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India's State-Owned Enterprises

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India's State-Owned Enterprises

Prepared by Ruchir Agarwal, Elif Arbatli-Saxegaard, Lesley Fisher, Xuehui Han*

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ABSTRACT: India's recently announced privatization strategy can facilitate a change in the composition of the public sector balance sheet toward high-return public sector investments in infrastructure and human capital where there is a clear role for government, leaving commercially viable companies for the private sector. Against this background, this paper provides a description of the SOE sector in India, consider different criteria which can inform the scope and rationale for privatization. It also highlights takeaways from international experience with privatization, highlights the importance of improved governance and oversight of SOEs and showcases analytical tools that can help analyze risks from SOEs. While this paper focuses on India, the framework for SOEs developed in this paper can be used to evaluate SOEs policy options in other countries.

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Introduction

COVID-19 pandemic had a significant impact on India's fiscal position, reducing its fiscal space for a sustained increase in priority spending—health care, social safety nets and public infrastructure—to help achieve high, sustainable, and inclusive growth. While concerted action will be necessary to improve revenue mobilization and increase expenditure efficiency, the reduced fiscal policy space has added impetus to the government's privatization agenda and looking more carefully at the public sector balance sheet.

The Indian government has recently announced a new and ambitious state-owned enterprises (SOE) strategy, which envisions the privatization or closure of all SOEs in non-strategic sectors, while keeping a bare minimum presence in strategic sectors.[1] Privatization has long been identified as an important reform priority in India, owing to the existence of many SOEs that operate on a commercial basis. As of end-FY2019/20, central government owned 366 SOEs, out of which 256 SOEs were operational (or reporting operational income), 96 SOEs were under construction (or reporting no operational income) and 14 SOEs were under closure or liquidation[2].

Privatization can make the use of public resources more efficient and facilitate the financing of priority spending on health, social safety nets and infrastructure. A standard argument for privatization is the fact that there is no rationale for the government to own and run a commercial business if it can just as well be done by the private sector. In fact, if the private sector is more effective in managing a commercial business, privatization should also improve allocative efficiency in the economy and make the economic pie bigger. A related second argument is whether the government is getting a good return on its assets. Loss-making, low-productivity enterprises may not only pose a direct drain on public finances; but can also expose the government's balance sheet to risks. Finally, the opportunity cost of owning SOEs may be large if there are other high-return investments or markets where the government can instead play a more important role—if there are market failures or where the private sector may not be willing or able to step in. Examples of the latter for India in the current juncture could include investment in health, social safety nets and public infrastructure. Privatization can in that case, free up resources for other more productive public sector spending.

Against this background, this paper provides an overview of India's central government SOEs and

[1] Strategic sectors are defined as atomic energy, space, and defense; transport and telecommunication; power, petroleum, coal, and other minerals; and banking, insurance, and financial services. The authorities' published SOE strategy does not provide further details on the sectors.

[2] The sample of SOEs that is referred to is the sample of SOEs covered in the *Public Enterprises Survey* published by the Department of Public Enterprises. The sample includes some SOEs that operate in the financial services sector but does not include the large public sector banks and insurance companies.

aims to assess the scope and rationale for privatization and highlight governance and management of SOEs. In particular, it first provides a brief summary of developments in India's SOE sector, and its characteristics, including size, composition, and performance. It then uses SOE-level data and different criteria to assess the scope and rationale for privatizing India's SOEs and will discuss lessons from international experience with privatizations.[3] The paper will then discuss priorities and considerations for governance and management of SOEs in India and showcase the SOE Health Check Tool which is applied to selected SOEs in India to help identify financially weak SOEs and associated risks. Box 2 describes the SOE Health Check Tool and the SOE Stress Test Tool and illustrates the tools for Air India. For the SOE Stress Test Tool, only the benchmarking function is used, given the significant data requirements associated with the stress test function.

The analysis in this paper focuses on enterprises owned by the central government, due to lack of comprehensive data on state-level public sector enterprises. However, there are many enterprises owned by state governments—more than 1000 according to some estimates[4]—and their management and potential impact on the public balance sheet is important. While a detailed discussion of enterprises owned by state governments is beyond the scope of this paper, the paper incudes a brief discussion of the key issues related to state-government owned enterprises. Future work could use the tools presented in this paper to extend the analysis to state-level SOEs.

There are several takeaways and policy conclusions that are highlighted in this paper. First, there is scope to rationalize government ownership of enterprises in India. SOEs are significant in number and highly heterogenous in terms of size, profitability, and industry. There are many SOEs that operate in non-strategic sectors where there is no rationale for government presence and one-third of SOEs are loss-making which poses a drain on limited public resources. The government of India's new SOE policy can, if implemented, go a long way to improve the efficiency of the SOE sector in India and facilitate a shift in the composition of government's assets towards high-return investments in human capital and infrastructure.

Second, implementation is key in reaping the benefits from privatization. A multi-year strategic plan for privatization can be formulated to ensure there is a concrete timeline and a well-designed sequencing and strategy for privatization. While some SOEs can be privatized quickly, for others there may be pre-requisites that may need to be implemented before privatization. Political economy considerations will be relevant, as there will be losers from privatization and there may be push-back from certain interest groups. Linking privatization receipts to investment in priority

[3] There are certainly cases where it may not be desirable to privatize an SOE—for example if the SOE has monopoly power or if the SOE has a social mandate and is therefore not operating on a fully commercial basis.

[4] See Chhibber (2017).

areas and compensating the losers may help increase public support. Finally, it will be important to ensure the privatization process is open, transparent, and inclusive and generates the best value for the government.

Third, governance and management of SOEs is critical to increase efficiency, reduce cost to the government, and facilitate future privatization. Ex-ante monitoring by the Ministry of Finance of key fiscal risk indicators for strategic companies could highlight SOEs at risk and enable earlier intervention. Improving the financial performance and efficiency of SOEs could lead to more fiscal savings in the short-to medium term and limit government support through transfers, subsidies, guarantees and financial bailouts.

Related Literature

This paper is related to several studies looking at the SOE sector in India and across countries more broadly. Chhibber (2017) is the closest study to this paper, focusing on India's SOE sector, previous episodes of privatizations and management of SOEs in India. Chhibber (2017) argues that there is significant scope for privatization in India and highlights the importance of a multi-year privatization plan/strategy. IMF (2020) provides a comprehensive discussion of the role and performance of SOEs from an international perspective. It highlights how governments can better use SOEs and improve their performance drawing upon the international experience. A key challenge emphasized in IMF (2020) is the fact that SOEs often try to achieve multiple policy mandates which are not clearly specified or adequately costed. This often weakens the financial position of SOEs and could lead to costly bailouts. Another challenge that is highlighted is the limited transparency around SOEs' operations and financial relationships with the government, leading to weak governance and oversight (IMF, 2020).

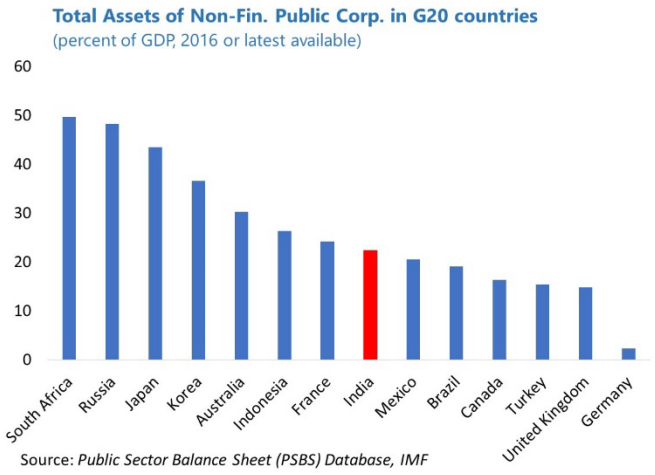
Another set of studies look at the impact of privatizations on firm performance. While this is not the direct focus of this paper, improved productivity is an important rationale for privatization. There is no consistent evidence on whether privatizations have led to better performance, especially in emerging market and low-income countries, but several studies on India have found some positive effects. For example, Baird et al. (2019) find that following privatization of SOEs in India over the period 1991-2005, there has been a reallocation of labor away from the public sector which has resulted in a substantial improvement in aggregate productivity and output. Chhibber and Gupta (2017a) and Chhibber and Gupta (2017b) study SOE performance and productivity in India, and in particular the impact of different types of disinvestment and management policies such as performance contracts and memorandums of understanding (MOUs). They find that performance contracts do not improve firm efficiency, but disinvestment policies

have significant positive effects on firm performance. Their results show that MOUs have also had a positive impact on SOE performance (for example, return of capital) but this is driven mainly by the non-service sector (manufacturing, mining) SOEs. For service sector firms, partial privatization (share sales) has had a more significant impact on performance.

India's State-Owned Enterprises: A Brief Overview

India's central government-owned enterprises—also known as central public sector undertakings (CPSUs)—were mainly established from the mid-1950s to the mid-1980s, reflecting India's state-led growth policy after independence and embedded in India's first and second Industrial Policy Resolutions (IPRs) in 1948 and 1956, respectively. Under these IPRs, SOEs played a key role in India's industrial development and in building public infrastructure; and at the same time SOEs enjoyed exclusive rights to operate in many key industries (Chhibber (2017)). In the 1980s, amid concerns about the efficiency of SOEs, there was a concerted effort to reduce the economic footprint of government and SOEs, with the formulation of a new industrial policy in 1991. The economic liberalization policies implemented in the 1990s made it possible for private sector to operate in key sectors including mining, electricity, and transportation, which were previously reserved for SOEs. Policies during this period also tried to improve the performance of loss making SOEs through different schemes for restructuring, reviving, developing professional management and decision-making autonomy[5] (Chhibber, 2017; and Singh and Chittedi, 2011).

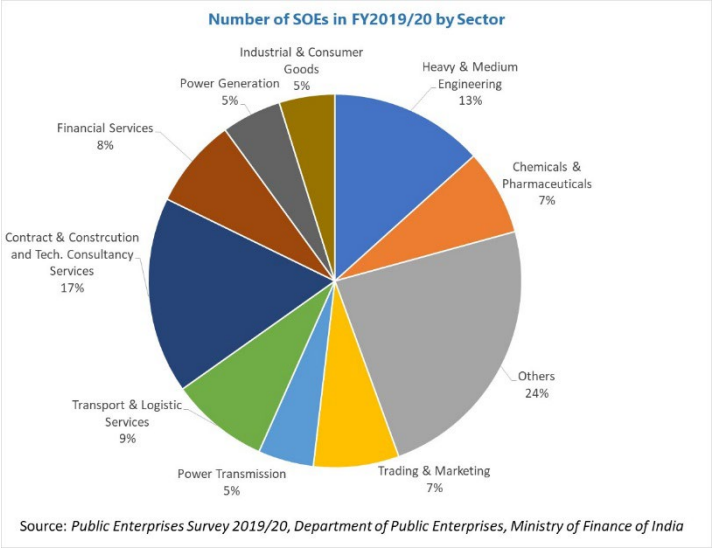
While the economic importance of SOEs has declined over time, they are still an important part of the economy. India's central government owned SOEs account for 22 percent of GDP in total asset, (comparable to other G-20 countries), 12 percent of GDP in fixed assets, 12 percent of GDP in terms of gross turnover and 2.6 percent in terms of value added.[6] India's SOEs operate in a variety of sectors and vary significantly in terms of size and employment. About half of SOEs operate in the services sectors, about 40 percent in manufacturing and the remaining mainly in mining and exploration. Under the services sector, there are many SOEs operating in the



[5] See Singh and Chittedi (2011) for a detailed discussion of the economic liberalization policies adopted in the 1990s and their impact on SOE performance.

[6] These figures are as of FY2019/20 and include SOEs covered in the Public Enterprise Survey and therefore exclude public sector banks and insurance companies.

contract and construction and technology consultancy services, followed by transport and logistic services. The former group has many SOEs that are engaged in construction activities (for example, housing, railways, roads) as well as SOEs that provide technical consultancy services. Under transport and logistics services, there are SOEs that provide transportation via air, road, and sea, manage airports, provide storage and warehousing services and transmission of natural gas among others. There are also many SOEs operating in the financial services sector, which invest in infrastructure sectors, housing, development of Indian exports and some also have a social mandate (for example, providing financing to disadvantaged groups)[7]. Within manufacturing sector, the largest sub-sectors in terms of number of SOEs are the heavy and medium engineering and chemicals and pharmaceuticals sectors. In terms of gross revenues, petroleum (refinery and marketing) sub-sector under manufacturing constitutes the largest share, accounting for about 53 percent of total gross revenue from operations as of March-2020 (Government of India, 2020 and 2021). India's SOEs employed about 1.5 million workers (about 0.3 percent of the labor force), with coal, telecommunication and IT and petroleum (refinery and marketing) sectors accounting for a large share.



Source: *Public Enterprises Survey 2019/20, Department of Public Enterprises, Ministry of Finance of India*

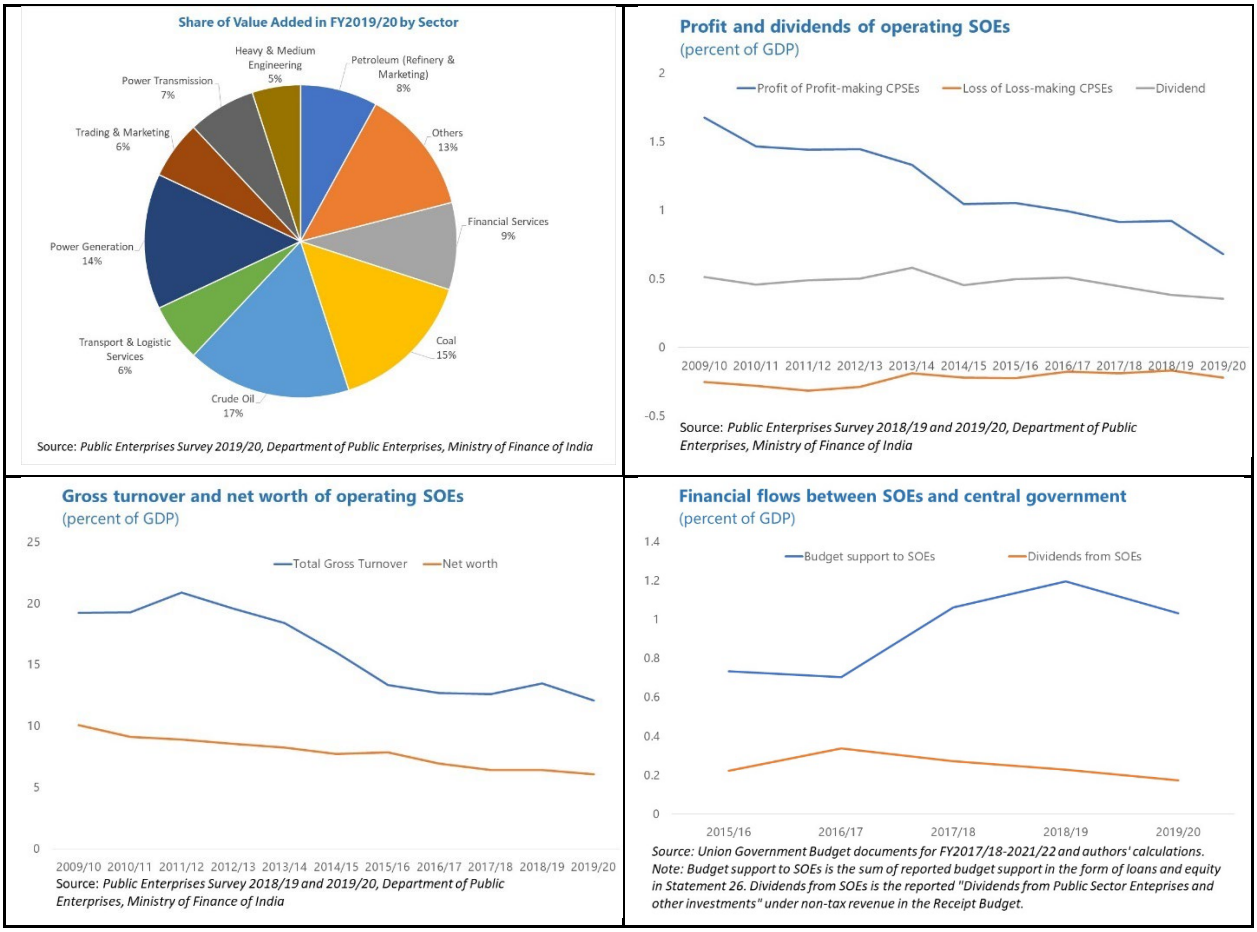
While most SOEs are relatively small, many are listed firms (58 SOEs as of March 2020), and there are several large SOEs with global operations. The market value of government's share in listed companies fluctuate with market developments, but according to Department of Investment and Public Asset Management, as of end-October 2021, market capitalization of the government share was around 14 trillion Rs or about 7 percent of GDP.

India's SOEs are profitable in the aggregate, but there is significant variation across SOEs. Aggregate profits of profit making SOEs have declined from about 1.4 percent of GDP in 2009/10 to about 0.7 percent of GDP in 2019/20 (Figure 1). Losses of loss-making SOEs has been about 0.25 percent of GDP on average over the past decade. While total losses are typically concentrated in a handful of SOEs—top-10 loss-making SOEs accounted for 91 percent of total losses in

[7] The SOEs in this group do not include the major public sector banks and insurance companies.

FY2019/20—about one-third of all SOEs were loss-making. There are loss-making SOEs in almost all sub-sectors[8], but chemicals and pharmaceuticals, transport and logistic services, industrial and consumer goods and hotel and touristic services sectors have more than half of all SOEs operating in the sub-sector that are loss-making. About 40 percent of operating SOEs paid dividends in FY2019/20 and total dividends paid have declined in recent years from close to 0.5 percent of GDP to around 0.35 percent of GDP. Net worth of SOEs have also declined over time, from 10 to about 6 percent of GDP since 2009/10. Financial flows between SOEs and the central government are relatively large. Budget support to SOEs in the form of loans and equity over the past five years have averaged about 0.95 percent of GDP, while dividends received from SOEs have averaged about 0.25 percent of GDP.

Figure 1: Selected Indicators for Indian SOEs



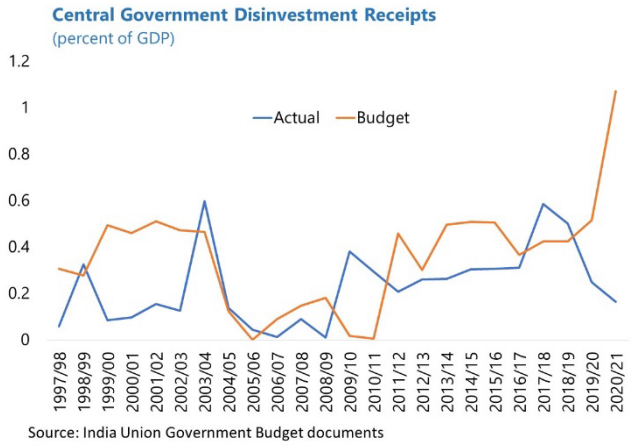
[8] The exception in FY2019/20 is the transportation vehicle and equipment sector.

Management and Privatization of SOEs in India

Management of India's SOEs is under the Department of Public Enterprises, which has been, until recently, under the Ministry of Heavy Industries and Public Enterprises. In 2021, the government moved the Department of Public Enterprises to be under the Ministry of Finance, which has many advantages from the perspective of governance and improved performance and is more aligned with international best practice. Department of Public Enterprises formulates policy guidelines for CPSEs on performance improvement and evaluation, autonomy and financial delegation and personnel management (Government of India, 2021).

Several policy measures have been introduced over time to improve the performance of SOEs. In 1986, a Memorandum of Understanding (MoU) mechanism was introduced. A MoU is an agreement between the management of an SOE and the administrative ministry or department responsible for that SOE which sets certain targets and benchmarks for measuring SOE performance with the objective to improve SOE's accountability. These parameters include financial indicators that apply to all SOEs as well as parameters that are sector specific. SOEs are rated as "excellent", "very good", "good", "fair" and "poor" based on their performance in terms of meeting their MoU targets. Based on these rankings over time, one can see an increase in the share of SOEs with a "poor" or "fair" ranking from 16.5 percent of all SOEs with an MoU evaluation in FY2014/15 to and 22 percent in FY2018/19 (Government of India, 2021). Measures were also taken to improve corporate governance and the professionalization of Boards of CPSEs. Autonomy of some profit-making CPSEs were enhanced by granting more powers to the Boards of CPSEs through different schemes and classifications.[9]

India has had some earlier experience with privatization. During the early 2000s, Indian government pursued active privatization policies, privatizing, or partially disinvesting from over 30 SOEs. Chhibber (2017) describes this episode as one where "privatization was pursued with determination" (Chhibber (2017), p. 3) amid opposition from labor unions and bureaucracy. This period witnessed the successful privatizations of BALCO, Hindustan Zinc Limited, CMC and Maruti Udyog Limited, among others. During the late



Source: India Union Government Budget documents

[9] Certain CPSEs were given Navratna and Miniratna status in 1997 and Maharatna status in 2010, based on different eligibility criteria including profitability and size. Currently there are 14 Navratnas, 73 Miniratnas and 10 Maharatnas.

2000s, privatization was not pursued as aggressively but there were partial divestments. A National Investment Fund was also created to collect disinvestment receipts for strategic use (for example for public infrastructure and social spending). Criteria for using receipts was relaxed after the 2009 crisis, until the fund eventually became a part of the budget. (Chhibber (2017)) Disinvestment receipts in the budget have historically hovered around 0.3-0.4 percent of GDP and have increased since the global financial crisis.[10] Disinvestment receipts in recent years mainly reflect partial divestment in publicly listed SOEs with the government maintaining its majority stake.

Policy Options and Considerations: A Framework

Having provided a brief overview of the SOE sector in India, this section first outlines an organizing framework for considering policies related to SOEs. It then focuses on two key policies: privatization and management and governance policies. Building on the previous privatization experiences, as discussed in detail in Box 1, both privatization and improved management of SOEs are critical and can play a complementary role as India aims to get the best value out of its SOEs.

A Framework for Analyzing Policy Options

Figure 2 outlines a framework for analyzing policy options for SOEs. Policy options that are relevant for different SOEs is guided by SOE characteristics. In this framework, SOEs are grouped into four main categories based on whether the SOE has a social mandate, whether it is operating in strategic sectors and whether it is commercially viable. Based on this categorization, there are different policies—privatization, closing down and maintaining under government ownership—that are relevant for different groups. An important consideration that applies to all groups is the importance of improving the management and governance of SOEs.

***SOEs with a social mandate*:** SOEs in this group do not operate on a commercial basis and typically provide services that are quasi-fiscal in nature, for example in the form of subsidies. An example of an SOE in this group is the Food Corporation of India which provides subsidized food to households on behalf of the government. While there is a provision made for food subsidies in the budget, in previous years, this provision has not been sufficient to fully cover the cost of food subsidies provided by FCI. For this group of SOEs, it is important for the government to ensure transparent treatment of subsidies in the budget by fully compensating the SOE for the cost of the social mandate.[11]

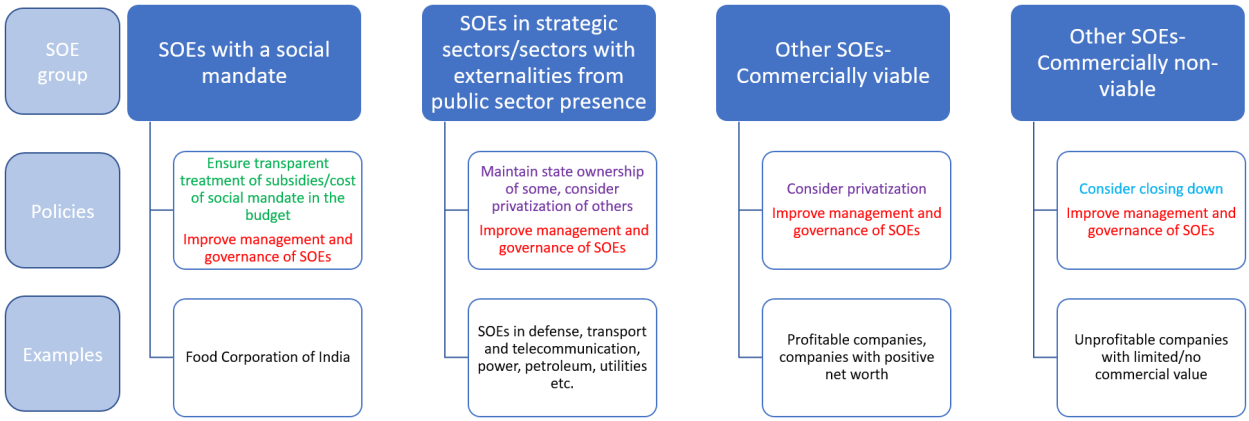
[10]Some of the disinvestment receipts reported in the budget do not constitute disinvestment per se, as it reflects receipts from one SOE buying up another SOE. The budget had fairly optimistic projections for disinvestment receipts during FY2019/20-FY2020/21, which eventually did not materialize, reflecting the impact of the pandemic.

[11] See Blagrave and Gonguet (2021) for a detailed discussion of fiscal transparency and reporting practices in India.

SOEs in strategic sectors: SOEs in this group operate in sectors that may be strategic for the government (for example defense, transportation, telecommunication) or sectors with externalities from public sector presence (for example utilities). For SOEs in this group, the relevant policy recommendation would be to maintain state ownership of some SOEs and to consider privatization of others. SOEs operating in strategic sectors, sectors with limited competition, or where there are large externalities, greater care would be needed to decide if, when and how to privatize (or reform the SOE)—for example without appropriate regulatory environment, privatization could result in a private monopoly with under provision of core services (for example, water and electricity for poor households) and reforming the SOE to operate more efficiently may be a better option.

Commercial viability: For SOEs in other sectors, policies should consider privatization of commercially viable SOEs and close down SOEs that are not commercially viable. A review of the financial status and viability of existing SOEs/PSUs could determine whether they are strategically relevant and commercially viable before deciding whether to privatize, close down, or keep them under government ownership.

Figure 2- A Framework for Guiding Policy Options for SOEs



Privatization Policy

There are several considerations for prioritization and sequencing of privatization. SOE profitability is an important consideration. From an intertemporal net worth perspective, it would be important to prioritize efforts on loss making SOEs. The ease of privatization is another consideration. For some SOEs the necessary pre-conditions for privatization may take longer to

secure (for example in strategic sectors). Ease of privatization could therefore depend on the industry, but also size, whether SOE is listed or not, and the SOEs financial position.

To explore scope and prioritization of privatization efforts, SOE-level balance sheet and income statement data from the FY2018/19 Public Enterprises Survey are used to group SOEs based on their sector of operation, profitability, and other characteristics. In particular, SOEs are split along a 2x2 dimension: (1) strategic vs. nonstrategic sectors, and (2) profitable vs. nonprofitable. Definition of strategic sectors reflects a proximate mapping between the sectors identified in the Government of India's new SOE policy and the sectors of operation reported in the Public Enterprise Survey.[12] An SOE is classified as profitable if it had a profit both in FY2018/19 and FY2017/18. While profitability is not necessarily a perfect measure of commercial viability, it is used in this analysis as a proxy, given that a detailed assessment of the commercial viability of SOEs goes beyond the scope of this paper.

This analysis suggests scope for privatization or closing down of SOEs in India. According to the sectoral classification of SOEs to strategic versus non-strategic sectors, about half of all SOEs are in non-strategic sectors where there is no rationale for government presence. Furthermore, about 18 percent of these SOEs are listed and they constitute about 14 percent of total SOE assets (Figures 3 and 4). About 40 percent of SOEs operating in non-strategic sectors are loss making and can be prioritized in the privatization/closure process. These firms account for a large share of SOE assets in the trading and marketing sector and in terms of number of firms, they are more prevalent in contract and construction, heavy and medium engineering, and trading and marketing sectors. Among strategic sectors, there are also many SOEs that are non-profitable, especially in transport and logistic services, and chemicals and pharmaceutical sectors which suggest considerable scope for improving performance, privatization, or closure of SOEs that are operating in these strategic sectors. The large number of listed SOEs offer additional scope for divestment. These SOEs are typically more profitable, account for a large share of SOE assets and operate across a diverse set of sectors (Figure 4).

While there is considerable scope for privatization, implementation is key in reaping its benefits and to overcome risks of privatization. International experience with privatization points to several pre-requisites for success including a medium-term plan, a solid regulatory framework, competitive markets, and equitable redistribution of privatization rents, including through compensating affected workers (Box 1). A multi-year strategic plan for privatization can be formulated to ensure there is a concrete timeline and a well-designed sequencing and strategy for privatization. In certain sectors (like network sectors), a solid regulatory framework will be critical

[12] Strategic sectors are defined as atomic energy, space, and defense; transport and telecommunication; power, petroleum, coal, and other minerals; and banking, insurance, and financial services.

to implement before privatization. Competitive markets are critical to avoid potential risks from privatization including greater market concentration (Manzetti, 1999) and limited improvement in productivity (Puntillo, 1996). Political economy considerations will be relevant, as there will be losers from privatization and there may be push-back from certain interest groups. Linking privatization receipts to investment in priority areas and compensating the losers may help increase public support.

Figure 3- Composition of SOEs by profitability and sector

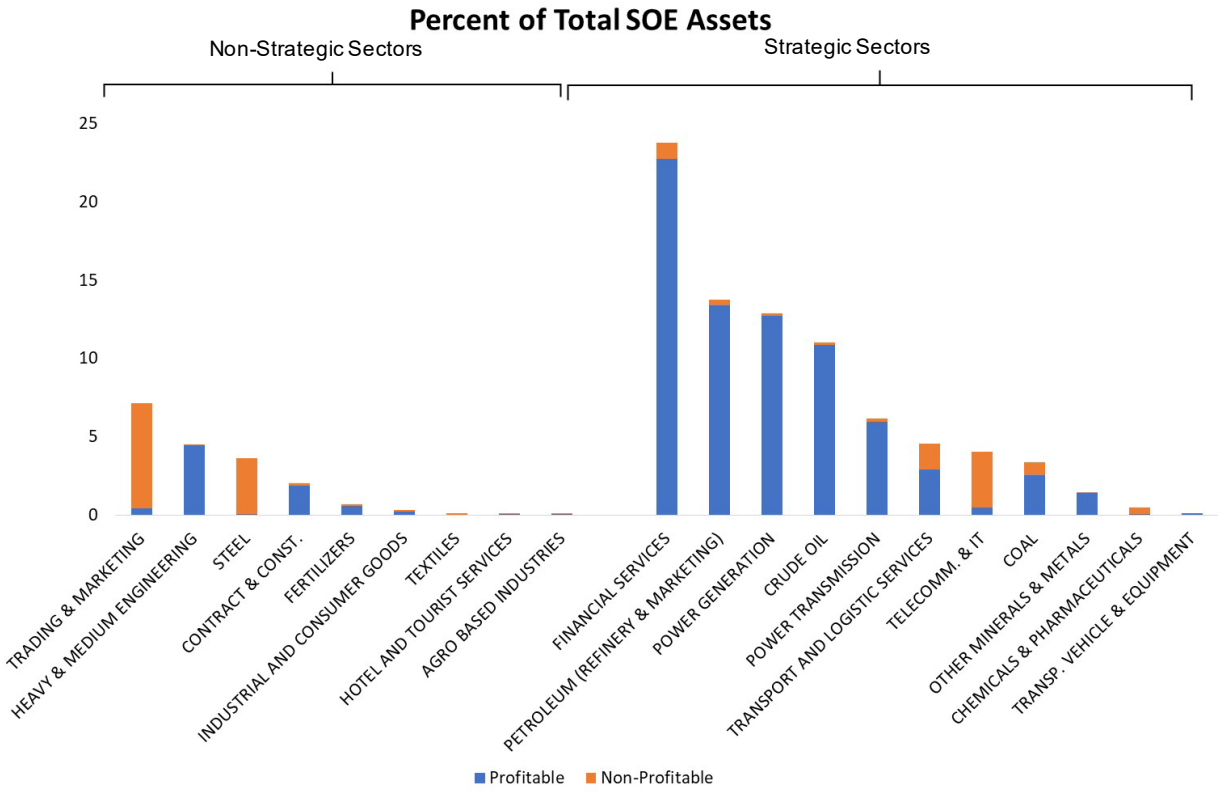
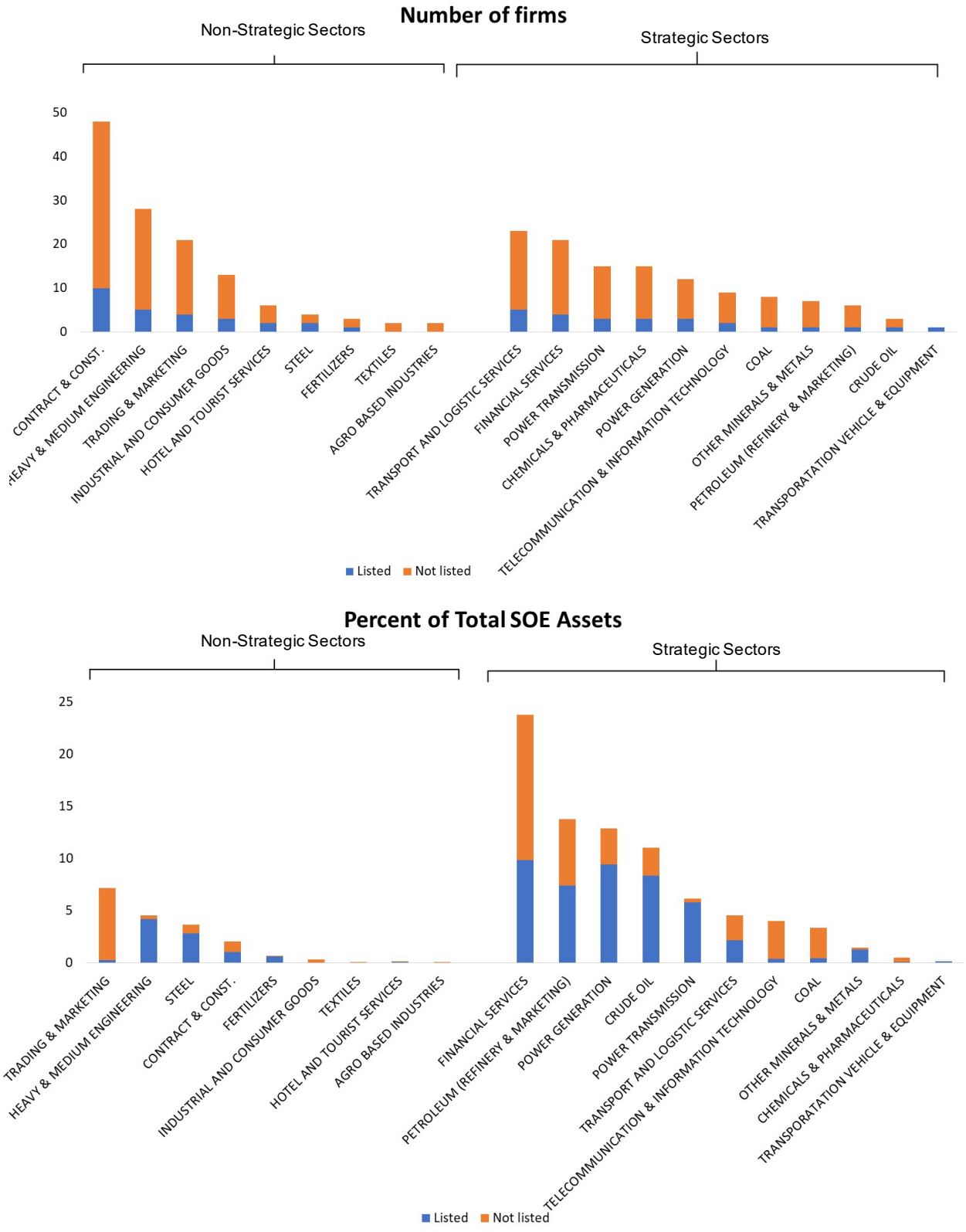


Figure 4- Composition of SOEs by listing status and sector



Box 1: Lessons from international experience with privatization

Successful privatizations lead to more efficient firms, contribute to healthy public finances, and can have positive macroeconomic effects by generating higher aggregate productivity for the economy through more efficient allocation of resources (Estrin and Pelletier 2018; Estrin and others 2009; Megginson and Netter 2001). International experience highlights the importance of key prerequisites for reaping these benefits: a medium-term privatization plan, a solid regulatory framework, competitive markets, and equitable redistribution of privatization rents.

- A medium-term privatization plan can help the government plan and implement the privatization smoothly because the privatization process takes time and requires resources (both skills and funds).
- A solid regulatory framework can: (1) warrant a high degree of governance and transparency in the privatization process; (2) attract private sector participation; and (3) ensure effective implementation of the framework (Foster and Rana 2020).
- Competitive markets can warrant companies to operate according to strong commercial principles and respond to incentives, which leads to efficient delivery of high-quality product/service and avoids unaffordable product/service due to rent seeking of new owners.
- Equitable redistribution of privatization rents can avoid loss of privatization support due to tariff hikes and opposition from the affected workers. The affected workers can be compensated through different channels (e.g., social safety net, unemployment insurance, and other labor market measures).

Other related factors have played a positive role in successful privatizations. For example, in Western European countries, vigorous financial market development over the last two decades of the 20th century accompanied privatization (Bortolotti and Milella, 2006). In Central and Eastern Europe, the transition strategy included the development of the private sector (Hanousek et al., 2008). Finally, in African countries, privatization delivered positive effects only when they were accompanied by with better regulation and enhanced competition (Nellis, 2008).

Meanwhile, privatization is more difficult to achieve with success in network sectors (e.g., energy, utilities, public transportation) due to tensions between affordable provision and adequate profit to private firms (IMF (2020)). Due to lack of competitive markets, many privatization deals were renegotiated only a few years after the initial privatization took place, which often led to higher prices and more rents for the private owners as in several Latin American countries (for example, Chile, Bolivia, Peru, Brazil, Argentina, and El Salvador) (Estache and Trujillo, 2008) while when the regulatory framework is not solid, government's unwillingness to apply tariff regulation as laid down in the legal framework induce inadequate profit to private firms framework (e.g., in the Dominican Republic).

Employees and labor unions often oppose privatization because of the threat of layoffs, for example, as in Argentina and Nicaragua in the 1990s (Andrews and Dowling 1998; Boix 1997; Chong, Guillen and, and López-de-Silanes 2011). However, privatization can also lead to employment gains with competitive markets even if employment and wages in the former state firm fall (Davis and others 2000; Earle and Shpak 2019; Estache and Trujillo 2008), for example, after Zambia Airways was liquidated, two new private airlines emerged, generating higher overall employment in the sector (Kikeri 1998).

Box 1: Lessons from international experience with privatization *(continued)*

Furthermore, regardless of stages of privatization, the government should strengthen governance and oversight of SOEs, which helps generate favorable conditions for successful privatization. Based on India's own experience, profitable firms and firms with lower wage bill are likely to be privatized early in India (Dinc and Gupta, 2011). International experience showed that private sector participation is more likely to be successful when: information about the operating performance of the utility and the condition of its assets are more accurate; retail tariffs are close to full cost recovery; and the regulator is competent in adjusting tariffs and monitoring quality of service (Rana and Foster 2020). Strong governance and oversight of SOEs help nurture these conditions.

The government should safeguard privatization success by avoiding privatization reversions. Lack of the above-mentioned preconditions and proper governance and oversight of SOEs have often led to privatization reversions, e.g., tariff hikes associated with privatization leading to public disaffection and significant underestimation of losses due to inaccurate operational data leading to unsustainable bids.

The privatization process can take time, depending on the type of privatization (for example, sales auctions versus share offerings) and the economic, social, and political context, emphasizing the importance of a medium-term plan. Across countries, it is common to see privatizations (starting from decisions made to the completion of privatization) taking about two years. Examples include privatization of SAFRAN France through four tranches of public offerings of the State's shares during 2013-2015, share sales of ENGIE SA in France (mainly to institutional investors) during 2015-2017, the privatization of DONG Energy in Demark through IPO during 2015-2016 (although the decisions were initiated in 2004), block sales of 85% shares of Siarkopol S.A. in Poland during 2012-2013 (OECD, 2018). While privatizations can also proceed very fast (one to two months), some privatizations took a phased/sequential approach and lasted for more than one decade. The durations were chosen by the governments to achieve different goals, such as optimizing prices. For instance, the postal utility Deutsche Post AG in Germany has been in the process of privatization since November 2000. The gradual process allowed the stock market to absorb new equities to achieve better price for the state's shares. Another example is the sequenced sell-off of Türk Telekom in Turkey, with the first phase block sale of 55% shares to Lebanese-owned Ogar Telecom in 2005 and the second phase through IPO in 2007 (OECD, 2018).

Governance and Management of SOEs

Improving the financial performance and governance practices of SOEs/PSUs[13] is an important prerequisite to sound public financial management. Improving the financial performance and efficiency of SOEs/PSUs could lead to more fiscal savings in the short- to medium-term as the SOE privatization program is likely to be implemented over several years. Governance issues apply equally to central government SOEs as well as state government PSUs. Box 3 provides a brief discussion of challenges faced by state governments and some specific examples. Some key priorities include:

- ***Financial oversight of SOEs/PSUs (based on international good practice):*** Many advanced and middle-income countries have dedicated units with specialized skills including

[13] State government owned enterprises are also known as Public Sector Undertakings (PSUs).

accountants, economists, lawyers and financial analysts, located in Ministry of Finance responsible for analyzing the financial performance of strategic SOEs.[14] The Ministry of Finance in India has made progress in strengthening the institutional capacity for SOE oversight through the recent movement of the Department of Public Enterprises (DPE) under the Ministry of Finance. The unit produces an annual public enterprises survey on the financial performance of central government SOEs. The report includes useful financial ratios and SMART measurable performance indicators based on a memorandum of understanding (MOU) between the administrative department responsible for the SOE and the management of the respective SOE. At present the report is produced ex-post with a one-year time lag and the MoU contains mandatory and optional indicators on financial and service delivery parameters. In addition to the annual report, the DPE could also consider producing an ex-ante report focusing on key financial ratios showing the SOEs which are at risk and may require fiscal support. Analytical tools like the IMFs SOE Health Check and Fiscal Stress Test Tools that are discussed in Box 2 are good examples of potential tools that can be utilized.

- ***Medium-term perspective on fiscal support to SOEs/PSUs***: SOEs should provide ex-ante their medium-term financial plans/budget estimates to determine government's fiscal support, if any, from a medium-term perspective and limit unplanned bailouts (for example, transfers, subsidies, guarantees, capital injections). The Government of India does not yet have a medium-term budget framework at the union government, state government or SOE level which limits their ability to anticipate and mitigate future financing needs. The Department of Public Enterprises could prescribe the format for the financial plan of SOEs to include the revenue, expenditure, guarantees and borrowing requirements for the medium term to be submitted to the administrative departments. This information will enable the Ministry of Finance to include estimates of multi-year budget support in their fiscal projections. The Ministry of Finance should also consider introducing a policy to charge risk-based guarantee fees in line with international good practice to incentivize SOEs to borrow on the strength of their balance sheet. Guarantees should not be extended to non-viable SOEs with a history of default—instead their support could be focused on tariff policies, subsidies, or transfers.

- ***Identification and quantification of quasi-fiscal activities***: Some SOEs perform activities on behalf of government and not necessarily in line with their profit-making objectives, for example, transport or electricity subsidies to consumers—also known as quasi-fiscal activities (QFAs). The fiscal impact of quasi-fiscal activities carried out by SOEs should be quantified and government should compensate for the QFAs not only to avoid a worsening of SOEs financial position, but also to set the right incentives and evaluate the true financial cost and

[14] Chile, France, New Zealand, South Africa, and Sweden are relevant examples of SOE units located in the Ministry of Finance.

performance of their commercial activities. This compensation could be considered as part of the medium-term support to SOEs.

- ***Transparent reporting of fiscal impact of SOEs/PSUs***: All extrabudgetary resources raised and off-budget operations undertaken through SOEs/PSUs should be disclosed in budget documents and their multi-year fiscal impact should be estimated in budget documents. Fiscal risks from SOEs/PSUs, including guarantee related contingent liabilities, should be disclosed in a fiscal risk statement. The institutional coverage of India's fiscal reports should be extended to include the SOEs/PSUs. For example, a first step could be to consolidate the public sector at the Union level (Union Government plus central PSUs) and states (respective state government and State level PSUs). This requirement is underscored by recurring practices, for example, the assumption of liabilities from state electricity distribution companies (DISCOMS) by state governments. Examples of international practices including SOE financial reporting (for example, Australia or Sweden) could be provided. Fiscal Transparency could also be strengthened by preparing a fiscal risk statement, including the likelihood of risks materializing and the associated cost of risk materialization.
- ***Comprehensive fiscal reporting for the public sector:*** Fiscal reporting in India is incomplete and does not provide an accurate understanding of the fiscal position of government. The current fiscal data for central and state governments exclude SOEs and their operations—a significant portion of public funds. The IMF's Fiscal Transparency Code requires fiscal reports to consolidate all public sector entities and report on each subsector according to international standards, including Government Finance Statistics (GFS) and International Public Sector Standards (IPSAS). In order to be comparable to its G20 peer group, an effort should be made to extend the coverage of fiscal reports to the public sector by including at least those SOEs that are controlled directly by the central and state governments and to prepare GFS compliant fiscal reports.[15] In future, a comprehensive balance sheet for the government of India could be prepared—which could include SOEs with a social mandate.

Application of the Framework to Other Countries

The framework developed in this paper can be applied to evaluate policy options for state-owned enterprises in other countries. In particular, we hope this paper demonstrates how one can combine the existing tools—the SOE Health Check Tool and the SOE Fiscal Risks and Stress Test Tool—with the 'Framework for Analyzing Policy Options' developed in this paper (Figure 2) to bring a

[15] According to the Sixth Progress Report for the G20 Data Gaps Initiative, all G20 countries other than India disseminate general government data. However, general government data disseminated by Argentina, China, Mexico, Saudi Arabia, and South Africa do not yet fully comply with GFS 2014.

data-driven approach to evaluating the SOE sector. One benefit of this approach is that it allows an assessment of the SOE sector based on various considerations that will be important to the authorities (economic, strategic, fiscal risks, etc.). Further, this framework can be applied using standard publicly available data on SOEs, thereby making it feasible to apply to a broad range of countries. Overall, we hope that the framework developed in this paper can be applied to evaluate policy options for state-owned enterprises in other countries.

Box 2: Analytical tools for monitoring SOE performance and risks

The SOE Health Check Tool

The SOE Health Check Tool assesses financial vulnerabilities and risks emerging from SOEs, helps governments identify and monitor high-risk SOEs and inform early and targeted interventions where necessary before the fiscal position of SOEs deteriorate, requiring government intervention. (1) The tool allows policymakers to:

- Assess financial vulnerability for up to 40 non-financial SOEs
- Compute a set of financial vulnerability indicators based on income and balance sheet information
- Assign an overall risk rating to each SOE based on a combination of selected indicators
- Determine ratios, charts, and risk matrices to enable analysis of individual SOEs
- Produce summary outputs for the financial soundness of the SOE sector; and
- Support compilation of aggregate liabilities and balance sheet for the SOE sector as a whole, which facilitates compilation of a broader public sector balance sheet

The risk thresholds may be customized according to the context and allows policymakers to determine liquidity, solvency, profitability, and financial performance risks relevant to their sectoral and country context.

The outputs of the Health Check Tool can inform policymaking by identifying SOEs with the largest liabilities as a measure of government's fiscal risk exposure. The tool provides high-level analysis to help identify which SOEs are more financially vulnerable and may be at higher risk of generating fiscal risks. The outputs enable policymakers to determine ex-ante which corporations may require more intense monitoring, in-depth financial analysis, and whether remedial actions are required to strengthen their financial position. The outputs can also help provide a basis for improving fiscal transparency of SOEs and lower borrowing costs.

The tool has been applied to Air India to demonstrate how it can be used to assess different risk factors. Box 2-Figure 1 presents the results of the Health Check Tool for Air India using publicly available financial data for the SOE and highlights the SOE's high debt levels, low profitability, and liquidity concerns. Panel (a) shows the risk thresholds which have been applied to determine risk levels, panel (b) shows the evaluation based on time series data from 2010 – 2019 while panel (c) illustrates the analysis which is currently being performed by the authorities. The analysis in panel (c) includes liquidity, solvency and debt vulnerabilities but does not highlight government support and financial concerns underlying Air India's performance. The SOE Health Check Tool may be considered to supplement the current analysis performed by the authorities.

Annex 1 illustrates an application of the tool for 39 SOEs in India accounting for 80 percent of liabilities of all SOEs. Based on historical audited financial data for 2010-2019 fiscal years, 15 percent are at high risk, 64 percent represent moderate risk and 21 percent are classified as low risk. (2)

Box 2: Analytical tools for monitoring SOE performance and risks *(continued)*

Box 2-Figure 1 SOE Health Check Tool– Methodology and application for Air India

Figure 1 panel (a)

Risk matrix - Financial corporati		Low	Moderate	High	Very high
Liquidity indicators					
Current ratio	Greater than	2	1.5	1.25	1
Quick ratio	Greater than	1	0.75	0.67	0.5
Solvency indicators					
Tier 1 ratio	Less than	0.5	1	1.5	2
Tier 2 ratio	Less than	0.25	0.5	0.75	1
Capital adequacy ratio	Less than	4	3	1.5	1
Profitability indicators					
Net profit margin	Greater than	20%	10%	0%	-10%
ROA (%)	Greater than	8%	4%	0%	-5%
ROE (%)	Greater than	15%	8%	-5%	-10%
Financial performance					
Costs to revenue	Greater than	0.1	0.25	0.5	0.75
Operating profit n	Greater than	1.5	1.25	1	0.75
NPA ratio	Greater than	3%	5%	8%	10%
Government relationship					
Grants to revenue ratio (%)	Less than	30%	40%	50%	60%
Taxes payable to c	Less than	0.2	0.3	0.4	0.5

Figure 1 panel (b)

Risk matrix	2017	2018	2019
Liquidity indicators			
Current ratio	Very High Risk	Very High Risk	Very High Risk
Quick ratio	Very High Risk	Very High Risk	Very High Risk
Creditor turnover days	Very Low Risk	Very Low Risk	Very Low Risk
Debtor turnover days	Very Low Risk	Moderate Risk	High Risk
Solvency indicators			
Debt to equity	Very High Risk	Very High Risk	Very High Risk
Debt to assets	High Risk	Moderate Risk	Very Low Risk
Interest coverage	Very High Risk	Very High Risk	Very High Risk
Profitability indicators			
Net profit margin (%)	Very High Risk	Very High Risk	Very High Risk
ROA (%)	Very High Risk	Very High Risk	Very High Risk
ROE (%)	Very Low Risk	Very Low Risk	Very Low Risk
Financial performance			
Cost recovery	Very Low Risk	Very Low Risk	Low Risk
Operating profit margin (%)	Very High Risk	Very High Risk	Very High Risk
Government relationship			
Grants to revenue ratio (%)	Very Low Risk	Very Low Risk	Very Low Risk
Taxes payable to current liabilitie	Very Low Risk	Very Low Risk	Very Low Risk

Figure 1 (panel (c)

Financial Ratios	2019	2018
(i) Sales : Capital Employed (%)	-120.52	452.76
(ii) Cost of Sales : Sales (%)	118.37	107.72
(iii) Salary/Wages : Sales (%)	11.78	12.84
(iv) Net Profit : Net Worth (%)	-	-
(v) Debt : Equity	-0.28	-1.2
(vi) Current Ratio	0.29	0.33
(vii) Trade Recievables : Sales (%)	7.81	7.77
(viii) Total Inventory : Sales (%)	3.16	3.94

SOE Fiscal Risks and Stress Test Tool

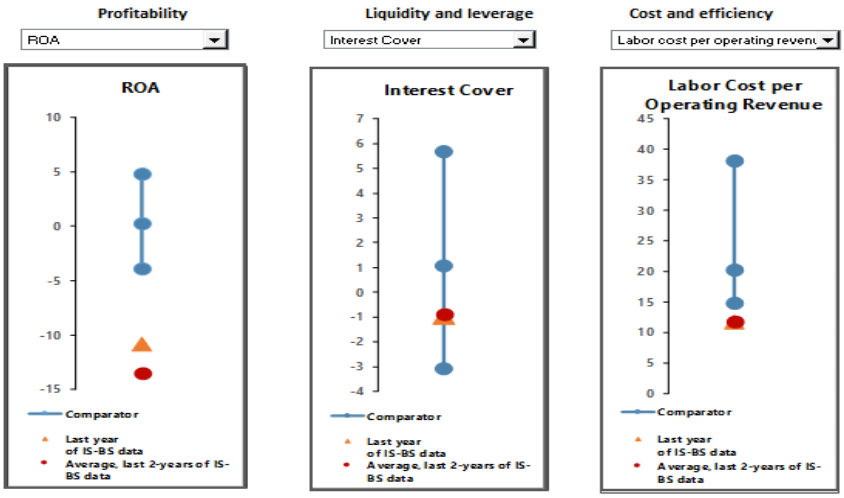
Building on the assessment results of the SOEs Health Check Tool, the SOE Fiscal Risks and Stress Test Tool can be used to do further analysis on the SOEs identified by the Health Check Tool as high risk. (3) The SOE Fiscal Risks and Stress Test Tool assumes that fiscal impact of SOEs on the public accounts work through three main channels: revenues (e.g., taxes, dividends, interest payments associated with government loans to the SOEs), expenditures (e.g., subsidies and transfers), and balance sheet net worth (e.g., equity injections to increase ownership or bailout). Meanwhile, all assets and liabilities of SOEs can be subject to valuation effects. The tool assesses the fiscal impact of government interventions by assuming that the government responds to user-defined minimum liquidity and solvency thresholds. With regards to privatization, the tool can also assess the fiscal impact on the government's medium-term position by varying the share of government ownership. With the stress test function, both favorable and adverse macroeconomic scenarios can be simulated. The SOE Fiscal Risks and Stress Test Tool can identify and monitor fiscal risks implied by the SOEs by: (1) benchmarking the performance of SOEs with sectoral comparators in terms of profitability, efficiency, solvency, and liquidity; (2) forward-looking projections on the balance sheet, the income statements, and the cash flows of SOEs and their impacts on the government's

Box 2: Analytical tools for monitoring SOE performance and risks *(continued)*

balance sheet and fiscal position (4); and (3) scenario and policy simulations assuming shocks on the domestic and global economic growth, exchange rate, inflation, interest rate, and different policy interventions. Through these functions, the tool can identify the drivers of weak performance and the corresponding risks and vulnerabilities (e.g., unfunded quasi-fiscal activities and risky behaviors) and help to plan ahead for the fiscal risks implied by the SOEs.

Below is the show case for the benchmark function of the tool based on Air India Ltd financial statement data for 2019-2020. Three indicators are used: ROA (return on assets), the interest cover (EBIT/interest paid), and labor cost per operating revenue. Compared to the peer SOEs in the same sector, Air India Ltd performed well in efficiency – the labor cost per operating revenue is lower than most of the peer SOEs, worse in liquidity – the interest cover is negative and lower than most of the peer SOEs, but worst in profitability – the return to assets is considerably lower than the peers, which might point to the low efficiency in fixed asset usage. (Box 2-Figure 2).

Box 2-Figure 2. Benchmarking Air India Ltd with Sectoral Comparators



Note: The blue dots and lines indicate 25th, 50th, and 75th percentile of peer SOEs in the same sector.

(1) See Halstead, Marrison, Ryan, and Sayegh (2021) for more details on the methodology for the SOE Health Check Tool.

(2) The data for this analysis is from the *Public Enterprises Survey* Reports for 2010-2019.

(3) See Baum, Medas, Soler and Sy (2021) for more details on the methodology for the SOE Fiscal Risks and Stress Test Tool.

(4) The forward-looking projections are very useful functions but require extensive firm specific business structural data. A show case of the cash flow projections by the Kenya government for the key state corporations can be found here: https://www.treasury.go.ke/wp-content/uploads/2021/07/Press-Statement-8th-July-2021-Update-on-Reforms-of-State-Corporations.pdf

Box 3: State Government Enterprises

Enterprises owned by state governments operate in different sectors of the economy including power, mining, transport, housing, and the financial sector. For many state governments the power sector, and in particular electricity distribution companies (DISCOMs) present the highest risk in terms of exposure to SOEs. State governments have and continue to provide significant financial support to their electricity distribution companies (DISCOMs). Most notably, under the Ujwal DISCOM Assurance Yojana (UDAY) bailout scheme (FY2015-17) many states took on the debt of DISCOMs with the objective to improve their financial and operational performance. For example, in the case of Tamil Nadu, the State lent 228 billion Rs interest-free to Tamil Nadu Generation and Distribution Company (TANGEDCO) to cover operating losses in 2016/17. Overall, the 15th Finance Commission estimates that the UDAY scheme increased state government deficit by 1.5 percent of GDP during FY2015-17. (15th Finance Commission (2020)) According to RBI (2020), the UDAY scheme has not delivered an improvement in financial performance and that DISCOM losses have continued to increase since its implementation. The State of Odisha has minimized their electricity losses by successfully disinvesting power generation and transmission services more than 20 years ago. While Odisha has not bailed out its electricity companies by taking on UDAY debt, Grid Company (Gridco), a state-owned electricity company, has incurred losses of 4.1 billion INR in 2017. These losses are due to a requirement for Gridco to purchase electricity at higher prices that the regulated sale price of electricity—it has absorbed sector losses through commercial borrowing guaranteed by central government. Losses of state-owned electricity distribution companies are caused by uncompetitive tariffs and inadequate subsidies to compensate for categories of domestic consumers and therefore, without energy sector tariff reform to address the gap between cost of supply and regulated tariffs, these losses are likely to continue and may contribute to the State's growing debt burden.

There are also some good practices at the state level when it comes to fiscal risk management. For example, to mitigate the fiscal cost of guarantees, Odisha has placed a ceiling on the stock of guarantees to PSUs and established a guarantee redemption fund financed from guarantee fees. The Finance department has also established an oversight unit to monitor SOE fiscal risks by applying the SOE health check tool and it has published an initial fiscal risk statement including priority risks along with an estimate of their cost. (1) These policies comply with international best practice and could be adopted by other states.

More broadly, state government owned enterprises provide substantial non-commercial activities on behalf of state governments; but are not adequately compensated. In Tamil Nadu, non-commercial activities contributing to losses of the PSUs include electricity tariffs which have not been adjusted since 2014, inadequate electricity subsidies to compensate for free electricity to categories of domestic consumers, inadequate compensation for subsidized bus routes to rural communities and reduced rail tariffs for students. International good practice requires governments to quantify noncommercial activities—also known as quasi-fiscal activities—and to compensate SOEs for their losses.

Box 3: State Government Enterprises *(continued)*

SOE reporting is not comprehensive and financial reports, where available, are produced annually with some lag. The Finance Department of Tamil Nadu, for example, produces a consolidated report which looks at the aggregate performance of PSUs. The Review of the Performance of PSU report is produced with an average lag of about 15 months after the end of the fiscal year—there is no assessment of strong or weak performance or discussions on improving performance. No in-year report is produced to proactively identify, quantify and mitigate fiscal risks in order to inform future fiscal decisions. Good international practice requires that the likelihood and impact of potential fiscal risks be quantified and presented in a fiscal risk statement alongside the budget documents. The State of Odisha has made progress in assessing the risks of PSUs though a qualitative and quantitative analysis of PSU annual reports. This practice could usefully be replicated by other states.

The institutional framework for overseeing SOEs also requires further strengthening. Each state has a department of public enterprises responsible for overseeing staffing levels and new capital investments or disinvestments. The administering department of the PSU reviews the business plans, provides operational oversight, and participates on the boards of SOEs. There is no department responsible for preparing analytical reports on SOE performance and highlighting those at risk. The Comptroller and Auditor-General's issues an annual report on SOEs with a focus on compliance against financial standards—selected performance audits are also performed ex-post. International good practice requires the Ministry of Finance to conduct an ex-ante assessment of the financial performance of the overall portfolio of PSUs and to identify the PSUs presenting the greatest risks to government—particularly in the energy and transport sectors. The SOE Health Check Tool described in Box 2 could be useful in identifying SOEs that represent the highest risk.

(1) Odisha's published fiscal risk statement can be found at: https://finance.odisha.gov.in/sites/default/files/2021-02/21-Fiscal%20Risk%20Statement.pdf

Conclusions

India's recently announced SOE strategy can facilitate a change in the composition of the public sector balance sheet toward high-return public sector investments in infrastructure and human capital. There is significant scope to rationalize government ownership of enterprises in India. SOEs are significant in number and highly heterogenous in terms of size, profitability, and industry. There are many SOEs that operate in non-strategic sectors where there is no rationale for government presence and one-third of SOEs are loss-making which poses a drain on limited public resources.

Implementation is key in reaping the benefits from privatization. International experience highlights several prerequisites for success: a medium-term privatization plan, a solid regulatory framework for good governance and transparency during privatization, competitive markets, and addressing political economy considerations, as there will be losers from privatization and

there may be push-back from certain interest groups. Linking privatization receipts to investment in priority areas and compensating the losers may help increase public support.

Equally important is governance and management of SOEs to increase efficiency, reduce cost to governments, and facilitate future privatization. Ex-ante monitoring of key fiscal risk indicators could highlight SOEs at risk and enable earlier intervention to save them. Improving the financial performance and efficiency of SOEs, through improved governance and management among others, could lead to more fiscal savings and the short-to medium term and limit government support through transfers, subsidies, guarantees and financial bailouts.

Annex I: List of SOEs considered in the SOE Health Check Tool (Below)

Air India
Madras Fertilizers
BEML
Bharat Heavy Electricals
Bharat Petroleum Corporation. Ltd.
Bharat Sanchar Nigam
Cochin Shipyard
Container Corp. of India
Fertilizers & Chemicals (Travancore)
Gail (India) Ltd.
Goa Shipyard
Hindustan Aeronautics Ltd.
Hindustan Copper
Hindustan Petroleum Corporation. Ltd.
HMT
Housing & Urban Dev. Corporation. Ltd.
ITI
India Infrastructure Finance Co. Ltd.
Indian Oil Corporation Ltd.
Indian Railway Finance Corporation Ltd.
Indian Renewable Energy Development Agency Ltd
M M T C
Mahanadi Coalfields Ltd.
Mahanagar Telephone Nigam Ltd
National Aluminium Company
Nhpc Ltd.
Nlc India Ltd
Ntpc Ltd
Nuclear Power Corporation. Of India Ltd
Oil & Natural Gas Corporation
Ongc Videsh Ltd
Orissa Mineral Development Co.
Power Finance Corporation Ltd.
Power Grid Corporation of India Ltd.
Rashtriya Ispat Nigam Ltd.
Rec Ltd
Shipping Corporation of India
South Eastern Coalfields Ltd.
Steel Authority of India

Annex I. SOE Health Check Tool: Detailed Results

Latest available year	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Liquidity indicators															
Current ratio	Very High Risk	Very Low Risk	Low Risk	Very Low Risk	Very Low Risk	Very High Risk	Low Risk	Low Risk	Very High Risk	Very High Risk	Very High Risk	Very High Risk	Low Risk	Very High Risk	Very High Risk
Quick ratio	Very High Risk	Very Low Risk	Very Low Risk	Very Low Risk	Very Low Risk	High Risk	Very Low Risk	High Risk	Very High Risk	Low Risk	Very High Risk	Very High Risk	Very Low Risk	High Risk	Very High Risk
Creditor turnover days	Very Low Risk	Very High Risk	Very High Risk	Low Risk	Very Low Risk	Moderate Risk	Moderate Risk	Low Risk	Low Risk	Very High Risk	Low Risk	Very Low Risk	Very Low Risk	Low Risk	Very Low Risk
Debtor turnover days	High Risk	Very High Risk	Very High Risk	Very High Risk		High Risk	Very High Risk	Very High Risk	Very High Risk	Very High Risk	Very High Risk	Very Low Risk	Very Low Risk	Very High Risk	Moderate Risk
Solvency indicators															
Debt to equity	Very High Risk	Very Low Risk	Very Low Risk	Very Low Risk	Very Low Risk	Very High Risk	Low Risk	Very Low Risk	Very High Risk	Very Low Risk	Very High Risk	Very High Risk	Very Low Risk	Very Low Risk	Low Risk
Debt to assets	Very Low Risk	Very Low Risk	Very Low Risk	Very Low Risk	Very Low Risk	Very High Risk	Very Low Risk	Very Low Risk	Low Risk	Very Low Risk	Low Risk	Very Low Risk	Very Low Risk	Very Low Risk	Low Risk
Interest coverage	Very High Risk	High Risk	Very Low Risk	Very Low Risk		Very High Risk	Very Low Risk		Moderate Risk	High Risk	Moderate Risk	Very High Risk	Very Low Risk	Very High Risk	Very High Risk
Profitability indicators															
Net profit margin (%)	Very High Risk	High Risk	Moderate Risk	Low Risk	Low Risk	Very High Risk	Low Risk	High Risk	Moderate Risk	Moderate Risk	Moderate Risk	Very High Risk	Low Risk	Very High Risk	High Risk
ROA (%)	Very High Risk	High Risk	Moderate Risk	Very Low Risk	Low Risk	Very High Risk	Low Risk	High Risk	Moderate Risk	Moderate Risk	Moderate Risk	Very High Risk	Very Low Risk	Very High Risk	High Risk
ROE (%)	Very Low Risk	Moderate Risk	Moderate Risk	Low Risk	Moderate Risk	Very Low Risk	Very Low Risk	High Risk	Moderate Risk	Moderate Risk	Moderate Risk	Very Low Risk	Low Risk	Very High Risk	Very High Risk
Financial performance															
Operating costs to revenue	Low Risk	Very Low Risk	Very Low Risk	Very Low Risk	Low Risk	Very Low Risk	Very Low Risk	Very Low Risk	Very Low Risk	Very Low Risk	Very Low Risk	Very Low Risk	Very Low Risk	Very Low Risk	Very Low Risk
Cost recovery	Very High Risk	Very High Risk	High Risk	Very Low Risk	Low Risk	Very High Risk	Low Risk	Very High Risk	Moderate Risk	Moderate Risk	Moderate Risk	Very High Risk	Low Risk	Very High Risk	Very High Risk
Government relationship															
Grants to revenue ratio (%)	Very Low Risk	Very Low Risk	Very Low Risk	Very Low Risk	Very Low Risk	Very Low Risk	Very Low Risk	Very Low Risk	Very Low Risk	Very Low Risk	Very Low Risk	Very Low Risk	Very Low Risk	Very Low Risk	Very Low Risk
Taxes payable to current liabilities	Very Low Risk	Very Low Risk	Very Low Risk	Very Low Risk	Very Low Risk	Very Low Risk	Very Low Risk	Very Low Risk	Very Low Risk	Very Low Risk	Very Low Risk	Very Low Risk	Very Low Risk	Very Low Risk	Very Low Risk
Overall risk rating	High Risk	Moderate Risk	Moderate Risk	Low Risk	Low Risk	High Risk	Low Risk	Moderate Risk	Moderate Risk	Moderate Risk	Moderate Risk	Moderate Risk	Low Risk	High Risk	Moderate Risk

Latest available year	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Liquidity indicators															
Current ratio	Very High Risk	Very High Risk	Very High Risk	Very High Risk	High Risk	Moderate Risk	Very High Risk	Very High Risk	Very Low Risk	Very High Risk	Very Low Risk	Very Low Risk	Very Low Risk	Very High Risk	Very High Risk
Quick ratio	Very High Risk	Moderate Risk	Very High Risk	High Risk	Low Risk	Moderate Risk	Very High Risk	Very High Risk	Very Low Risk	Very High Risk	Very Low Risk	Very Low Risk	Very Low Risk	Very High Risk	Low Risk
Creditor turnover days	Moderate Risk	Very Low Risk	Very Low Risk	Very Low Risk	Very Low Risk	Very High Risk	Very Low Risk	Very Low Risk	Very Low Risk	Very Low Risk	Very High Risk	Very Low Risk	Very Low Risk	Moderate Risk	High Risk
Debtor turnover days	Very High Risk	Very Low Risk	Very High Risk	Very Low Risk		Very High Risk	Very Low Risk			Very Low Risk		Very High Risk	Very High Risk	Very High Risk	
Solvency indicators															
Debt to equity	Very Low Risk	Very Low Risk	Very Low Risk	Low Risk	Very Low Risk	Moderate Risk	Low Risk	Very High Risk	Very High Risk	Very Low Risk	Very High Risk	Very High Risk	Very High Risk	Very High Risk	Low Risk
Debt to assets	Very Low Risk	Very Low Risk	Very Low Risk	Low Risk	Very Low Risk	Very Low Risk	Very Low Risk	High Risk	High Risk	Very Low Risk	High Risk	High Risk	Moderate Risk	High Risk	Low Risk
Interest coverage	Very High Risk	Very High Risk	Very Low Risk	Very Low Risk		Very Low Risk	Very Low Risk		Very High Risk	Very Low Risk			Very Low Risk	Very High Risk	Moderate Risk
Profitability indicators															
Net profit margin (%)	Very High Risk	Very High Risk	Moderate Risk	Moderate Risk	Moderate Risk	Moderate Risk	Moderate Risk	Low Risk	Very High Risk	Moderate Risk	Very Low Risk	Moderate Risk	Very Low Risk	Very High Risk	Moderate Risk
ROA (%)	Very High Risk	Very High Risk	Moderate Risk	Moderate Risk	Low Risk	Moderate Risk	Moderate Risk	Moderate Risk	Very High Risk	Moderate Risk	Moderate Risk	Moderate Risk	Very Low Risk	Very High Risk	Moderate Risk
ROE (%)	Very High Risk	Very High Risk	Moderate Risk	Moderate Risk	Low Risk	Moderate Risk	Low Risk	Moderate Risk	Very High Risk	Moderate Risk	Low Risk	Moderate Risk	Very Low Risk	Very Low Risk	Moderate Risk
Financial performance															
Operating costs to revenue	High Risk	Low Risk	Very Low Risk	Very Low Risk	Very Low Risk	Very Low Risk	Very Low Risk	Very Low Risk	Very Low Risk	Very Low Risk	Low Risk	Low Risk	Very Low Risk	Very High Risk	Very Low Risk
Cost recovery	Very High Risk	Very High Risk	Very Low Risk	Very High Risk	Moderate Risk	Moderate Risk	Very High Risk	Very Low Risk	High Risk	Very High Risk	Very Low Risk	Very High Risk	Very Low Risk	Very High Risk	Very Low Risk
Government relationship															
Grants to revenue ratio (%)	Very Low Risk	Very Low Risk	Very Low Risk	Very Low Risk	Very Low Risk	Very Low Risk	Very Low Risk	Very Low Risk	Very Low Risk	Very Low Risk	Very Low Risk	Very Low Risk	Very Low Risk	Very Low Risk	Very Low Risk
Taxes payable to current liabilities	Very Low Risk	Very Low Risk	Very Low Risk	Very Low Risk	Very Low Risk	Very Low Risk	Very Low Risk	Very Low Risk	Very Low Risk	Very Low Risk	Very Low Risk	Very Low Risk	Very Low Risk	Very Low Risk	Very Low Risk
Overall risk rating	High Risk	Moderate Risk	Moderate Risk	Moderate Risk	Low Risk	Moderate Risk	Moderate Risk	Moderate Risk	Moderate Risk	Moderate Risk	Moderate Risk	Moderate Risk	Low Risk	High Risk	Moderate Risk

Latest available year	31	32	33	34	35	36	37	38	39
Liquidity indicators									
Current ratio	High Risk	Very High Risk	Very High Risk	High Risk	Very High Risk	Very High Risk	Very High Risk	Very High Risk	Low Risk
Quick ratio	Low Risk	High Risk	Low Risk	Low Risk	Low Risk	High Risk	Very High Risk	Very High Risk	Very Low Risk
Creditor turnover days	Very High Risk	Low Risk	High Risk	Moderate Risk	Very Low Risk	Low Risk	Very Low Risk	Very Low Risk	Very Low Risk
Debtor turnover days	Very High Risk	High Risk	Very High Risk	Very High Risk		Very High Risk	Very Low Risk	Very Low Risk	High Risk
Solvency indicators									
Debt to equity	Moderate Risk	Moderate Risk	Moderate Risk	Moderate Risk	Very High Risk	Very High Risk	Moderate Risk	Very High Risk	Very High Risk
Debt to assets	Low Risk	Low Risk	Low Risk	Low Risk	Moderate Risk	Moderate Risk	Low Risk	High Risk	Low Risk
Interest coverage	Low Risk	Very High Risk	Moderate Risk	High Risk		Very High Risk	Very High Risk		Very High Risk
Profitability indicators									
Net profit margin (%)	Moderate Risk	High Risk	Moderate Risk	Very High Risk	Very Low Risk	Very High Risk	Very High Risk	Very Low Risk	Low Risk
ROA (%)	Moderate Risk	High Risk	Moderate Risk	High Risk	Moderate Risk	High Risk	Very High Risk	Moderate Risk	Very Low Risk
ROE (%)	Moderate Risk	Moderate Risk	Moderate Risk	High Risk	Very Low Risk	Very High Risk	Very High Risk	Very Low Risk	Very Low Risk
Financlal performance									
Operating costs to revenue	Very Low Risk	Very Low Risk	Very Low Risk	Very Low Risk	Very Low Risk	Very Low Risk	Very Low Risk	Very Low Risk	Very Low Risk
Cost recovery	Low Risk	Very High Risk	Very Low Risk	Moderate Risk	Very Low Risk	Very High Risk	Very High Risk	Very Low Risk	Very Low Risk
Government relationship									
Grants to revenue ratio (%)	Very Low Risk	Very Low Risk	Very Low Risk	Very Low Risk	Very Low Risk	Very Low Risk	Very Low Risk	Very Low Risk	Very Low Risk
Taxes payable to current liabilities	Very Low Risk	Very Low Risk	Very Low Risk	Very Low Risk	Very Low Risk	Very Low Risk	Very Low Risk	Very Low Risk	Very Low Risk
Overall risk rating	Moderate Risk	Moderate Risk	Moderate Risk	Moderate Risk	Low Risk	High Risk	Moderate Risk	Moderate Risk	Low Risk

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