructure guarantees in PPP projects.
Ministry of Finance Regulation No. 223/2012.	Fiscal support for construction costs in PPP projects.
Ministry of Finance Regulation No. 60/2017.	Central government guarantee procedures for accelerating the implementation of national strategic projects.
Part 2. Sector Specific Laws relating to PPPs	
Airports	
Law No. 1/2009.	Air transportation.
Government Regulation No. 40/2012.	Airport construction and environment preservation.
Minister of Transport Regulation No. 83/2010.	PPP implementation guidelines for transportation infrastructure procurement.
Minister of Transport Regulation No. 20/2014.	Procedure for determining airport location.
Minister of Transport Regulation No. 45/2015.	Requirement for ownership of business entity capital in the field of transportation.
Minister of Transport Regulation No. 56/2015, as amended by Minister of Transport Regulation No. 187/2015.	Airport business activity.
Minister of Transport Regulation No. 193/2015.	Concession and other forms of partnership between government and airport business entities for airport services.
Minister of Transport Regulation No. 87/2016.	Procedures for providing airport building development licenses and approvals for airport development.
Minister of Transportation Regulation No. 24/2017.	Revocation capital requirements for ownership in the fields of sea transport, ship delivery, loading and port business.

Education	
Law No. 20/2003.	National education system.
Government Regulation No. 19/2005, as recently amended by Governmental Regulation No. 13/2015.	National standard education.
Government Regulation No. 48/2008.	Education funding.
Government Regulation No. 4/2014.	Implementation of higher education and higher education management.
Government Regulation No. 26/2015.	Form and mechanism of legal entity for state university funding.
Health	
Law No. 36/2009.	Health.
Law No. 44/2009.	Hospitals.
Government Regulation No. 72/1998.	Safety of pharmaceutical and medical devices.
Government Regulation No. 93/2015.	Teaching hospitals.
Minister of Health Regulation No. 56/2014.	Hospital classification and licensing.
Minister of Health Regulation No. 24/2016.	Hospital Building and Hospital Infrastructure Requirements.
Minister of Health No. 72/2016.	Standards of pharmaceutical services in hospitals.
Ports	
Law No. 17/2008.	Water transportation.
Government Regulation No. 61/2009, as amended by Government Regulation No.64/2015.	Port affairs.
Government Regulation No. 20/2010, as amended by Government Regulation No.22/2011.	Water transportation.
Minister of Transport Regulation No. 51/2015, as amended by Minister of Transport Regulation No. 146/2016.	Implementation of ports.
Minister of Transport Regulation No. 15/2015, as amended by Minister of Transport Regulation No. 166/2015.	Concession and other forms of partnership between government and port business entities in the ports sector.
Minister of Transport Regulation No. 24/2017.	Revocation of business entity capital ownership requirements in the field of water transportation, shipping agencies, loading-unloading businesses, and port business entities.
Railways	
Law No. 23/2007.	Railway affairs.
Government Regulation No. 56/2009, as amended by Government Regulation No. 6/2017.	Implementation of railway affairs.
Government Regulation No. 72/2009, as amended by Government Regulation No.61/2016.	Rail traffic and transportation.
Presidential Regulation No. 53/2012, as amended by Presidential Regulation No. 124/2015.	Public service obligations and transportation subsidies for railways; state-owned railway infrastructure utilization fees; and maintenance and operation of state-owned railway infrastructure.

Minister of Transport Regulation No. 91/2011, as amended by Minister of Transport Regulation No. 55/2014.	The implementation of special railways.
Minister of Transport Regulation No. 31/2012.	Development licenses for public railway facilities.
Minister of Transport Regulation No. 66/2013.	Development licenses for public railway infrastructure.
Minister of Transport Regulation No. 15/2016.	Concession and other forms of partnership between government and business entities in the field of public railway.
Minister of Transport Regulation No. 35/2016, as amended by Minister of Transport Regulation No. 27/2017.	Railway passengers' economy class transport tariff in fulfilment of public service obligation.
Minister of Transport Regulation No. 68/2016, as amended by Minister of Transport Regulation No. 151/2016.	Implementation of economy class railway services procedures in fulfilment of public transport service obligation.
Electricity (Power Plant, Transmission, and Distribution)	
Law No. 30/2009.	Electricity.
Law No. 27/2003, as amended by Law No. 21/2014.	Geothermal.
Government Regulation No. 59/2007, as amended by Government Regulation No. 70/2010.	Geothermal business activities.
Government Regulation No. 14/2012, as amended by Government Regulation No. 23/2014.	Electricity providers.
Government Regulation No.62/2012.	Electricity supporting businesses.
Government Regulation No. 7/2017.	Geothermal For Indirect Use.
Government Regulation No. 42/2012.	Sale and purchase of cross-border electricity.
Presidential Regulation No. 4/2016, as amended by Presidential Regulation No. 14/2017.	Acceleration of the development of electricity infrastructure.
Presidential Regulation No. 86/2006, as amended by Presidential Regulation No. 91/2007.	Government guarantee for the acceleration of the development of coal-based power generation.
Ministry of Industry Regulation No. 54/2012, as amended by Ministry of Industry Regulation No. 05/M-IND/PER/2/2017.	Guidelines for the use of domestic products in the construction of electricity infrastructure.
Ministry of Energy and Mineral Resources Regulation No. 10/2017.	Principles of power purchase agreements.
Ministry of Energy and Mineral Resources Regulation No. 12/2017.	Use of renewable energy resources in electricity supply.
Ministry of Energy and Mineral Resources Regulation No. 28/2012, as amended by Ministry of Energy and Mineral Resources Regulation No. 07/2016.	Application procedures for territorial concessions for electricity distribution in the public interest.
Ministry of Energy and Mineral Resources Regulation No. 35/2013, as amended by Ministry of Energy and Mineral Resources Regulation No. 12/2016.	Electricity business license procedures.
Ministry of Energy and Mineral Resources Regulation No. 01/2015.	Cooperation in the provision of electricity and the joint utilization of the electricity network.
Ministry of Energy and Mineral Resources Regulation No. 09/2016, as amended by Ministry of Energy and Mineral Resources Regulation No. 24/2016.	Procedure for the supply of coal for mine-mouth power plants and for the determination of price.

Ministry of Energy and Mineral Resources Regulation No. 33/2016.	Technical settlements for land, buildings and/or plantations owned by communities in forestry areas for the purpose of accelerating the development of electricity infrastructure.
Ministry of Energy and Mineral Resources Regulation No. 19/2017.	Use of coal for power plants and the purchase of excess power.
Infrastructure Facilities of Sports and Art	
Law No. 3/2005.	National sport system.
Government Regulation No. 16/2007.	Implementation of sports activities.
Government Regulation No. 18/2007.	Financing of sports.
Oil, Gas and Energy	
Law No. 22/2001.	Oil and gas.
Government Regulation No. 36/2004, as amended by Government Regulation No. 30/2009.	Downstream oil and gas business activities.
Urban Zone Infrastructure Facilities	
Law No. 26/2007.	Spatial Planning.
Government Regulation No. 34/2009.	Guidelines the management of urban areas.
Presidential Regulation No. 112/2007.	Structure and Guidance for traditional markets, shopping centers, and modern stores.
Water Treatment, Transmission, and Distribution	
Law No. 11/1974.	Water affairs.
Government Regulation No. 121/2015.	Use of water resources.
Government Regulation No. 122/2015.	Drinking water supply systems.
Minister of Public Works and Housing Regulation No. 19/2016.	Central and/or local government support for cooperation on drinking water supply systems.
Roads	
Law No. 38/2004.	Roads.
Government Regulation No. 15/2005, as amended by Government Regulation No. 44/2009.	Toll roads.
Government Regulation No. 34/2006.	Roads.
Minister of Public Works and Housing No. 43 PRT/M/2015.	Toll road regulatory body.
Minister of Public Works and Housing No. 18/PRT/M/2016.	Provision and application of procedures for business entity bridging funds for acquisition of toll road land.
Minister of Public Works and Housing No. 01/PRT/M/2017.	Procurement procedures for business entities implementing toll roads.
Street Lighting	
Law No. 22/2009.	Traffic networks and road transport.
Government Regulation No. 32/2011.	Management and engineering impact analysis and traffic management.
Government Regulation No. 51/2012.	Human resource competence in the transportation sector.

Government Regulation No. 79/2013.	Traffic networks and road transportation.
Minister of Transportation Regulation No. 8/2014.	Human resource competence in transportation field.
Minister of Transportation Regulation No. 75/2015.	Traffic impact assessment.
Minister of Transportation Regulation No. 96/2015.	Guidance on implementation of activities for traffic management and traffic engineering.
Directorate General of Land Transportation Regulation No. SK.7234/AJ.401/DRJD/2013.	Technical instructions covering road equipment.
Directorate General of Land Transportation Regulation No. SK.2344/KP.108/DRJD/2015.	Competence in the management of road equipment.
Directorate General of Land Transportation Regulation No. SK.2778/AJ.004/DRJD/2015.	Registration certificate for road equipment producers and suppliers.
Public Housing	
Law No. 1/2011.	Housing and resettlement area.
Law No. 20/2011.	Apartments.
Law No. 4/2016.	The Community Housing Savings Program (TAPERA).
Government Regulation No. 88/2014.	Implementation of development housing and resettlement areas.
Government Regulation No. 83/2015.	Public company for national housing development.
Government Regulation No. 14/2016.	Implementation of housing and resettlement areas.
Government Regulation No. 64/2016.	Development of housing for low income citizens.
Minister of Public Works and Housing No. 20/PRT/M/2014, as amended by Minister of Public Works and Housing No. 32/PRT/M/2015.	Financial liquidity facility allowing low-income citizens to obtain houses through housing loans.
Minister of Public Works and Housing No 38/PRT/M/2015.	Infrastructure, facility, and public utility to support public housing.
Minister of Public Works and Housing No. 13/PRT/M/2016.	Support for non-government housing stimulants.
Minister of Public Works and Housing No. 21/PRT/M/2016.	Accommodation and/or house purchase support for low-income citizens.
Telecommunication	
Law No. 36/1999.	Telecommunication.
Government Regulation No. 52/2000.	Telecommunication operations.
Government Regulation No. 53/2000.	Radio frequency spectrum and satellite orbit application.
Minister of Communication and Information Technology No. 08/2006.	Interconnection.
Minister of Communication and Information Technology No. 03/2007.	Network leasing.
Minister of Communication and Information Technology No. 23/2009.	Implementation of government affairs sub-sector covering post and telecommunication.
Minister of Communication and Information Technology No. 1/2010, as amended by Minister of Communication and Information Technology No. 7/2015.	Operation of telecommunication network.

Minister of Communication and Information Technology No. 23/2012.	Use of financing for information technology and broadband communication service.
Minister Of Communication and Information Technology No. 25/2015.	Implementation of universal telecommunication service obligations and informatics.
Waste Management	
Law No. 18/2008.	Waste management.
Government Regulation No. 81/2012.	Management of household waste.
Government Regulation No. 101/2014.	Management of hazardous wastes and toxic substances.
Minister of Public Works and Housing Regulation No. 21/PRT/M/2006.	National policy and strategy for the development of waste management systems.
Minister of Public Works and Housing Regulation No. 19/PRT/M/2012.	Guidelines for final waste processing sites.
Minister of Environment and Forestry Regulation No. 16/2011.	Guidance on local regulations covering the content of household waste.
Minister of Environment and Forestry Regulation No. 13/2012.	Reduce, re-use, and recycle through the waste bank: the implementing guidelines.
Minister of Environment and Forestry Regulation No. P.78/Menlhk-Setjen/ 2015.	Guidelines for domestic cooperation within the scope of the Ministry of Environment and Forestry.
Minister of Environment and Forestry Regulation No. P.70/Menlhk/ Setjen/Kum.1/8/2016.	Quality standards for thermal emissions and/or waste processing activities.
Minister of Energy and Mineral Resources Regulation No. 44/2015.	Purchase of power by PT Perusahaan Listrik Negara (Persero) from waste-to-energy power plants.
Minister of Energy and Mineral Resources Regulation No. 12/2017.	Use of renewable energy to supply electricity.
Tourism	
Law No. 10/2009.	Tourism.
Law No.11/2010.	Cultural conservation.
Government Regulation No. 50/2011.	Principle plan for national tourism development 2010–2025.
Government Regulation No.52/2012.	Competence certificate and business certification for tourism.
Presidential Regulation No. 63/2014.	Supervision and control of tourism.
Presidential Regulation No. 64/2014.	Coordination of strategy in the implementation of cross-sector tourism.
Minister of Tourism Regulation No. 01/2016.	The implementation of business certification in tourism.
Minister of Tourism Regulation No. 10/2016.	Draft primary guidelines for the development of tourism in province and regencies/municipalities.
Minister of Tourism Regulation No. 18/2016.	Registration of tourism businesses.
Presidential Instruction No. 16/2005.	Culture development and tourism policy.
Presidential Instruction No. 6/2009.	Development of a creative economy.
Zone Infrastructure	
Law No. 20/2003.	Special economic zones.

Law No. 3/2014.	Industry.
Government Regulation No. 2/2011, as amended by Government Regulation No. 100/2012.	Management of special economic zones.
Government Regulation No. 96/2015.	Facilities in special economic zones.
Government Regulation No. 107/2015.	Industrial business licenses.
Government Regulation No. 142/2015.	Industrial areas.
Presidential Regulation No. 33/2010, as amended by Presidential Regulation No. 124/2012.	The National Council and the Council for Special Economic Zones.
Coordinating Minister of Economic Affairs Regulation No. PER-07/M.EKON/10/2011.	Guidelines proposing the establishment of special economic zones.
Coordinating Minister of Economic Affairs Regulation No. PER-08/M.EKON/10/2011.	Guidance on the evaluation of the proposed establishment of special economic zones.
Minister of Industry Regulation No. 39/M-IND/PER/6/2016.	Procedures for granting industrial business licenses and industrial area expansion licenses.
Minister of Industry Regulation No. 40/M-IND/PER/6/2016.	Technical guidelines for the development of industrial areas.
Part 3. Other PPP Laws	
Land acquisition	
Law No. 2/2012.	Procurement of land in the public interest.
Presidential Regulation No. 71/2012 (and its amendments by Presidential Regulations No. 40/2014, No. 99/2014, No. 30/2015, No. 148/2015).	Acquisition of land for public projects.
Presidential Regulation No. 102/2016.	Funding the procurement of land in the public interest during the implementation of national strategic projects.
Minister of Finance Regulation No. 21/PMK.06/2017.	Procedures for the funding of land acquisition for national strategic projects and the management of assets resulting from land acquisition by the State Assets Management Agency.
National Land Agency Regulation No. 5/2012 (and its amendments by National Land Agency Regulation No. 6/2016).	Technical guidelines for the implementation of land procurement.
Planning and Permitting	
PPP Book 2017 (issued by the Ministry of National Development Planning).	Latest preview and information about planned PPP infrastructure projects.
Presidential Regulation No. 3/2016.	Acceleration of the implementation of national strategic projects.
Construction	
Law No. 2/2017.	Construction services.
State/regional assets and finance	
Law No. 17/2003.	State finance.
Law No. 19/2003.	State-owned enterprises.
Law No. 1/2004.	The State Treasury.

Law No. 15/2004.	Examination of state management and financial statements.
Law No. 33/2004.	Fiscal balance between central and regional governments.
Government Regulation No. 27/2014.	Management of state/region-owned assets.
Government Regulation No. 58/2005.	Regional financial management.
Minister of Home Affairs Regulation No. 13/2006, as amended by Minister of Home Affairs Regulation No. 12/2011.	Guidelines for financial management in regional government.
Environment	
Law No. 32/2009.	Environmental protection and management.
Government Regulation No. 27/2012.	Environmental permits.
Minister of Environmental Affairs Regulation No. 8/2013.	Types of businesses or activities requiring environmental impact assessments.
Minister of Environmental Affairs Regulation No. 8/2013.	Assessment and examination procedures for environmental documents and issuing of environmental permits.
Regional government and cooperation	
Law No. 23/2014.	Regional governments.
Government Regulation No. 50/2007.	Regional cooperation.
Ministry of Home Affairs Regulation No. 22/2009.	Technical guidelines for regional cooperation.
Ministry of Home Affairs Regulation No. 23/2009.	Control and supervision procedures for cooperation between regions.
PPP Guarantee Provision Guideline by PII.	Technical guidelines for PPP Guarantees by PII.

Annex D: Timeline of regulatory developments

Year	Name of Legislation
2005	Presidential Regulation No. 67/2005: Initial regulation for PPP in infra sector
2007	Government Regulation No. 66/2007: "Establishment of State Owned Infrastructure Finance Company" (i.e. SMI)
2008	Government Regulation No. 75/2008: amending Government Regulation No. 66/2007 on infra finance SOE (i.e. SMI)
2009	Government Regulation No 35/2009: creation of state-owned infrastructure guarantee agency (i.e. PII) MoF Regulation (PMK) No. 100/2009: creation of infrastructure financing company (i.e. IIF) Bappenas Regulation No. 3/2009: publication of first PPP Book (PPP Book 2009)
2010	Presidential Regulation No. 4/2010: PLN cooperation with private sector (i.e. PPAs), to accelerate power generation; government guarantees PLN's business viability in connection with such cooperation (to be regulated by MoF) Presidential Regulation No. 13/2010: amending Presidential Regulation No. 67/2005 on infra PPP Presidential Regulation No. 78/2010: guarantees for infra PPP projects via MoF / PII MoF PMK 260/2010: guidelines for guarantees for infra PPP MoF Decree (KMK) No. 439/2010: establishing IIF
2011	Presidential Regulation No. 56/2011: 2nd amendment to Presidential Regulation No. 67/2005 on infra PPP; provides for provision of gov support, incl. tax incentives and financial contribution (i.e. VGF)
2012	Law No. 2/2012: accelerating land acquisition for infra projects MoF PMK 223/2012: provision of VGF
2013	Government Regulation No. 43/2013: in the event that a toll road is economically feasible but not financially feasible, government funding for toll road concession is limited, and to accelerate regional development, Gol may appoint SOE to deliver the toll road project MoF PMK 143/2013: VGF guidelines
2014	Presidential Regulation No. 39/2014: revising negative investment list to encourage more foreign investment Presidential Regulation No. 75/2014: establishing KPPIP / new business process for infra priority projects; includes PDF for priority projects MoF PMK 173/2014: to ensure PLN can fulfill financial obligations under PPAs (implements Presidential Regulation No. 4/2010) MoF PMK 206/2014: establishing PPP Unit

2015	<p>RPJMN 2015-19: signed 8 Jan. 2015; emphasizes need for / importance of PSP / PPP in infra delivery</p> <p>Presidential Regulation No. 38/2015: new reg on infra PPP (revokes and replaces Presidential Regulation No. 67/2005 and its amend'ts); provides for AP mechanism</p> <p>Presidential Regulation No. 82/2015: "Central Government Guarantee for Infrastructure Financing with Direct Lending from International Finance Institution to State Owned Enterprises"</p> <p>Bappenas No. 4/2015: operational guidelines for PPP in infra provision</p> <p>MoF PMK 170/2015: amending MoF PMK 143/2013 VGF guidelines</p> <p>MoF PMK 190/2015: implementing AP mechanism</p> <p>MoF PMK 265/2015: implementing PDF</p> <p>MoHA Regulation No. 96/2016: AP for local / regional infra PPP</p> <p>MENKO (CMEA) Regulation (Permenko) No. 12/2015: KPPIP list of Priority Projects 2015-19</p> <p>LKPP Regulation No. 19/2015: guidelines for procurement of business entity in infra PPP</p>
2016	<p>Presidential Regulation No. 3/2016: "Acceleration of the Implementation of National Strategic Projects"</p> <p>Presidential Regulation No. 44/2016: amending Presidential Regulation No. 39/2014 - negative investment list</p> <p>Presidential Regulation No. 122/2016: amending Presidential Regulation No. 75/2014 on priority projects, KPPIP</p> <p>Presidential Decree No. 102/ 2016: Land Fund for National Strategic Projects</p> <p>MoF PMK 8/2016: amending MoF PMK 260/2010 re: gov guarantee</p> <p>MoF PMK 129/2016: amending MoF PMK 265/2015 on PDF</p> <p>MoF PMK 260/2016: procedures for AP</p> <p>MoF KMK 269/2016: on organizational structure of PPP Unit / PMU</p>
2017	<p>MoF PMK 21/ 2017: Land Acquisition for Strategic National Projects and the Asset Management from the land Acquisition by the State Asset Management (BLU LMAN or Lembaga Manajemen Aset Negara)</p> <p>MoF PMK 60/2017: gov guarantee for PSN</p> <p>MoF KMK 454/2017: organizational structure of PPP Unit / PMU</p> <p>Permenko 5/2017: amending Permenko 12/2015 (list of priority projects)</p> <p>POJK Reg. No. 52/2017: new regulatory framework for Infrastructure Funds (DINFRA)</p>

Annex E: Maximum foreign ownership for key infrastructure sectors (2016)

Sector	Sub-sector	Business Type	Max Foreign Capital Ownership
Energy	Electrical Power	Power plant < 1 MW	0%
		Small-scale power plant (1-10 MW)	49%
		Power plant > 10 MW	95%
		Power plant transmission	95%
		Power plant distribution	95%
		Power installation consultation	95%
		Construction and installation of electric power: installation of electric power supply	95%
		Construction and installation of electric power: installation of high / extra-high voltage electric power utilization	49%
		Construction and installation of electric power: installation of low / medium voltage electric power utilization	0%
		Power installation operation and maintenance	95%
		Power installation examination and testing on high / extra-high voltage electric power supply or utilization	49%
Power installation examination and testing on low / medium voltage electric power utilization	0%		
Public Works	Construction service	Using advanced technology and/or high risk and/or the work value exceeds IDR 50,000,000,000	67% 70% for ASEAN countries' investors
	Business service / construction consultant service	Using advanced technology and/or high risk and/or the work value is more than IDR 10,000,000,000	67% 70% for ASEAN countries' investors
	Water	Drinking water business	95%
Transportation	Ports	Provision of harbor facilities (jetties, buildings, tugs at cargo container terminals, at liquid bulk terminals, at dry-bulk terminals, and at Roll of (Ro-Ro) terminals)	49%
		Provision of harbor facilities (i.e., waste reception facilities)	49%
		Loading and unloading of good services (maritime cargo handling services)	67% 70% for ASEAN countries' investors
		Supporting transport business in terminals	67%

Transportation	Airports	Airport services	49%
		Air transportation support service (computer-based reservation system, passenger and cargo ground handling and aircraft leasing)	67%
		Airport activities service	67%
	Land Transportation	Operation of passenger land transport terminal facilities (public facilities and general cargo terminals only)	49%
		Passenger land transportation scheduled routes	49%
Communications	Telecommunications	Fixed network services	67%
		Mobile network services	67%
		Network provider integrated with telecommunication services	67%
Health	Hospitals and clinics	Basic medical clinic services: Private maternity hospital, clinic, general medical service / public medical clinic, residential health service, and basic health service facility	0%
		Hospital	67% 70% for ASEAN countries' investors
		Basic and special medical clinics: specialized medical services, clinic specialized dental service, nursing service, other hospital service (medical rehabilitation clinic)	67% 70% for ASEAN countries' investors

Annex F: Port sector

A. Areas in which the PPP Program could be strengthened

There are several conflicting lists of the PPP projects being offered. A review of the KPIP public website (2017) showed 13 water transport-related projects for Public Private Partnerships (PPP). Of the list of 247 projects submitted by contracting agencies to the Ministry of Finance (MoF), four water transport projects are designated to be developed by PPPs, five by state-owned enterprises (SOEs), and one under the state budget. The 2017 Bappenas PPP publication listed five water transport projects intended for PPPs. There is market confusion, therefore, as to which ports are being offered for private sector participation via the PPP process.

Investment requirements are a key factor for prospective bidders in making an initial assessment whether they wish to proceed with further due diligence. When the projects were compared, in some cases the investment requirements and amounts for the same ports were different. For example:

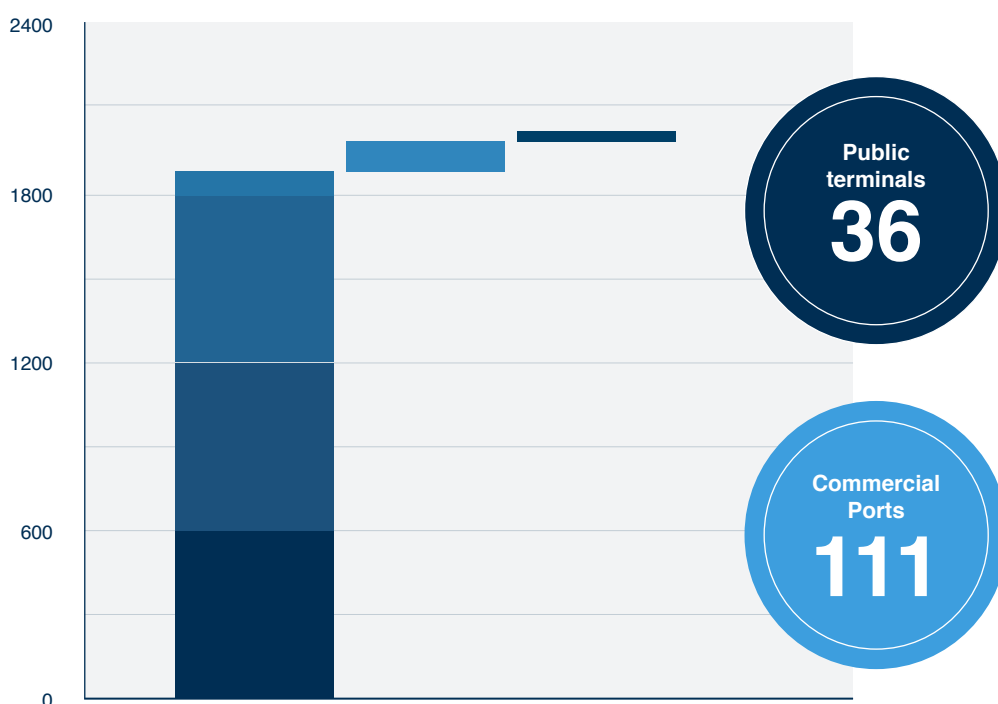
- For Bitung Port, the estimated investment cost is USD 2.56 billion on the KPIP website; in the Bappenas 2017 PPP Publication, it is USD 532 million;

- For Makassar Port, the estimated investment cost is USD 142 million on the KPIP website; in the Bappenas 2017 PPP Publication, it is USD 416 million.

It is unclear how some of the PPP projects would fit alongside nearby existing ports to avoid overcapacity. For example:

- Jakarta handled a total of 5.5 million twenty-foot equivalent units (TEUs) in 2016. Within Jakarta, plans are underway to develop Kalibaru Port: phase 1 is already in operation and operators are being selected for phases 2 and 3. Kalibaru Port will add about 7.5 million TEUs. Patimban Port will be a greenfield port, located in Subang, which is about 110 km from Jakarta. It has a planned capacity of 7.5 million TEUs by 2027. In November 2016, another Jakarta-owned enterprise, JakPro signed a memorandum of understanding (MOU) with Pelindo II and the Port of Rotterdam Authority, to prepare a feasibility study for the potential development of another port on reclaimed islands within Jakarta.
- Medan handled a total of 0.46 million TEUs in 2016 through the existing Belawan Port.

Figure F.1: Breakdown of ports by type



Source: National Port Master Plan, 2016.

Kuala Tanjung Port will be a greenfield port, about 140 km from Belawan Port, and has a planned capacity of 12.4 million TEUs by 2039.

- Bitung handled a total of 0.2 million TEUs in 2016 through the existing Bitung City Port. The new hub development offered for PPP will add another 2.7 million TEUs. Another hub port is also planned in Sorong, which is only about 471 nautical miles away.

Many of the port projects offered on the KPPIP website, or in the BAPPENAS Publication, state that further assessments are required, such as land acquisition and environmental impact assessments. It was also still to be determined whether government financial support would be provided and to what extent. These factors are important for the private sector, as they could have a significant influence on financial returns and delays.

According to port sector stakeholders, some of the PPP projects have already been assigned and are therefore not available for full tender. For example:

- Kuala Tanjung Port— in November 2016, Pelindo I and the Port of Rotterdam Authority formed a partnership to prepare the development of an integrated port and

industrial park facility.

- Patimban Port—it is reported that there may be a Presidential Decree to assign the Port directly to Pelindo II.
- Sorong Port—Pelindo II stated that it is in the process of developing the port; the KPPIP website describes Pelindo II as the project manager.
- Makassar Port—the Bappenas publication states that Pelindo IV is undertaking phase I and that private partners may join “the operation and maintenance in order to support port activities to pursue development in Makassar New Port”. It is therefore unclear whether the project is seeking a port equity concessionaire to manage, or an operations contract under Pelindo IV. The KPPIP website describes Pelindo IV as the project manager.
- Jakarta’s Kalibaru Port—private sector stakeholders stated that, for phase 1, it was a limited tender to choose a joint venture partner for Pelindo II. The KPPIP website describes Pelindo II as the project manager.

There is, therefore, confusion in the market as to whether some of the PPP projects (including for key hub ports) have been assigned already.

B. Selected descriptive data on Indonesia’s ports

Table F.1: Main commercial ports in the 2016 National Port Master Plan

1	Belawan	8	Palembang	15	Denpasar	22	Bitung
2	Kuala Tanjung	9	Banten	16	Pontianak	23	Ternate
3	Sabang	10	Patimban	17	Tarakan	24	Ambon
4	Batam	11	Panjang	18	Banjarmasin	25	Tenau
5	Dumai	12	Tanjung Priok	19	Balikpapan	26	Sorong
6	Teluk Bayur	13	Tanjung Emas	20	Pantoloan	27	Jayapura
7	Bengkulu	14	Tanjung Perak	21	Makassar	28	Merauke

Source: National Port Master Plan, 2016.

Table F.2: Trade volume forecast

Type of cargo (‘000 tons)	2009			2015			2020			2030		
	Type of trade		Total	Type of trade		Total	Type of trade		Total	Type of trade		Total
	Foreign	Domestic		Foreign	Domestic		Foreign	Domestic		Foreign	Domestic	
General cargo	32,840	110,859	143,699	39,213	148,562	187,775	43,294	180,748	224,042	50,245	242,911	293,156
Container	61,000	27,223	88,223	106,894	65,626	172,520	157,271	100,020	257,291	294,234	183,446	477,680
Dry bulk	312,852	247,514	560,366	328,918	342,135	671,053	310,318	438,906	749,224	284,436	675,731	960,167
Liquid bulk	136,723	39,340	176,063	178,042	52,718	230,760	216,653	65,700	282,353	315,952	97,252	413,204
Total	543,415	424,936	968,351	653,067	609,041	1,262,108	727,536	785,374	1,512,910	944,867	1,199,340	2,144,207
Average annual growth rate (%)												
General cargo	-	-	-	3.0	5.0	4.6	2.0	4.0	3.6	1.5	3.0	2.7
Container	-	-	-	9.8	15.8	11.8	8.0	8.8	8.3	6.5	6.3	6.4
Dry bulk	-	-	-	0.8	5.5	3.0	12.0	5.1	2.2	0.9	4.4	2.5
Liquid bulk	-	-	-	-	-	-	-	-	-	-	-	-
Total	-	-	-	3.1	6.2	4.5	2.2	5.2	3.7	2.6	4.3	3.5

Source: Australia Aid (2012) Academic Paper to Support National Port Master Plan Decree.

Table F.3: Estimated capacity of key ports

Region and port	Container								General Cargo			
	Container Terminal			Conventional Terminal			Total Container		Conventional Terminal			
	Length (m)	TEU/m	Capacity (000 TEU)	Length (m)	TEU/m	Capacity (000 TEU)	Total Capacity (000 TEUs)	Capacity Utiliz (%)	Length (m)	Tons/m	Capacity (000 tons)	Capacity utiliz. (%)
North Sumatera												
Belawan / Kuala Tanjung	850	1,000	850	242	500	121	971	91	2,180	1,800	3,924	104
Teluk Bayur	222	650	144	-	500	-	144	29	838	1,800	1,508	61
Pekanbaru	-	650	-	181	500	91	91	81	181	1,800	326	71
Batam	-	650	-	428	500	214	214	49	1,714	1,800	3,084	75
West Kalimantan												
Pontianak	405	650	263	-	500	-	263	38	422	1,800	760	45
South Sumatera												
Palembang	266	650	173	-	500	-	173	36	475	1,800	855	35
Panjang	848	650	551	-	500	-	551	55	532	1,800	958	79
Jambi	-	650	-	88	500	44	44	73	350	1,800	631	22
East-South Kalimantan												
Balikpapan	-	650	-	98	500	49	49	78	491	1,800	884	105
Samarinda	-	650	-	234	500	117	117	81	703	1,800	1,265	51
Banjarmasin	240	650	156	-	500	-	156	76	625	1,800	1,125	72
South Sulawesi												
Makassar	850	750	638	210	500	105	743	61	735	1,800	1,323	88
Java												
Tanjung Perak	1,870	1,000	1,870	235	500	117	1,987	88	7,281	1,800	13,105	29
Tanjung Emas	495	750	371	494	500	247	618	93	577	1,800	1,038	68
Tanjung Priok	3,308	1,250	4,135	800	500	400	4,535	87	5,845	1,800	10,521	64
Bali-NTT												
Benoa	-	650	-	41	500	21	21	28	206	1,800	371	3
The East												
Bitung	225	650	146	-	500	-	146	43	1,187	1,800	2,137	49
Jayapura	-	650	-	86	500	43	43	65	128	1,800	231	28
Merauke	-	650	-	102	500	51	51	20	152	1,800	274	37
Ambon	-	650	-	58	500	29	29	53	851	1,800	1,533	20
Pantoloan	-	650	-	30	500	15	15	23	573	1,800	1,031	1
Sorong	-	650	-	85	500	42	42	52	226	1,800	406	79
Totals:	9,579		9,298	3,411		1,705	11,003		26,272		47,289	
Averages:		971			500			79		1,800		54

Source: Australia Aid (2012) Academic Paper to Support National Port Master Plan Decree.

Annex G: Urban transport

Table G.1: KPPIP National Strategic Projects/Priority Projects in urban transport

Project Name	Province(s)	Cost IDR (trillion)	Priority Project	Responsibility	Financing	Status
Mass Rapid Transit (MRT) Jakarta Corridor North – South	DKI Jakarta	25	Yes	DKI Jakarta	APBN, APBD DKI Jakarta with external loan	Construction 1st phase
Mass Rapid Transit (MRT) Jakarta Corridor East – West	DKI Jakarta	117	No	DKI Jakarta	APBN	Engineering design preparation
Express Railway SHIA (Soekarno Hatta – Sudirman)	DKI Jakarta and Banten	24	No	Ministry of Transport	Potential PPP	n.a.
Jabodetabek Circular Line (Commuter rail)	DKI Jakarta	9 ³³³	n.a.	n.a.	n.a.	n.a.
Elevated Light Rail Transit (LRT) Integrating Jakarta, Bogor, Depok, and Bekasi	DKI Jakarta West Java	20.6	Yes	Ministry of Transport	Assignment to PT. Adhi Karya, tbk	Ongoing
Public rail transit in DKI Jakarta (LRT Kelapa Gading – Velodrom – Dukuh Atas)	DKI Jakarta	4	No	DKI Jakarta	BUMN (JakPro)	Construction ongoing
Light Rail Transit (LRT) South Sumatra (Metro Palembang)	South Sumatra	12.5	Yes	Ministry of Transport	APBN	Construction ongoing
Total		212.1				

³³³ Cost estimate comes from the 247 Government Priority List, not from the KPPIP website.

Table G.2: The Bappenas PPP Book

Project name	Primary sub-sector	Public/private	Procurement type	Value (USD million)	Size (km)	Start	End	Status	Last update
Jakarta Mass Rapid Transit System North South Line - Phase II	Urban transport	Public	-	-	8.1		2020	Planning stage	2016
Surabaya Tram Line Project, East Java	Urban transport	Public	PPP	86.28	16	2017	-	Tender launched	2016
Surabaya Monorail Project, East Java	Urban transport	Public	PPP	558.3	20	-	-	Planning stage	2016
SHIA Rail Link Update Jakarta	Urban transport	Public	-	1800		-	2019	Planning stage	2016
Makassar Monorail Project, South Sulawesi	Rail transport	Public	-	468	30	-	-	Planning stage	2016
Bekasi -Slipi Elevated Railway Line	Rail transport	Public	-	106	22	-	-	Planning stage	2016
Jakarta Transit-Oriented Development Project	Rail transport	Public	-	-	-	-	-	Feasibility studies/ EA underway	2016

Table G.3: The Bappenas PPP Book

Program	IDR Trillion	USD Million	Stage	Size	Unit
Batam Island Railway	7.62	586	Preparation	55	km
Urban Railway City of Medan	5.73	441	Preparation	36.1	km
Total	13.35	1,026.92			

Table G.4: Historical data for transport projects with private finance (BMI IJGlobal)

Project name	Investment value (nominal USD million)	Investment value (const. 2010 USD million)	Investment year
Duri-tangerang double track rail line, Jakarta Special Region (Regional train under PTKAI - most likely connection to airport under construction)	50.2	52.85	2012
Jakarta Mass Rapid Transit System	1,780	1,901.52	2013
Total	1,830.20	1,954.37	

Annex H: Umbulan BOT Bulk Water Project

Ground-breaking ceremonies for the Umbulan Water Supply Project took place in July 2017.

The USD 150 million project is the second largest PPP contract in the Indonesian water sector (after the Jakarta concessions) and involves the construction and operation of a water treatment facility with a production capacity of 4,000 lps, the laying of around 100 kilometers of transmission

lines, and the establishment of 16 off-take points to supply five PDAMs in the cities of Surabaya and Pasuruan and the districts of Pasuruan, Sidoarjo and Gresik in East Java. The project will supply PDAMs with treated water that would ultimately enable them to serve 1.6 million people through 250,000 house connections.

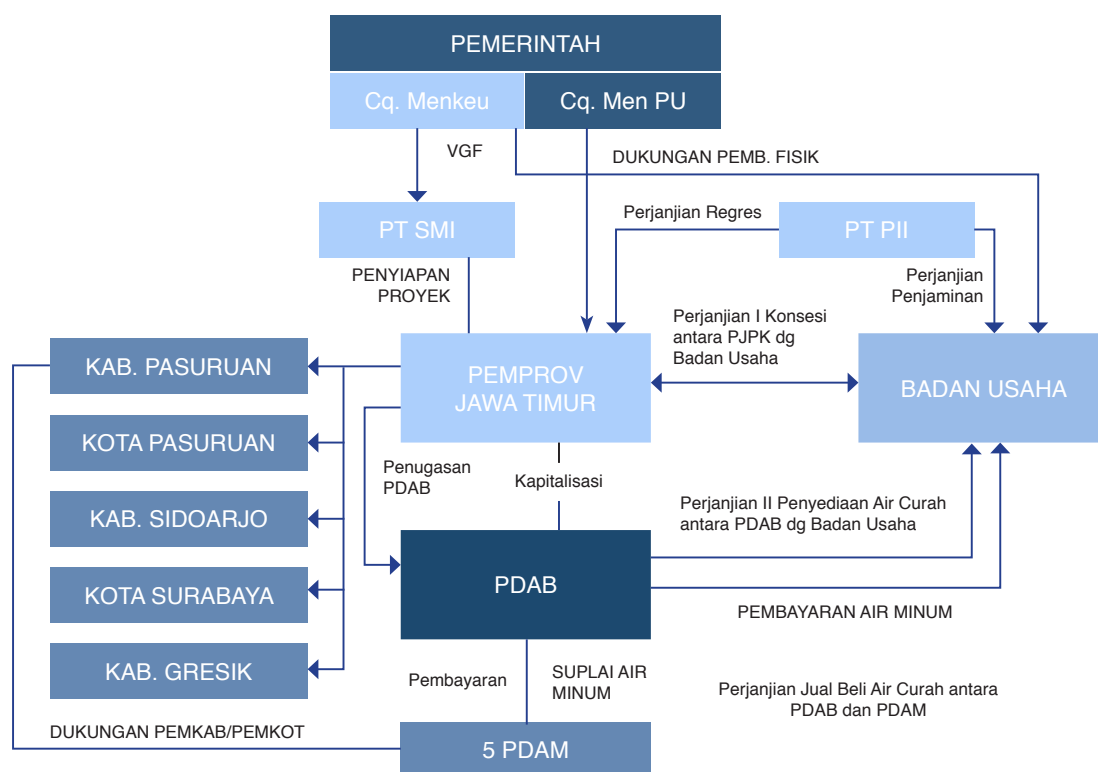
A. Contractual framework

This project was prepared before the regulations required government contracting authorities (GCA) to be state or local government-owned enterprises.

Consequently, the Provincial Government of East Java was the GCA that signed the concession agreement with the private Special Purpose Vehicle (SPV) company (PT Meta Adhya Tirta Umbulan). The province formed a provincial bulk water company (PDAB), which it is obliged to capitalize to about \$17 million. The provincial PDAB and the SPV company signed a water purchase agreement on a take-or-pay basis. In turn, the provincial PDAB has an agreement for water purchase with each of the five PDAMs in the cities and districts concerned. A memorandum of understanding was also signed between the provincial government and each

of the governments of the cities and districts covering their obligations to secure payment from the PDAMs for the bulk water purchase. On the private sector side, the SPV company is a 70-30 consortium between two companies: PT Medco Energi Internasional, (primarily an oil and gas company), and PT Bangun Cipta Kontraktor (an engineering procurement and construction (EPC) company with interests in the water sector, including in Batam and Palembang). Debt financing was provided by government-supported financial institutions/facilities: PT SMI, IIF (Indonesia Infrastructure Finance, and PT BNI. A political risk guarantee was provided by PT PII to the SPV company, and this is backed by an indemnity agreement with the Provincial Government of East Java. Figure H.1 outlines the contractual agreements covering the project.

Figure H.1: Umbulan BOT project contractual arrangements



Source: Presentation from the Province of East Java, 2017.

B. Payment and financing

The target price of bulk water sold by the provincial PDAB to the various PDAMs was set at IDR 2,440 per m3, while the price from the SPV company to the PDAB was set at IDR 2,370 per m3. The estimated full-cost price of water to the PDAB was estimated at IDR 6,600 per m3, almost three times as much. Thus, a fully commercial project is not possible. The national government provided VGF to the

project. The project financing is shown in Table H.1.

In addition to the financing provided to the project, additional funding has been provided through different mechanisms (i.e. DAK and MPWH's budget) to support the development of infrastructure for the five PDAMs.

Table H.1: Umbulan BOT project financing and capital structure

Funding entity	New financing (IDR)	USD	percent of Total
Province of East Java	17,000,000,000	1,278,505	1
PT Meta Adhya Tirta Umbulan	1,232,000,000,000	92,654,011	60
Lenders	862,400,000,000	64,857,808	42
Equity: PT Medco Energi Internasional Tbk	258,720,000,000	19,457,342	13
Equity: PT Bangun Cipta Contractors	110,880,000,000	8,338,861	5
Government of Indonesia	818,010,000,000	61,519,405	40
Total Project	2,067,010,000,000	155,451,921	100

C. Challenges

The project faced/continues to face a number of challenges, including:

- The target price of bulk water sale was set at a low level and bidding was carried out on the basis of the lowest VGF requirement, which was, however capped to 40 percent of the project —this resulted in only one bidder submitting a proposal.
- According to the winning bidder, they consider that the return on equity on this project is low compared to other alternative investment opportunities.
- Commercial banks did not finance the project; as a result, the project is financed exclusively by government-supported facilities and entities.
- There is a guarantee that will pay out up to 80 percent of amounts due in the event of a payment default by the province, but there is

no similar guarantee covering the obligations of the district/city PDAMs or local governments to the provincial company. This means the PDAB is taking on considerable payment risk, while it does not itself have a strong balance sheet, being a newly formed entity with no other revenue streams outside of the sale of bulk water to the district/city PDAMs.

- The concessionaire faces considerable challenges to mobilization: the provincial PDAB has not been fully capitalized; rights of way funds are not available and the concessionaire has been asked to pre-finance this component in exchange for extending the concession period; the financial close conditions are not yet met, thereby putting pressure on the concessionaire's own cash.
- The national government potentially faces significant residual risks, given the financial arrangements and the above circumstances.

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