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# LISTING STATE-OWNED ENTERPRISES IN EMERGING AND DEVELOPING ECONOMIES

## Lessons learned from 30 years of success and failure

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# ACRONYMS

**ADR** ..... American depositary receipt

**ASEA** ..... Africa Securities Exchange Association

**BCR** ..... Banca Comercială Română

**BMCE** ..... Banque Marocaine du Commerce Extérieur

**BNDES** ..... Brazilian Development Bank

**COVID-19** ..... SARS-CoV-2 Pandemic of 2019

**DL** ..... Dual-listing/Cross-listing

**EMDE** ..... Emerging and developing economies

**GDR** ..... Global depository receipt

**IPO** ..... Initial public offering

**SOE** ..... State-owned enterprise

**SPO** ..... Secondary public offering

**YPF** ..... Yacimientos Petrolíferos Fiscales

**SAMIR** ..... Société Anonyme Marocaine de l'Industrie du Raffinage

**WAEMU** ..... West African Economic and Monetary Union



# EXECUTIVE SUMMARY

**Well-developed local capital markets play a crucial role in the financing of sustainable economic growth and the maintenance of financial stability.**

Local capital markets can improve the availability of long-term financing, allowing companies to better manage interest rates and maturity risks that are associated with long-term investments, such as for equipment, machinery, land, and buildings. In addition, local capital markets provide access to financing in local currency that allows local issuers and investors to better manage inflation and exchange rate risks. In short, local capital markets are an essential tool for companies to strengthen their balance sheets and weather financial and economic crises.

The benefits of local capital markets are well-known among emerging and developing economies (EMDEs). Over the past 20 years, EMDE governments have engaged in large reform programs to support the development of their local capital markets. Yet, many governments struggle to see their markets flourish. The number of listed companies remains stagnant and the participation of domestic and foreign investors limited beyond the sovereign debt markets.

One approach that is re-gaining popularity is the listing of state-owned enterprises (SOEs). In the empirical literature, SOE listings have often been cited as the cause behind the rise of international capital markets.[1] Indeed, according to some calculations, former SOEs account for about 13–22 percent of global market capitalization[2] — suggesting a positive correlation. However, advanced economies account for the predominant share of SOE listings, even though SOEs operating in EMDEs account for an estimated US$ 45 trillion in assets.[3]

Many EMDEs that have tried to replicate the success story of advanced economies have had mixed experiences. Some have successfully used SOE listings to kick-start the development of their local exchanges (e.g., Poland, Brazil, Singapore). Others have not only struggled to list their companies but also saw no effect or even a negative effect on the development of their local capital markets, with a resulting stagnation in market growth after SOE listings (e.g., WAEMU, Kenya) or the migration of local company listings and capital toward international markets (e.g., Argentina).

With that in mind, with what confidence can we recommend SOE listings as a divestment method to promote capital markets development in EMDEs?

In this report, we aim to shed light on this question by investigating EMDE's experience with SOE listings over the past 30 years. We combine a thorough literature review with a case study analysis of 14 frontier and emerging markets, including interviews with key stakeholders from the public and private sector. In particular, we aim to answer three questions:

1. What has been the impact of SOE listings on local capital markets development in EMDEs?

2. What have been the pre-conditions for successful SOE listings?

3. Once listed, what have been the drivers for creating a positive impact on capital markets development?

Because SOE listings have consequences beyond capital markets development, we also aim to summarize the impact of SOE listings on other key economic variables — in particular firm performance, the quality of public service delivery, employment, wealth distribution and fiscal revenue. However, since this report is primarily focused on capital markets, we do not claim to provide the same in-depth discussion as for our three focus questions. Our sole objective

1 See Guriev and Megginson (2006); Subrahmanyam and Titman (1999); McLindon (1996); Kleiman and Morrissey (1994).
2 www.economist.com/business/2014/11/20/state-capitalism-in-the-dock
3 blogs.imf.org/2020/05/07/state-owned-enterprises-in-the-time-of-covid-19

is to provide policymakers with sufficient information to make an educated decision on whether or not SOE listings are a suitable solution for their respective country.

Lastly, we would like to point out that we do not aim to answer the question whether or not a government should divest their SOEs. Instead, we seek to identify if listings are an appropriate divestment method to achieve particular objectives once a divestment decision has been made.

Our conclusions are the following:

**SOE listings can provide a significant boost to capital markets development over the short term. However, only under certain circumstances does the positive initial impact contribute to long-term developmental effects.** Due to their large size and value, SOE listings can significantly boost market capitalization and broaden the investor base, especially among retail and foreign investors. Some of the largest SOE listings across our case study countries allowed local equity markets to improve market capitalization by up to 170 percent. SOE listings have also attracted a broad shareholder base, sometimes over one million investors, many of them first-time retail investors. At the same time SOE listings have provided governments with a great opportunity to attract foreign investors. For example, SOEs constitute about 60 percent of the MSCI emerging market index in energy and about 40 percent in the financial sector. But beyond the direct effects, SOE listings seem to encourage private companies to list only in rare cases. A positive impact on private company listings can often only be achieved where SOE listing programs are integrated into a larger capital markets reform plan. For example, measures that create a positive investor experience and develop overall market confidence need to be undertaken to make the initial impact on the market's investor base sustainable. Lastly, we find very few examples where SOE listings have created a negative impact on capital markets development. In all these cases, the root cause was a weak capital markets infrastructure. Thus, we conclude that the downside risks of SOE listings appears to be small.

**Not every EMDE may be ready to list SOEs successfully and reap the benefits for capital markets development.** Our analysis distinguishes between the conditions to list SOEs successfully and the drivers necessary to create a positive impact on capital markets development.

We define SOE listings as impactful if their direct and indirect effects on market capitalization, listings, liquidity and investor base development are positive over the short, medium and long term. We find that the preconditions for a successful listing have indeed been achieved by many EMDEs and a good number of countries have been able to list their SOEs successfully. But many SOE listings fall short of their expectations with regard to the developmental impact, as the drivers of impact are numerous and often require a significant investment in time and resources. In the following, we highlight some of the most important factors for successful and impactful listings:

- **Strong institutional competence.** Government institutions need to have the necessary credibility that provides investors with sufficient confidence. At the minimum, investors want their property rights well-protected and be shielded from corruption. Thus, the entire process has to be transparent and should make use of competitive procurement and pricing methods as much as possible.

- **A well-functioning capital markets infrastructure.** As mentioned above, in the few cases where SOE listings had an adverse effect on capital markets development, the market infrastructure was too weak to provide foreign and domestic investors with sufficient confidence that market processes could function effectively and protect investor interest.

- **Large and profitable SOEs.** Listing companies at a stock exchange is an expensive process and only economical for larger companies. Capital markets require scale to function properly. Selling small SOEs or only small minority stakes of larger SOEs is likely to create liquidity problems for the SOE shares. Different from privatizations through trade sales, SOEs will need to demonstrate a track record of profitability before they can be listed. Thus, before SOEs can be listed, it will be important to help them achieve a commercial viability, including through sector reforms.

- **Listing according to market conditions.** To achieve an appropriate offer price and reduce the risk of adverse effects on capital markets, governments should aim to list their SOEs during times of economic expansion and take their markets' capacity to absorb investments in new shares into consideration.



- **A large domestic institutional investor base.** A large domestic institutional investor base increases the absorption capacity of the local capital markets. It also creates a certain level of stability and increases the possibility of demonstration effects, whereby the SOE listing encourages other private companies to list.

**Beyond their positive impact on capital markets development, SOE listings can positively affect economic development, especially fiscal revenue generation and wealth distribution:**

- **Fiscal revenue generation.** SOE listings provide governments with substantial additional revenue. Across our case study countries, governments have capitalized well on their SOE listings, raising, on average, US$ 8 billion (median US$ 5 billion) per country over the past 30 years. For most governments, this has been a welcome capital injection to pay down government debt. Others have used their proceeds for productive purposes, including financing social services or critical infrastructure projects. In addition to the sale proceeds, governments have benefited from sizable dividend payments — provided they continue to hold a portion of shares. Lastly, some governments succeeded in reducing their expenditure on financial support previously provided to the listed SOE — sometimes up to one percent of GDP. However, for such savings to materialize, SOE listings usually have to be preceded by structural reforms that address fundamental inefficiencies in the respective sectors.

- **Wealth distribution.** SOE listings can be a vital tool to redistribute some of the wealth created by a country's economy. Different from other divestment methods, SOE listings encourage the participation of retail investors. Our analysis finds that SOE listings can significantly broaden the retail investor base, in some cases attracting more than one million individual investors. In most cases, retail investors have earned a significant market-adjusted return, easing some of their opposition against SOE divestment and privatization.

**As shown above, SOE listings have many benefits over whole-state ownership that do not require governments to relinquish control.** Governments can raise capital, democratize ownership and support capital markets development without necessarily transferring their controlling interest. In fact, many EMDE governments that have successfully listed a large number of their SOEs have used listings as a tool to gradually reform their role in the economy, transitioning from "the state as an active entrepreneur" to one of a "strategic investor." As such, listings have allowed governments to hold minority or majority stakes in companies they believed required continued government support (which should not be mistaken for an invitation of state interference). Governments that choose to act as strategic investors should prepare to assume their role as professional shareholders, e.g., appointing some of the board directors through the general assembly with the mandate to represent the interests of the government. The earlier a government defines and communicates its future role in divested companies to the market, the better. This will most likely also be reflected in better pricing of the SOE shares.

**However, this is not to say that government-ownership should be preferred over privatization.** In many cases where SOE listings have been embedded in a privatization effort, larger benefits could be achieved — such as improved firm performance, which may be difficult to achieve under continued government control. However, in many EMDEs where public opposition to privatization has been growing, SOE listings could serve as a "second-best" solution to privatization, realizing many, albeit not all the benefits.

**Compared to other divestment methods, SOE listings have a relatively weak impact on firm performance unless combined with other restructuring measures.** The impact of SOE listings on firm performance depends on various factors, including the sector, the ownership structure, the choice of management and the strength of market institutions. For example, across our case study countries, we find that SOE listings have improved EBIT margins in the telecommunications, transport, oil and gas and financial sectors but produced only mixed or even negative results in the power sector. In addition, we find that SOE listings' impact is highly dependent on who controls an SOE post-listing. Efficiency improvements tend to be largest where governments have transferred control to the private sector. But because SOE listings rarely lead to a change in control, this effect can only be achieved if combined with other divestment methods. Hence, governments that successfully improved an SOE's performance have either restructured them on their own

account (e.g., Argentina's YPF) or sold their controlling interest to a strategic investor pre- or post-listing — good examples include WAEMU's Sonatel, Romania's BCR and Morocco's BMCE. The choice of management has also shown to be crucial to a firm's performance. Across most SOEs that have seen a significant improvement in firm performance, the change has often been led by a visionary leader, such as José Estenssoro at YPF Argentina and Javier Gutiérrez at Ecopetrol Colombia. Market institutions can also have a positive impact on firm performance especially by establishing and enforcing corporate governance and reporting standards. However, such effects are likely to be weak where market regulators lack the appropriate enforcement powers and where the domestic institutional investor base is small or follows a passive investment strategy.

**Like any divestment method, SOE listings are no panacea.** We find that the access and quality of public services provided by SOEs are less a function of ownership than of sector governance. Although SOE listings can improve a firm's efficiency — especially if fully privatized — their impact on public service delivery depends on a government's ability to resolve any fundamental sector inefficiencies that existed prior to listing, including the underpricing of services and the lack of competition.

**Lastly, the benefits of SOE listings should always be viewed within the broader socio-economic context.** Although listings have no direct impact on employment, many SOEs require restructuring due to which job cuts are likely to occur. The risk is exceptionally high in manufacturing and other labor-intensive sectors. This may not be unintended, as a restructuring's objective is to reduce inefficiencies (including overstaffing), but governments should ensure that alternative employment opportunities are available and that those job cuts have no direct effect on poverty. Where those conditions cannot be guaranteed, SOE listings as a policy to increase firm performance and develop local capital markets may be hard to justify.

**Against the backdrop of our findings, many EMDEs may face a dilemma: Even though their countries stand to benefit from SOE listings, many have yet to develop the conditions under which SOE listings can be successful and have a positive impact on local capital markets and the broader economy.**

This does not mean that SOE listings should not be pursued by EMDEs where those conditions remain underdeveloped. Instead, efforts will have to be undertaken to strengthen the enabling environment. Priority should be given to strengthening government institutions to reduce political risk, sector frameworks that put industries, especially in the infrastructure sector, on a commercially viable path, and capital markets infrastructures to ensure strong corporate governance and low transaction costs. Independent from SOE listings, these reforms will form a crucial part of any country's economic development. There are no quick fixes. But once the conditions are strengthened, SOE listings can offer an attractive divestment method with a potential positive long-term impact on local capital markets and therefore should be considered as a viable option for divesting SOEs.



# INTRODUCTION

In this report, we investigate SOE listings as a solution to promote local capital markets development. According to some estimates, SOEs in EMDEs exceed US$ 45 trillion in value, equivalent to half of global GDP.[4] Thus, SOE listings could offer governments an enormous opportunity to kick-start the development of their local capital markets while achieving other divestment objectives, such as harnessing the SOE's value and raising fiscal revenue.

In the empirical literature, SOE listings have often been cited as the reason behind the rise of international capital markets.[5] And indeed, the current capital markets landscape includes a significant share of (former) SOEs. According to some calculations, SOEs account for about 13–22 percent of global market capitalization — suggesting a positive correlation.[6]

However, looking behind the numbers, it seems that most SOE listings have taken place in advanced economies. Although developed economies were able to boost their local capital markets through SOE listings, it is unclear whether the same is true for EMDEs.

Many EMDEs that have tried to replicate the success story of advanced economies have had mixed experiences. Some have successfully used SOE listings to kick-start the development of their local exchanges (e.g., Poland, Brazil, Singapore). But others have seen no or even negative effects on local capital markets development — resulting in the migration of local companies and capital toward international markets (e.g., Argentina).

With this in mind, with what confidence can we recommend SOE listings as a divestment method that promotes capital markets development in EMDEs?

In this report, we aim to shed light on this question by investigating EMDE's experience with SOE listings over the past 30 years. We combine a thorough literature review with a case study analysis of 14 frontier and emerging markets, including interviews with key stakeholders from the public and private sector. In particular, we aim to answer the following three questions:

1. What has been the impact of SOE listings on local capital markets development in EMDEs?

2. What have been the pre-conditions to successfully list a SOE?

3. Once listed, what have been the drivers for creating a positive impact on capital markets development?

Because listings have significant effects on the broader economy and potentially harness the value of SOEs in a different way, this report also attempts to evaluate the impact of SOE listings on other key economic variables — in particular firm performance, the quality of public service delivery, employment, wealth distribution and fiscal revenue. Since this report is primarily focused on capital markets, we do not aim to provide the same in-depth discussion of those aspects as for our three focus questions. Our sole objective is to provide policymakers with sufficient information to make an educated decision on whether or not SOE listings are a suitable solution for their respective country.

We would also like to emphasize that we do not aim to answer whether or not a government should divest of their SOEs. Instead, we seek to identify whether or not listings are an appropriate divestment method to achieve specific objectives once the decision to divest of an SOE has been made.

4 www.blogs.imf.org/2020/05/07/state-owned-enterprises-in-the-time-of-covid-19/
5 See Guriev and Megginson (2006); Subrahmanyam and Titman (1999); McLindon (1996); Kleiman and Morrissey (1994).
6 www.economist.com/business/2014/11/20/state-capitalism-in-the-dock

# BACKGROUND

## Definitions

In the following, we define the term divestment as any government sale of incorporated assets.

Accordingly, the sale of minority interests will be considered a divestment. We use the term privatization in its traditional sense, describing a government transfer of the majority ownership and control of an SOE into the hands of the private sector.[7] Divestments and privatizations can take many forms, including listings at the stock exchange, trade sales to private firms, or management buyouts (see Exhibit 1). As per our definition, we exclude any sale of physical assets by SOEs and any transfer of activities to the private sector through instruments such as concessions and public-private partnerships.

SOE listings are a flexible divestment method through which the government can either continue to control a listed SOE or divest the controlling stake as part of a privatization process.

In this report, we will examine SOE listings in EMDEs according to their success and impact. We define an SOE listing as successful when i) the listing has been oversubscribed, ii) the shares were successfully settled and iii) trade with sufficient liquidity, i.e., a narrow bid-ask spread in line with local markets. Further, we consider a listing to be impactful if its direct and indirect effects on market capitalization, listings, liquidity, and investor base development are positive over the short, medium and long term. At the same time, while an SOE listing can have a significant impact on capital markets development, other aspects have to be considered, including firm performance, the delivery of public goods and services, public wealth, employment and fiscal revenue.

## Methodology

To inform policymakers and business leaders in their future SOE listing decisions, we have combined a review of the empirical literature with a case study analysis of 14 frontier and emerging markets. These countries have been chosen based on their SOE listing activity over the past 30 years, their difference in economic size and geographic location (see annex). The analysis consists of a combination of desk research, statistical data analysis and interview with selected counterparts, including stock exchanges, government authorities, regulators and SOEs. Where relevant, we have enriched our case study analysis with additional examples from other EMDEs, to make our report as illustrative as possible.

But before we invite our readers to dive into the analysis and conclusions, we would like to note that these results are indicative. SOE listings, like most privatization methods, are often accompanied by other far-reaching reform efforts (e.g., sector reform, liberalization of financial markets, etc.) and as a result their effects may be difficult to isolate. Although we have used various methods to isolate SOE listing effects — e.g., screening the methodology of the empirical literature for their robustness and conducting trend analyses for our case study countries — an endogeneity bias is likely to persist to some degree. Moreover, SOE listings are biased towards the largest and most valuable companies in a government's SOE portfolio. Thus, the impact, especially on capital markets development and firm performance, could be overstated compared to other privatization methods.

7 www.dictionary.cambridge.org/dictionary/english/privatization



**Exhibit 1: Divestment typology**

| Method | Form | Description | Merits | Demerits |
|---|---|---|---|---|
| **Trade sale/ auction** | Private sale | • Negotiated sale: Sell a portion of SOE to a preferred private bidder<br>• Block trades: Offering tranches of shares in already listed SOEs privately to groups of investors | • Strategic investor<br>• Suitable for SMEs<br>• Introduces management changes and technology infusion<br>• Less restructuring required<br>• Cheaper and faster than IPO | • No revenue maximization<br>• No need to adhere to stringent listing requirements<br>• Lack of process integrity<br>• Not suitable for very large companies<br>• Not suitable if concerns about competition |
| | Trade sale auctions | Auctioning off a portion or all to highest bidder | • Best price | • Potential discounts especially if not restructured |
| **Share offerings** | Initial public offering (IPO) | Offering a tranche of shares on the stock exchange(s) | • Good governance and management practices<br>• Potential for good performance<br>• Raises capital for seller and company<br>• Less expensive and speedier | • Dispersed shareholding<br>• Expensive to execute<br>• Pricing and valuation tricky<br>• No choice in strategic investor<br>• Prices come at a discount to public offering |
| | Secondary public offering (SPO) | Offering additional tranches of SOE shares following IPO | | |
| | Accelerated book building (a form of SPO) | Placing tranches of shares of already listed SOEs with institutional investors | | |
| | Convertible bonds | Disposing of additional tranches of listed SOEs through the issuing of convertible bonds | • Credibility enhancing for privatisation programme<br>• Adaptable to market realities | • Postpone transfer of ownership<br>• Investor decides on convertibility<br>• Not commonly used |
| | Privatization by SOE | Issuing additional stock to dilute ownership share | • Need to shore up capital base | |
| **Management/ employee buy-out** | Trade sale | Shares sold to legal entities controlled by staff and/or management | • Suitable for smaller compaies<br>• Garners support for privatization program<br>• Aligns incentives | • Conflicting objectives<br>• Corporate governance weaknesses<br>• Forgo value |

Source: Drawing on OECD (2003), OECD (2009) and Author

# TAKING STOCK — SOE LISTING CHARACTERISTICS IN EMDES

**SOE listings became a popular divestment method during the 1980s and 1990s, pioneered by the market reforms of Margaret Thatcher in the United Kingdom.**

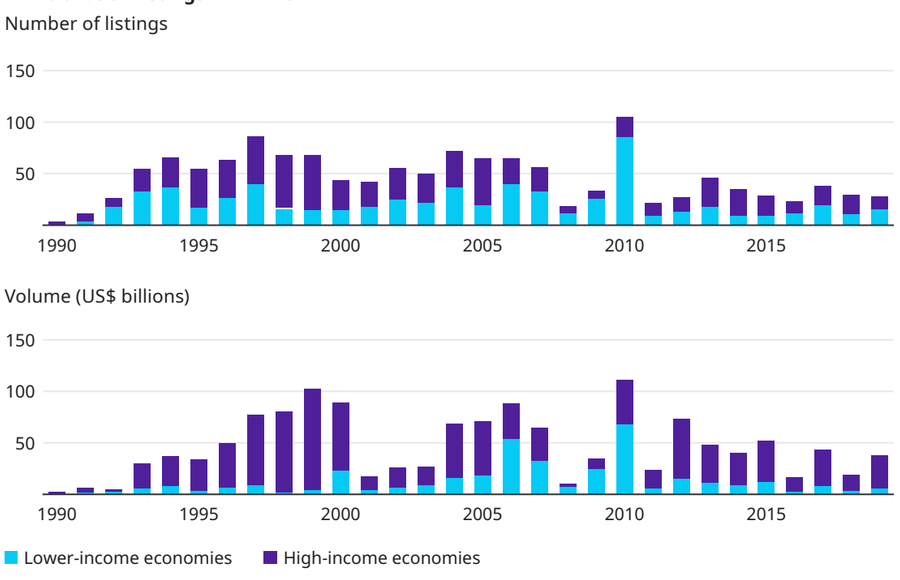
Many EMDEs followed the example of advanced economies and started to list their SOEs in the beginning of the 1990s (see Exhibit 2). During this phase, governments usually sold the majority share and control of an SOE, aiming to privatize the company as part of a broader effort to develop the private sector. However, with the start of the 2000s and the rise of SOE listings in Asia (mainly China and India), minority divestments have become more popular. By selling a minority stake to the public, governments could reap the benefits associated with listing without giving up their controlling stake. Thus, in the face of growing skepticism against privatization, minority divestments via listings have become a "second-best" solution for large privatizations through listings.

Since the financial crisis in 2007–2008, SOE listings in EMDEs have decreased following an overall downward trend in public offerings at equity markets globally.

Overall, it is fair to say that the uptake of SOE listings in EMDEs has remained low compared to advanced economies. Especially during the financial crisis, EMDEs have seen relatively few SOE listings.

In the following section, we will analyze some of the main characteristics of SOE listings in EMDEs to better understand past-use cases and the opportunities and challenges policy-makers may face when listing their SOEs in the future. The analysis covers the past 30 years of SOE listings across 14 different EMDEs with significant SOE listing activities.

**Exhibit 2: SOE listings in EMDEs**




Source: Dealogic



## Geography

Latin America was one of the early movers, dominating issuance during the first half of the 1990s — foremost targeting foreign investors. Chile's equity offering of Telefonos at the New York stock exchange for US$ 98 million was the first listing of a Latin American SOE. In 1991, Argentina was the first country to sell Global Depository Receipts (GDRs) by offering shares of Telefonica de Argentina with a nominal value of US$ 364 million. The sale of 30 percent of Telecom Argentina was followed by another issue of GDRs and an issue of American Depositary Receipts (ADRs) for US$ 270.3 million. In May 1991, Mexico carried out the largest single issue of ADRs when the government privatized the remaining 15 percent of Telmex for a total of US$ 2.4 billion. Argentina launched its largest privatization with the sale of its national petroleum company, YPF, in the mid 1990s for a total of US$ 3.04 billion, 75 percent of which came from international offerings (see Box 1).[8]

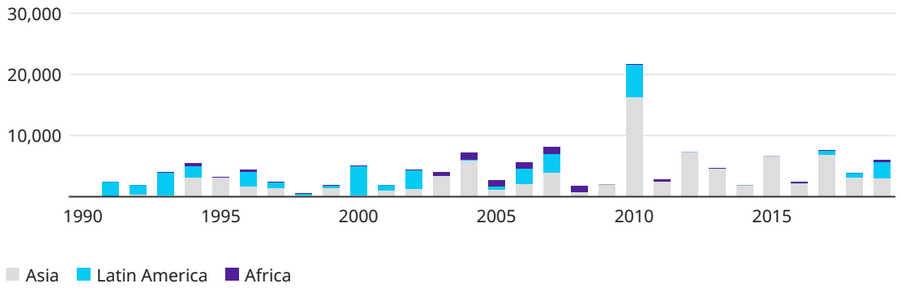
A large number of SOE listings have also occurred during the transition period in Central and Eastern Europe. Different from Latin America's SOE listings, they included a widespread free or subsidized allocation of shares to employees and the wider population. But because these mass privatizations took place under unique circumstances and yield limited lessons that are transferable tor other regions, we have excluded them from the subsequent analysis.

Although Latin America and Central and Eastern Europe were among the early movers, most SOE listings took place in East Asia (see Exhibit 3). Notably, China stands out. Over 25 years, the Chinese government divested numerous SOEs, nearly all via the stock exchange. Many of those SOEs, however, remain under government control.

SOE listings have been more limited in Africa, the Middle East and South Asia — except for India. Despite coining "the peoplization of SOEs" as a central government policy in the 1960s, India did not start to divest from its SOEs before 2009. During the period of 2009-2013, more than 200 SOEs were listed, mostly on the Bombay Stock Exchange (today known as BSE). But similar to China, the government retained the majority share and control in almost all listed SOEs — in many, direct state ownership remains greater than 76 percent.[9] In Sub-Saharan Africa, only a small number of SOEs were listed, accounting for only about four percent of all privatizations undertaken in the region — instead, most SOEs were sold privately through trade sales. Nevertheless, there have been a few interesting examples, such as the cross-listing of Kenya Airways, which significantly increased market capitalization in Kenya and Uganda.

Overall, China and India remain the two top emerging economies by total revenue raised through SOE listings.

**Exhibit 3: Volume of SOE listings in EMDEs (US$ billions)**




Source: Dealogic

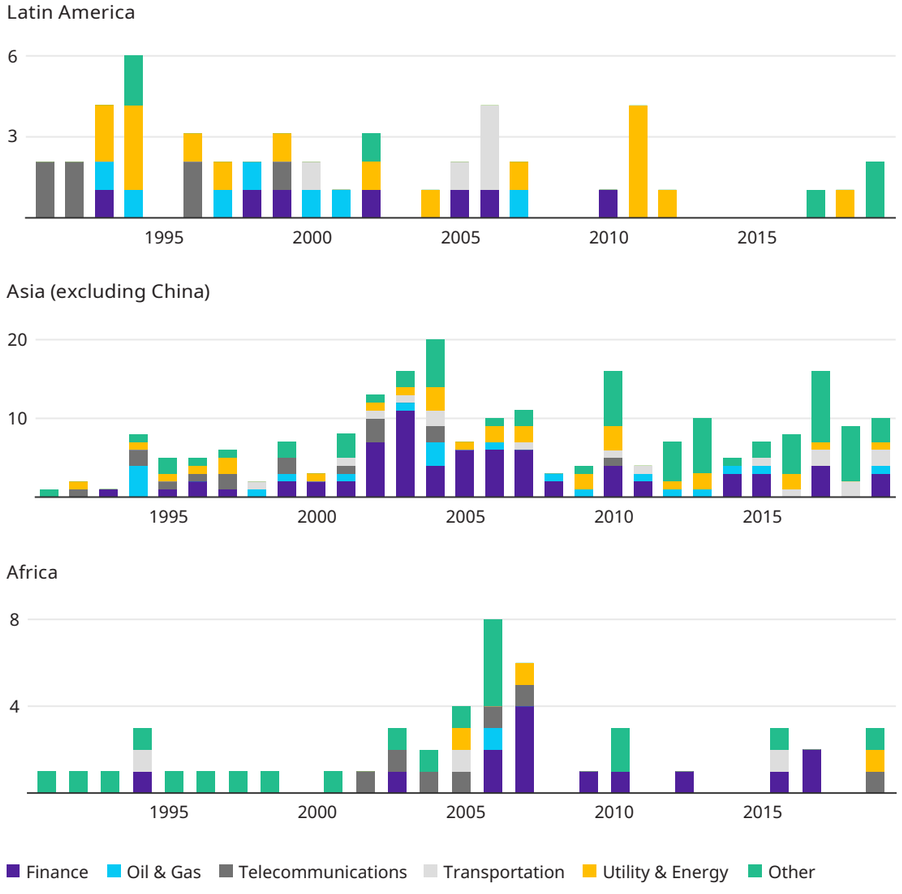
8 Sader (1995).
9 OECD (2016).

## Sector

SOE listings dominate in the infrastructure sector — especially in energy, transportation and telecommunications (see Exhibit 4). Across our case study countries, the energy sector has seen the largest number of SOE listings, with 22 percent of all SOE listings during 1990 and 2019. Especially in Latin America, many governments have listed their energy SOEs at local and international exchanges. Within the infrastructure sector, transportation (mainly airlines) and telecommunications have seen the second and third largest number of SOE listings.

EMDEs have also actively privatized and listed their financial institutions — the second largest sector after energy. Especially in Asia, many governments sold off their government-owned banks after the Asian financial crisis in 1997–98, when the cost of bailing out government-owned banks became too high.

**Exhibit 4: Number of SOE listings in by sector**




Source: Dealogic



**Exhibit 5: Share price performance by sector (5-year average post-listing)**

| Sector | # SOEs | Average SOE share price/index (percent) |
|---|---|---|
| Financial Services | 8 | 99 |
| Oil and Gas | 4 | 116 |
| Telecommunications | 5 | 129 |
| Utility and Energy | 12 | 84 |

Source: Datastream, Dealogic

The large share of infrastructure and financial sector companies suggests that SOE listings are biased towards sectors with large, capital-intensive companies. Further, their shares seem to perform better in industries with exposure to market competition or technology disruption. A comparison suggests that SOEs in the telecommunication and oil and gas sectors perform better than the respective country indexes. In contrast, SOEs from the financial sector perform on par and power utilities under-perform, mainly when market competition is limited (see Exhibit 5).

## Size

SOE listings tend to be very large, both in relative and absolute terms. As Exhibit 6 shows, SOE listings are significantly larger relative to private company listings for any given country. This holds true for all countries across our case study except Argentina, Egypt and Nigeria.[10] But also in absolute terms, the empirical literature notes that some of the world's largest IPOs have been SOE listings, such as the listing of Saudi Aramco, and Enel S.p.A., which are among the 10 largest IPOs worldwide.[11] This does not come as a surprise. SOEs often play a vital role in their home country's economy, predominantly operating in strategic and public-service oriented sectors, such as infrastructure development and financial services. Globally, they account for about 20 percent of investments, five percent of employment, and up to 40 percent of domestic output.[12] Taking into account that a large proportion of an SOE is sold in subsequent SPOs and not during the IPO, SOE listings also tend to be larger than those sold via other divestment methods (e.g., trade sales).[13] For example our estimates show that in Poland, revenues from listings have been on average more than 2.3 times larger than from private sales, despite a significantly larger number of private sales. Governments usually sell only their largest SOEs via stock exchanges because the costs associated with restructuring and listing can be very high. Listings require lawyers and investment banks to be consulted, prospectuses to be prepared, and marketing campaigns to be organized. Such efforts are often only warranted in the case of large enterprises.

10 The smaller average size of SOE listings in Egypt and Nigeria is partially driven by the very large nature of their privatization programs, which aimed to indigenize their public companies by selling a large proportion of their SOEs to the public, including small and micro-SOEs made up of mills, farms, and ranches.

11 www.statista.com/statistics/269343/worlds-largest-ipos/

12 www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/ifc+cg/topics/state-owned+enterprises

13 Megginson (2005).

Lastly, the largest SOEs of an economy are often cross-listed at international exchanges, aiming to attract foreign investors (see Exhibit 6).

## Profitability

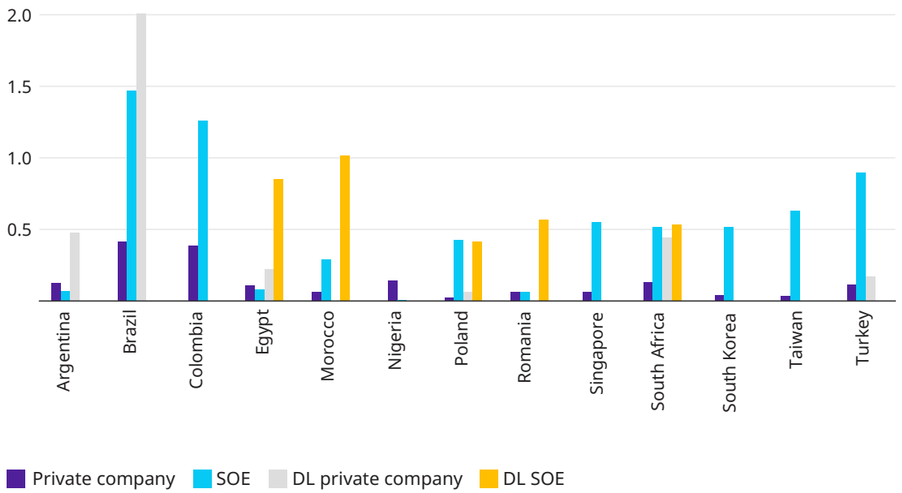
Most SOEs are profitable before listing. Unlike other divestment methods, SOEs need to show a track record of profitability before they can be listed, or at least provide strong evidence for their potential to grow their net earnings within a short time. Besides, profitability is one of the criteria for many investors to participate.

Also, depending on the exchange, profitability can be one of the listing requirements. For example, in South Africa and Nigeria, any company aiming to list will have to have been profitable for at least three years.

To fulfill the profitability criteria, many governments decide to restructure their unprofitable SOEs pre-listing. Governments have chosen different ways to do so. For example, Argentina's restructuring and subsequent IPO of Yacimientos Petrolíferos Fiscales (YPF) is an example of a government that successfully restructured an SOE on its own account (see Box 1). In contrast, Kenya's Safaricom and Mexico's Aeromexico are two successful examples of a restructuring process outsourced to strategic investors through a pre-sale shareholder arrangement. In the case of Mexico, Aeromexico's shares were sold to Banamex, a bank owned by Citigroup before being listed in 2011; in Kenya, the controlling stake in Safaricom was sold to Vodafone, which restructured the company before listing it in 2002. Whether a government is restructuring an unprofitable SOE on its own or through a strategic investor depends on multiple factors, including the government's institutional capacity, the strategic importance of the SOE and the sector's competitiveness and potential for technology disruption.

Based on these conditions, a listing probably motivates a government to restructure an SOE but does not represent its primary mechanism — with the exception of China (see Box 7).

**Exhibit 6: Average offering size (US$ billion)**




Source: Dealogic

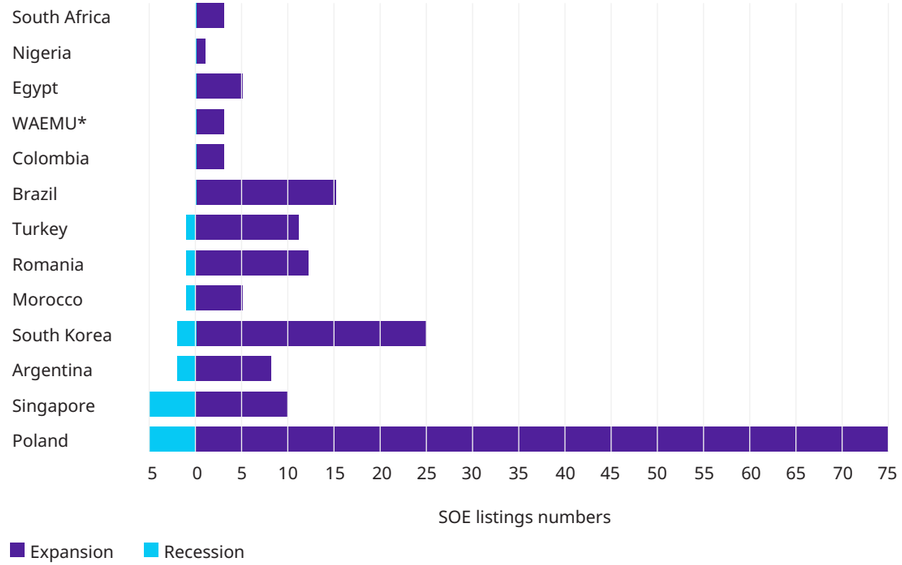


## Timing

Like private companies, SOE listings tend to follow the economic cycle. Listings are most actively pursued when the economy is growing (see Exhibit 7). Governments seek to achieve a fair valuation for their companies — partly to avoid any criticism for "selling off the country's 'crown jewel' too cheaply." Such prices are best achieved during a bull market when investors' risk appetite is most pronounced. If a government aims to target foreign investors, the global economy's health and the current investor sentiment will likely also influence the timing of the listing.

A few selected SOE listings have occurred during an economic contraction, either because of strategic reasons or due to unavoidable circumstances, such as an IMF program. Among our case study countries, Poland has seen a handful of SOE listings during times of economic turmoil. One example is the listing in November 2018 of ENEA, Poland's third-biggest power producer. To manage the uncertainty over the investors' interest, the government had set a minimum price and pro-actively sought strategic investors from the energy sector. The listing was successful with Vattenfall AB buying 19 percent of the SOE.

**Exhibit 7: SOE listings by economic cycle**




* The focus is on Cote d'Ivoire
Source: Dealogic, World Bank WDI

**Box 1. SOE Restructuring — the case of Yacimientos Petrolíferos Fiscales (YPF), Argentina**

The restructuring and subsequent listing of YPF, Argentina's national oil company, is an example of a successful transformation from an unprofitable, poorly managed SOE into one of the world's largest, profitable oil companies at the time.

YPF's transformation was part of a long but well-managed process. In 1989, the government enacted the State Reform Laws, which built the backbone of a broad deregulation process of various industries, including the oil sector. The deregulations broke up YPF's monopoly power and introduced market competition to all aspects of the industry, except for the ownership of Argentina's crude oil resources. Deregulations created the conditions for the government's success in restructuring YPF by creating the necessary market pressures that forced YPF on a commercial path.

After the deregulations were completed, the Argentine government developed a strategic privatization plan, with an international consulting firm's help. A three-year, three-step approach was identified and implemented:

1. Eliminating non-strategic, unprofitable businesses
2. Restructuring the organization
3. Offering the company to investors in national and foreign markets through an initial public offering

To realize those steps, the government hired a visionary leader, José Estenssoro, a former Hughes Tool Company executive in Latin America and an Argentine oil entrepreneur. The first step of the privatization plan began in 1990 when YPF sold all non-strategic and non-profitable assets — including obsolete refineries, tanker fleets, schools, hospitals, and airplanes. Those assets were auctioned and sold for a total sum of US$ 2.1 billion. The second step of the plan began in 1991 and involved the company's organizational downsizing and a re-organization of its human resources. YPF cut its workforce from 52,000 to 10,600 employees. Surprisingly, labor unions did not strongly oppose the restructuring because i) the President of Argentina and the government publicly supported the restructuring, and ii) YPF offered generous severance packages. YPF also offered early retirement with full benefits for those eligible, training and educational courses plus one year's salary for those interested in learning a new marketable skill, or an entrepreneurial option with a guaranteed contract from YPF (so-called emprendimientos). The entire restructuring process lasted about three years and involved at its peak some 200 international experts simultaneously.

The final step was the IPO. First, an international accounting firm carried out an independent firm valuation, intending to set a price on the shares. Then, a roadshow through most of the prospective markets was organized, aiming to raise investor interest. Finally, on July 1, 1993, 45 percent of YPF was sold at the New York, London, and Buenos Aires stock exchanges, achieving a US$ 19 per share price. The sale reached a value of US$ 3 billion in what was said to be the year's largest global IPO. The listing was almost three-times oversubscribed.

Overall, YPF's listing generated US$ 5.1 billion in cash and incurred US$ 13.5 million in costs. The upstream strategic business unit's joint ventures, concessions, and sales brought US$ 1.8 billion, and the downstream strategic business unit's direct sale brought US$ 272 million. In addition, the new YPF paid US$ 109 million in taxes in 1993 and US$ 99 million in 1994. Dividends rose from US$ 239 million in 1992 to US$ 587 million in 1994.[I]

[1]Post-listing, YPF's productivity continued to rise. Reserves expanded by 50 percent while production increased from 109 million barrels in 1993 to 190 million in 1998 — the highest amount of oil ever produced by YPF. In 1999, YPF was sold to Repsol, a Spanish oil company, and ultimately renationalized in 2012 as part of a policy-shift toward greater state control over the economy.

I Grosse and Yanes (1998).



## Share offering

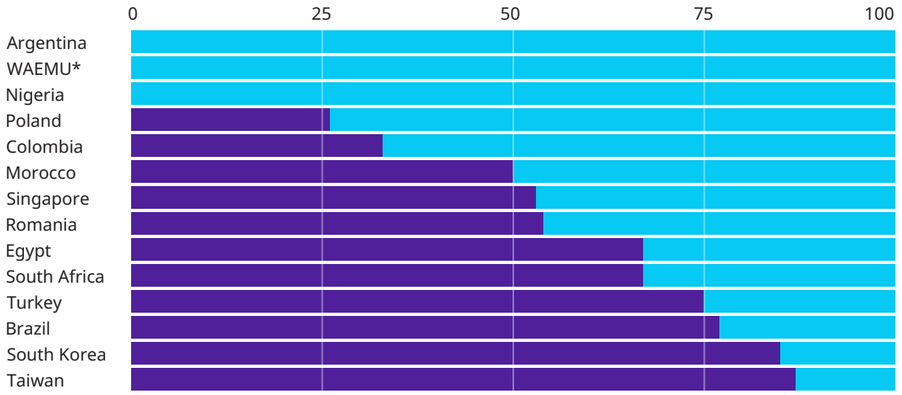
Due to their large size relative to a country's economy, SOEs are usually sold incrementally through multiple SPOs following the initial offering — however, the IPO often remains the largest sale (see Exhibit 8 and 9). This approach allows investors to absorb the issuance and gives market forces sufficient time to determine the company's value. As a result, offer prices for SPOs tend to be higher than those of SOE IPOs.

Lastly, selling an SOE slowly allows market participants to strengthen their skills and learn from their experience, thereby contributing to the development of the local financial services industry.

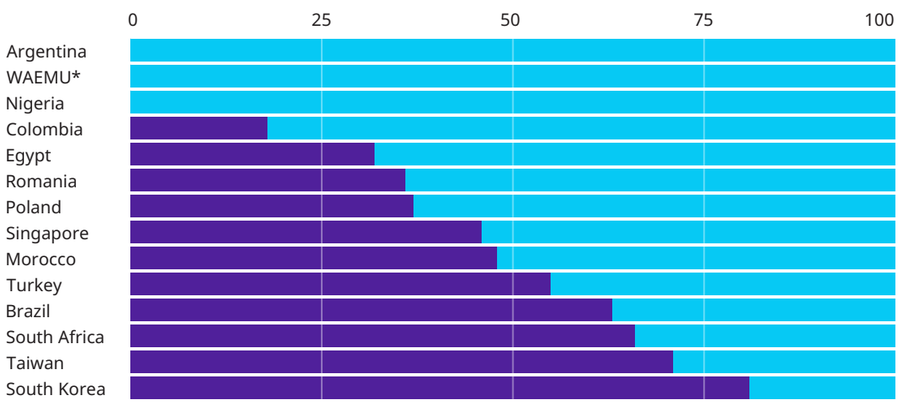
Technically, most SOE IPOs are secondary offerings, i.e., the government sells existing shares, without additional company shares being issued.

**Exhibit 8: Share of primary share offerings versus secondary share offerings**

Case country SOE listing value by offering type (percent of all listings)



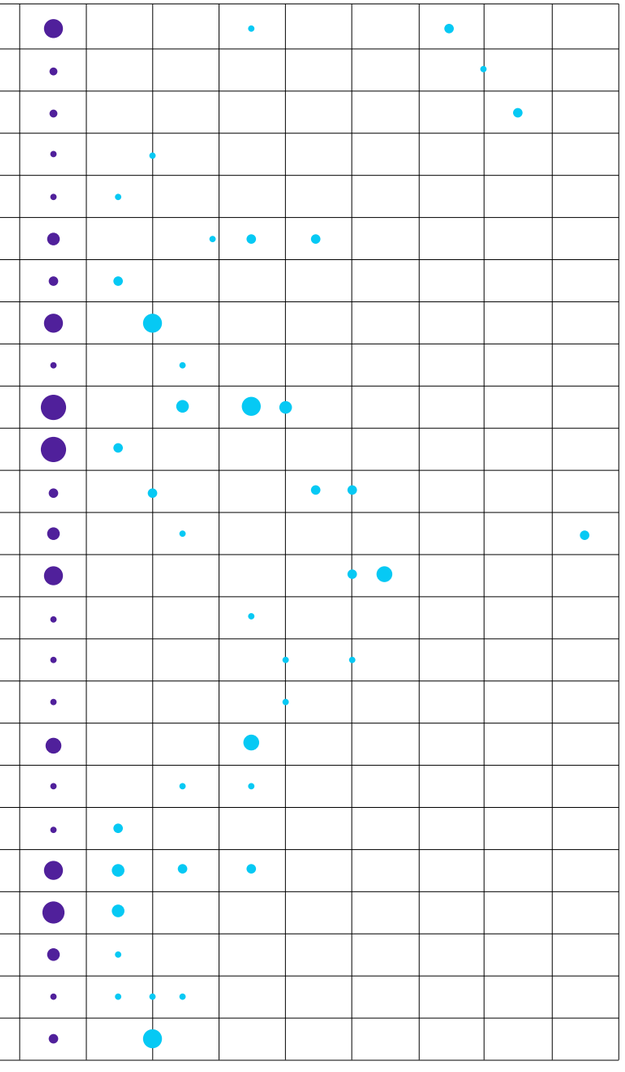

Case country SOE listing value by offering type (percent of total listing value)




* The focus is on Cote d'Ivoire
Source: Dealogic

**Exhibit 9: Share offerings over time for selected SOEs**

| Company | Year of IPO |
|---|---|
| Singapore Telecommunications Ltd | 1993 |
| Bank Handlowy SA | 1997 |
| KGHM Polska Miedz SA | 1997 |
| Bank Pekao | 1998 |
| Orbis SA | 1998 |
| TPSA | 1998 |
| Chartered Semiconductor Manufacturing Ltd | 1999 |
| Korea Telecom Corp | 1999 |
| Central Reinsurance Corp | 2000 |
| Chunghwa Telecom Co Ltd | 2000 |
| Petrobras | 2000 |
| Woori Finance Holdings Co Ltd | 2002 |
| Maroc Telecom | 2004 |
| PKO BP | 2004 |
| Grupa LOTOS SA | 2005 |
| Transelectrica SA | 2006 |
| Transgaz SA | 2007 |
| Turkiye Halk Bank AS - Halkbank | 2007 |
| Azoty Tarnow | 2008 |
| Bogdanka SA | 2009 |
| PGE Polska Grupa Energetyczna SA | 2009 |
| PZU SA | 2010 |
| TAURON Polska Energia SA | 2010 |
| SNGN Romgaz SA | 2013 |
| IRB-Brasil Resseguros SA | 2017 |




**Sales value (US$ millions)** <100 1000 2000 3000 4000 5000

**Type of listing** IPO SPO

Source: Dealogic



## Firm ownership and control

In EMDEs, SOE listings tend to create complex ownership structures. A small group of investors often exercises control over the company but usually under scrutiny of a diverse group of minority shareholders. Most listed SOEs are either controlled by the government, a small group of private corporations or strategic investors. In the case of private ownership, the control over the company is usually decided through a trade sale pre- or post-listing, not through the listing itself. The listing process focuses on attracting minority shareholders.

Although many SOE listings during the 1980s and 1990s were part of a wider privatization effort — especially in Latin America — we have noticed a shift toward minority sales since the 2000s. According to an OECD study, eight percent of the world's 10,000 largest listed companies have government ownership that exceeds 50 percent of the equity capital — with an even higher share in EMDEs, especially in Asia, Middle East and North Africa and emerging economies of Europe.[14] Looking at the largest listings across our case study countries, we have found similar results. For example, Romania's Transgaz and Transelectrica continue to be controlled by the government. In Turkey, a large proportion of SOEs (e.g., Halkbank) remain majority owned by the Turkish Sovereign Wealth Fund.

But even in those instances where SOE listings lead to or are part of privatizations, governments often retain a minority share, insert control restrictions in the firm's charters or establish golden share structures that provide it with powerful veto rights.

According to the OECD, governments remain powerful minority shareholders in 11 percent of the largest listed companies, especially in strategic sectors, such as energy and telecom.[15] Across our case study countries, Brazil is a good example where the government continues to keep, or has regained, a minority ownership in various SOEs, such as Vale (iron) and Aracruz Celulose (pulp and paper).

Many fully privatized SOEs remain under the control of a small group of investors, typically private corporations or strategic individual investors. From a global perspective, fully-dispersed ownership has become a rare phenomenon. In only one percent of the largest listed companies worldwide do the three largest shareholders hold less than ten percent of the equity capital.[16] And there are many good reasons for this. For example, where SOEs require restructuring, it has proven beneficial for governments to sell the controlling share to a strategic investor pre-listing. Furthermore, Schleifer and Vishny (1997) observed that in the absence of a strong minority shareholder protection law, investors seek to own a large share of the privatized SOE's equity to protect their interests and exercise control. This is also confirmed by Mohammad Omran (2009) who found that in Egypt, six years post-listing, a significantly larger proportion of SOE shares were held with a small group of domestic and foreign institutional investors compared to the IPO year. Hence, even where SOE listings initially attract a large retail investor base, ownership is likely to concentrate over time unless a market has established its credibility as a well-functioning and attractive savings mechanism. As a result, free float tends to be lower in EMDEs than in advanced economies.

In more developed capital markets, institutional investors have evolved as a third dominant shareholder class. For example in South Africa, Poland and Brazil, institutional investors hold 25 to 34 percent of total market capitalization,[17] and according to our interviews, they also are the main investors in SOE listings. This development has been driven by several factors. One reason has been the transition of pension systems from pay-as-you-go to funded pension plans, leading to growth of both privately and publicly managed pension funds.

14 Ownership and control can be either directly held by the central or local governments or indirectly via public financial intermediaries, such as sovereign wealth funds.

15 OECD (2019).

16 OECD (2019).

17 OECD (2019).

Lastly, listed SOEs' ownership is further complicated by the growth of cross-border investments. Foreign investors have become an important stakeholder in SOE listings. For example in Brazil, Poland and South Africa, foreign investors hold 30-40 percent of total market capitalization[18] and are similarly large investors in SOE listings — although foreign investor participation may be limited by regulation. In less developed equity markets, foreign investors also play an important role. Although small in absolute terms, foreign investors may be the largest institutional investor in an SOE listing. In addition, they play an important role as strategic investors, either in the form of a private corporate or a strategic individual. Good examples are Kenya's Safaricom, WAEMU's Sonatel, or Morocco's Maroc Telecom. Independent of the market's stage of development, foreign investors tend to increase their participation over time provided they have had a positive experience. For example, in Egypt, foreign investors' mean ownership in listed SOEs increased from 5.8 percent in the IPO year to 11.7 percent in the sixth year post IPO.[19]

## Share allocation

SOE IPOs are usually sold in tranches, with pre-determined allocations for employees, retail investors and foreign investors.

Studying over 630 IPOs and seasonal offerings, Megginson and Netter (2001) report that about 60 percent of the studied IPOs had included a foreign investor tranche, which represented a median of about 11 percent of the IPO and an even larger share of the secondary offerings. Tranches for employees had been included in about 91 percent of all studied listings. Preferential tranches for retail investors existed in about 16 percent of all offerings.

Despite the fact that data on the investor base of SOE listings across our case study countries has been difficult to collect, the cases for which data was available suggest a change in the investor base as capital markets develop:

- In frontier markets where the domestic institutional investor base remains small, a large proportion of SOE listings are absorbed by employees, retail and foreign investors. Governments often use share allocations to employees and retail investors as a means to gain political support for a planned privatization process. For example, in WAEMU, the government allowed employees to buy 10 percent of the 27 percent stake in Sonatel at a highly discounted price, aiming to reduce workers' resistance against divestment and ensure continued voter support. Similarly, in Kenya the government offered employees and retail investors shares at a significant discount to create political support for the divestment policies of the government. Due to the large size of SOE listings, foreign investors often play an important role as well. Foreign investors tend to use the opportunity of a large SOE IPO to get a first-time exposure to the country's equity market.

- In larger, more developed markets, domestic institutional investors, such as pension funds, insurance companies and mutual funds, become more relevant and often absorb a large proportion of the listing (e.g., in Poland or more recent SOE IPOs in Romania). Foreign investors are present but often do not represent more than 10-20 percent of the IPO value.

To attract foreign investors, various countries have chosen to either cross-list their SOEs (see Exhibit 6) or issue GDRs/ADRs.

## Price formation

Governments across EMDEs commonly use fixed prices as their preferred method to sell SOEs via the stock exchange. This means that the price for an SOE is usually identified through external auditors whose recommendation is then used to set a fixed price several weeks in advance of the offering date. These fixed prices tend to undervalue the SOE to create follow-on demand.

In instances where SOE listings comprise several tranches, the retail portion is often a fixed price and the institutional and foreign investor tranches are often placed through a tender offer or book building process to maximize proceeds.

Our analysis shows that the price discovery process has been fair across our case study countries. The changes in share price on the listing day, which is a good indicator whether a price discovery process has been successful, has been small and slightly positive (see Exhibit 10).

Auctions have usually been oversubscribed, partially as a result of the underpricing.

## Proceeds

Unlike private company IPOs, SOE IPOs are mostly secondary offerings, where the proceeds are commonly used to support the government's budget. We find some anecdotal evidence where public offerings have also been used to raise capital for the listed SOE, but those cases are the minority. One example is Aeromexico. The proceeds of its listing were used to finance the company's expansion plans. On the other hand, once listed, several SOEs start issuing new shares, often selling them to existing shareholders through rights offerings — one good example is BMCE in Morocco. Capital raised by new shares is usually used for capital investments.

In most cases, however, governments used the proceeds from SOE listings to buy down government debt. For example in Brazil during the 1990s and early 2000s more than 160 SOEs were divested and their proceeds helped to reduce public debt by eight percent of GDP.[20]

In other countries, such as WAEMU, Singapore and Turkey, the proceeds have been reinvested into the economy, including large infrastructure projects. In the example of WAEMU, the proceeds from the Sonatel listing were used to support social services, especially in health and education.

**Exhibit 10: Changes in share prices (percent change from IPO price)**

| Case study country | 1 Day | 1 Week | 1 Month | 6 Months | 1 Year | # listings |
|---|---|---|---|---|---|---|
| Argentina | 1 | 0 | 0 | 10 | 48 | 9 |
| Brazil | 6 | 11 | 14 | 16 | 26 | 14 |
| Colombia | 36 | 33 | 40 | 59 | 38 | 3 |
| WAEMU* | n/a | 8 | 12 | 6 | -20 | 3 |
| Egypt | 17 | 12 | 9 | 15 | 19 | 4 |
| Morocco | 18 | 16 | 40 | 54 | 71 | 7 |
| Nigeria | 5 | 5 | 78 | 597 | 409 | 1 |
| Poland | 6 | 6 | 8 | 8 | 17 | 84 |
| Romania | 15 | 17 | 18 | 25 | 16 | 8 |
| Singapore | 7 | 10 | 37 | 44 | 14 | 10 |
| South Africa | 2 | 0 | 3 | 12 | 75 | 3 |
| South Korea | 8 | 8 | 22 | 32 | 29 | 26 |
| Taiwan | 16 | 15 | 17 | 13 | 12 | 27 |
| Turkey | 2 | 3 | -7 | -1 | -14 | 11 |

* The focus is on Cote d'Ivoire
Source: Dealogic

18 www.oecd.org/corporate/Owners-of-the-Worlds-Listed-Companies.pdf
19 Omran (2009).
20 Carvalho (2001).

# SOE LISTING'S IMPACT ON CAPITAL MARKETS DEVELOPMENT

**In the empirical literature, SOE listings have been celebrated as the driver behind the rise of global capital markets because they presented the first large public offerings in almost all non-US equity markets.[21] Although the empirical literature's claim may be valid on a global level, the picture becomes more complicated at a country level.**

As our analysis shows, SOE listings can indeed kick-start the development of local capital markets, especially during the early and intermediate phase of a market's development. This is not surprising because many SOEs are among the largest and most valuable corporations in a given country. They provide an important source of new listings and boost an exchange's market capitalization. Unfortunately, demonstration and spillover effects into the broader market seem to materialize only in some instances, when certain enablers are in place, such as a comprehensive government SOE listing program, a relatively large domestic institutional investor base, and a certain size of the economy. Hence, SOE listings can play a catalytic role in capital markets development. At the same time, they are not a silver bullet. Multiple factors are at play for capital markets to develop, SOE listings can be one of them but are not the only one.

In the following, we have investigated the impact of SOE listings on capital markets development across four dimensions: market size, liquidity, spillover effects on non-sovereign debt markets, and the investor base. We would like to remind the reader, that the analysis of the impact of SOE listings on capital markets development may include certain biases (e.g., selection bias, endogeneity) that neither the studies cited in the empirical literature nor our case study analysis could fully remove. Especially the selection bias — i.e., that only the largest and most valuable SOEs are listed — may influence the results towards a more positive picture.

## Market size

We measure the size of an equity market through two variables: market capitalization and the number of listings. Both indicators include listed SOEs and listed private companies. In the following, we distinguish between direct and indirect effects, whereby a direct effect describes the impact of SOE listings on market capitalization and total number of listings. Indirect effects explain an impact of SOE listings on market capitalization and total number of listings through their effect on private companies' willingness or ability to list.

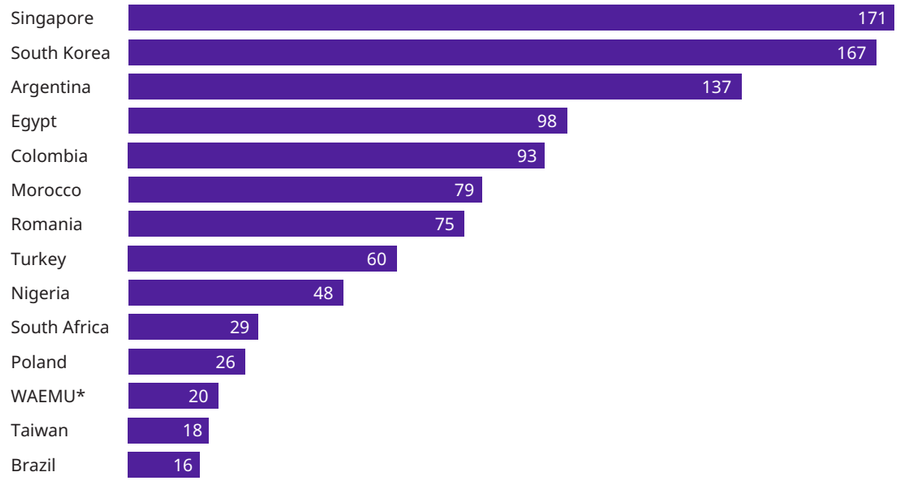
**SOE listings can have a significant direct impact** on market capitalization, especially during the early phase of an equity market's development. Because of their large size relative to an economy, SOE listings can boost a stock exchange's market capitalization. Across our case study countries, we find that the largest SOE listings can increase market capitalization by up to 170 percent (Exhibit 11). This effect is largest where equity markets are still relatively small, i.e., during the early and intermediate phase of a market's development. Where governments have been able to list a series of large SOEs, conduct follow-on offerings or encourage private companies to list, they could often sustain that growth momentum over an extended period (Exhibit 12).

21 See Guriev and Megginson (2006); Subrahmanyam and Titman (1999); McLindon (1996); Kleiman and Morrissey (1994).



**Exhibit 11: Market cap growth in year of largest listing (in percent)**

Case study country




* The focus is on Cote d'Ivoire
Source: WFE — World Federation of Exchanges

**Exhibit 12: SOE listing impact on market capitalization growth (in percent)**

| | | |
|---|---|---|
| 1990-1995 | 45 | 15 |
| 1995-2000 | 24 | -5 |
| 2000-2005 | 12 | -7 |
| 2005-2009 | -0.1 | 6 |
| 2009-2015 | 2 | 4 |
| 2015-2018 | 7 | -1 |

Source: Datastream and WFE — World Federation of Exchanges

Furthermore, we find that SOEs can be an indispensable source of new listings (Exhibit 13). Between 1990 and 2009, SOE listings represented on average 23 percent of all public offerings per year for our case study countries. The share has been high, especially during the early phase of equity markets' development — see the examples of Argentina, Brazil, Poland, Morocco and WAEMU. As a market develops, the share of SOE listings as a percentage of total public offerings tends to decrease — exceptions are markets in Asia, where many countries continue to see a significant proportion of SOE listings relative to total listings.

In some instances, SOE listings have even been the reason behind the creation of a local stock exchange, such as in Tanzania, Uganda, Georgia and China. However, the success of those initiatives has not always been clear. Even tough China has been able to use the momentum of SOE listings to kick-start capital markets development, most Sub-Saharan exchanges have struggled to attract a large number of private sector listings (see section of indirect effects on page 27).

**Exhibit 13: SOE listings as a share of total offerings per year (in percent)**

| | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Argentina | | 100 | 69 | 90 | 58 | | 0 | 0 | 82 | 64 | 0 | 0 | | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Brazil | | | 0 | | 73 | 0 | 0 | 38 | 0 | 0 | 89 | 55 | 86 | 0 | 8 | 7 | 8 | 0 | 0 | 0 | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 9 |
| Colombia | | | | 0 | 0 | 0 | | | | | | | | | | | 0 | 67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 56 | 0 |
| WAEMU* | | | | | | | | | | | | | | | | | | | | | | | | | | 0 | 80 | 43 | | |
| Egypt | | | | | | | 51 | 30 | 24 | 0 | 0 | | | | 0 | 76 | 0 | 0 | 0 | 0 | 0 | 0 | | | 0 | 0 | 0 | 0 | 0 | 28 |
| Morocco | | | | 100 | | | 0 | | 0 | | 0 | 0 | | | 100 | 0 | 0 | 70 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 100 | 0 | 0 | 58 |
| Nigeria | | | | | | | | | | | | | 0 | 0 | 0 | 0 | 100 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Poland | | | | | 0 | 91 | 15 | 64 | 71 | 58 | 76 | 0 | 83 | 46 | 65 | 56 | 3 | 0 | 36 | 49 | 73 | 65 | 58 | 48 | 18 | 0 | 0 | 0 | 0 | 0 |
| Romania | | | | | 0 | | 0 | | 11 | | | 0 | | | 0 | 0 | 16 | 27 | 0 | 0 | 0 | 0 | 31 | 51 | 39 | 0 | 0 | 0 | 0 | 0 |
| Singapore | 0 | 0 | 0 | 95 | 0 | 0 | 0 | 0 | 13 | 12 | 27 | 33 | 9 | 23 | 12 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| South Africa | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 41 | 0 | 0 | 16 | 0 | 0 | 0 | 0 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| South Korea | 0 | 0 | 0 | 0 | 26 | 23 | 0 | 48 | 79 | 76 | 10 | 45 | 49 | 7 | 18 | 3 | 0 | 0 | 0 | 8 | 7 | 0 | 0 | 3 | 4 | 0 | 0 | 0 | 0 | 0 |
| Taiwan | | | 69 | 0 | 0 | 0 | 20 | 11 | 28 | 11 | 60 | 21 | 31 | 37 | 3 | 29 | 15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 |
| Turkey | 0 | | | 33 | 89 | 0 | 0 | 0 | 49 | 0 | 27 | | 76 | 0 | 19 | 14 | 12 | 49 | 52 | 0 | 26 | 0 | 62 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

* The focus is on Cote d'Ivoire
Source: Datastream and WFE — World Federation of Exchanges

**Exhibit 14: Share of total market capitalization of selected SOE listings**

| Date of listing | Company | Deal value (US$ million) | Exchange | Stock exchange market cap (US$ million) | SOE market cap (US$ million) | SOE market cap (percent total) |
|---|---|---|---|---|---|---|
| 25.09.2007 | Ecopetrol SA | 2,797 | Bolsa de Valores de Colombia | 77,82 | 35,835 | 46.0 |
| 04.11.2004 | PKO BP | 2,274 | Warsaw Stock Exchange | 60,136 | 7,937 | 13.2 |
| 12.09.2005 | PGNiG: Polskie Gornictwo Naftowe i Gazownictwo SA | 823 | Warsaw Stock Exchange | 83,467 | 6,432 | 7.7 |
| 01.11.2013 | SNGN Romgaz SA | 535 | Bucharest Stock Exchange | 24,269 | 4,203 | 17.3 |
| 23.09.2013 | Nuclearelectrica | 85 | Bucharest Stock Exchange | 18,044 | 983 | 5.4 |

Source: Dealogic



We conclude that SOE listings correlate positively with the size of a local capital market, especially during the early and intermediate phase. This is also reflected by the fact that the share of SOE listings as a percentage of total market capitalization in EMDEs is generally high, with an average of 30 percent of total market capitalization across our case study countries. For example, in Colombia Ecopetrol alone represented 46 percent of the total market capitalization (Exhibit 14). Romania is also a good example, where SOEs have constituted a large share of total market capitalization — during the hight of the divestment program in 2004, SOEs accounted for 65 percent of market capitalization. The empirical literature offers additional examples: For instance, in Britain, Chile and Singapore, the share of listed SOEs as a percentage of total market capitalization had grown more than five times during 1983 and 2000, from less than US$ 50 billion to US$ 3.31 trillion, which is equal to over 27 percent of the total market capitalization of top listed companies outside the USA.[22]

**Further to these effects, SOE listings can boost an equity market's size through indirect effects,** e.g., by encouraging private companies to list. The empirical literature suggests that SOE listings can have a snowball effect on local equity markets.[23] Especially in less developed equity markets, owners of private companies are often reluctant to issue tradable securities until the markets are informationally efficient and highly liquid. At the same time, investors will be unwilling to entrust their savings to securities markets until there is an adequate supply of quality securities available for trade. Thus, SOE listings could help markets to overcome this chicken-and-egg problem by growing market size, improving efficiency and ultimately encouraging private firms to float their shares on the exchange. In other words, SOEs can demonstrate a market's functionality, including the existence of a broad investor base, thereby encouraging private companies to list. We will call this a demonstration effect.

Although the literature confirms such demonstration effects for advanced economies, we find evidence for such effects only in four out of the 14 case study countries and to varying degrees — these are Poland and Singapore, and to a weaker extent Romania and Morocco. At a first glance, what all of those four markets have in common is their intermediate market development status at the time of the SOE listings — i.e., all four markets had outgrown their early frontier market stage and operated on the threshold between frontier and emerging market status. This also implies that the four countries had a relatively large domestic institutional investor base and good market access for foreign investors who, once provided with an attractive pipeline of assets, could be encouraged to participate more actively in the local equity markets (see Box 2). In addition, all four countries have had a large enough economy with a large number of large, private sector companies that had not yet looked to the equity market as an alternative source of capital. The governments successfully raised awareness and promoted the stock exchange's functioning by listing a series of SOEs. Lastly, in all four case study countries, the government had undertaken several SOE listings over an extended period of time. In the case of Poland and Singapore, the two countries that have seen the largest demonstration effects across our case study countries, the respective governments implemented large-scale SOE listing programs, whereby more than 15 of the countries' most valuable SOEs were incrementally sold via the local stock exchange.

Despite their similar size and development status no demonstration effect could be identified in Argentina, Egypt, Nigeria and Turkey. The reasons are often a combination of factors that vary by country, but we can draw a number of important lessons. In Argentina, the government's heavy reliance on ADRs has resulted in making the NYSE an attractive listing venue for Argentine shares rather than the Bolsa de Comercio de Buenos Aires. Together with the ADRs, liquidity migrated to the NYSE and with it various listed companies (see Box 3). Similar effects can be found for countries that have relied on cross-listings — e.g., Kazakhstan (see liquidity section). In Egypt, the effect of GDRs/ADRs has been exacerbated by concerns over the reliability of the local market infrastructure, insider trading and unbridled speculation, as a result, the initial domestic and foreign investor

22 Top companies includes those mentioned in the top100 business week for advanced economies and the top200 for emerging economies, Megginson 2005.
23 Subrahmanyam and Titman (1999); McLindon (1996).

excitement wore off quickly, significantly reducing market liquidity.[24] Instead of attracting additional listings, the exchange saw numerous delistings as Egypt's capital market's regulator responded with more restrictive listing requirements (see Box 4).

Lastly, the case of Nigeria highlights the importance of a stable macro-economic environment (see Box 6). Nigeria has experienced extreme currency depreciations, which suppressed stock performance, including SOE shares. As a result, SOE listing's signaling effect to private companies has been small.

Furthermore, we could not find any demonstration effect for SOE listings in early stage frontier markets. The two most prominent reasons are likely to be i) the lack of a large domestic institutional investor base and ii) the relatively small size of the private economy with only a limited number of large private companies that have the potential to list. For instance, in WAEMU, the low levels of asset holdings of the nascent pension fund system has likely prevented the otherwise relatively successful SOE listings (e.g., of Sonatel and Onatel) from creating any demonstration effects for private companies. Because institutional investors were largely absent, WAEMU's governments had to underprice their SOE shares significantly to attract a large-enough retail investor base that could absorb the listings, which, in return, weakened the interest of private companies to list. Further, the absence of long-term capital as provided by pension funds and insurance companies has likely led to greater volatility in stock prices, which may have further discouraged private companies from listing.

Kenya's SOE listing experience is an interesting case because it shows the complexity of the factors at play. Despite a relatively large domestic institutional investor base — pension fund assets represented between 7–12 percent of GDP during the 2000s — and a moderately strong pipeline of SOE assets, demonstration effects on private companies did not materialize. Why? Even though multiple factors are likely at play, a potential demonstration effect was suppressed through crowding out effects from large government debt issuances and high interest rates. The participation of Kenya's pension funds in SOE listings has been relatively small, accounting for just about 10-20 percent. As in WAEMU, Kenya's government had to underprice many SOE shares heavily to attract a large-enough retail investor base that could absorb the listings. One exception has been Safaricom, which attracted a large foreign and domestic institutional investor base.

Lastly, our case study analysis shows that there is no indirect effect on market capitalization for more developed emerging markets, such as Brazil and South Korea. As an equity market develops and reaches critical mass, demonstration effects weaken significantly. Other factors, such as capital controls become more important (see Exhibit 15). And although SOE listings have helped to increase foreign investor participation, it required a change in government policy and regulation for the effects to fully unfold.

## Liquidity

To analyze liquidity effects, we have looked at two variables: the bid-ask spread to analyze the SOE stock's liquidity and the turnover ratio to understand the impact on market liquidity.

**Across our case study countries, we find that most SOE shares have benefited from narrow bid-ask spreads, suggesting an adequate level of liquidity (see Exhibit 16).** Listed SOEs sustained bid-ask spreads on average of 60bps throughout the five-year horizon post-listing. Those liquidity levels are likely to be the result of the SOEs' large size combined with a broad and diverse investor base required to absorb such large listings. In addition, liquidity levels tend to be higher for SOE listings with a larger free float (> 15 percent). Unless an SOE is extremely large, a free float below 15 percent usually presents a too-small investment opportunity for large institutional investors, especially those investing from abroad, resulting in lower liquidity levels. This is also reflected by the fact that global indices list the free-float adjusted market capitalization.[25]

24 Lieberman and Kirkness (1998).
25 www.msci.com/eqb/methodology/meth_docs/MSCI_GIMIMethodology_May2019.pdf



**Box 2. The importance of pension reforms and foreign investor access to create demonstration effects in Poland and Romania**

The recent histories of Poland and Romania have been remarkably similar: both countries transitioned to a market-based democracy in 1989 and have become members of the European Union. Due to their histories of being centrally-planned economies, both countries had to undergo significant privatization efforts. The Warsaw Stock Exchange (WSE) is today the largest stock exchange in Central Eastern Europe, functioning as a financial hub for the region. The Bucharest Stock Exchange (BVB) has grown significantly as well, albeit at a lower rate.

As a transition economy, Poland's privatization plans were key to facilitating capital market growth and bringing private companies to the market. The two waves of SOE listings, the first during 1990-2003 and the second during 2004-2014, exemplify the importance of a large enough investor base to encourage listings from private companies. The first privatization wave led to an oversupply of securities as the number of listed shares outstripped investor demand. As a result, the WSE saw a series of delistings in 2002-2003 because privatized companies were perceived to be undervalued and lost interest in staying public. This also discouraged many private companies from listing. However, this dynamic changed in the second privatization wave.

During the second wave, Poland's privatization plan was embedded into a larger structural reform program that, among other changes, transformed the domestic pension fund system from a publicly managed defined benefit (DB) system — funded through pay-as-you go contributions — to a predominantly privately managed defined contribution (DC) scheme. As a result, the size of the domestic pension fund system grew quickly, from 1.3 percent of GDP in 2000 to 6.8 percent in 2004. At the same time, regulation inhibited domestic pension funds from investing more than five percent abroad, keeping liquidity within the Polish economy (albeit to the detriment of the pension funds' risk-adjusted returns).

Furthermore, thanks to Poland's accession to the European Union in 2004, its access to foreign investors grew tremendously as foreign investors became domestic investors, which also led to a relegation of various controls against foreign investor participation.

Following the expansion of its investor base, the government decided to list a series of large SOEs. Those SOEs were oil and gas companies and financial institutions with the single largest being a US$ 2.7 billion IPO of the insurance company PZU SA. Listing the largest and most profitable SOEs attracted significant investor demand, especially from EU investors. In response, private sector listings grew as equity prices became attractive and signaled market efficiency. As a result, the WSE has become a popular market for listings of regional firms.

Unlike its northern neighbor, Romania's equity market has seen modest growth. Romania's market capitalization as a percentage of GDP stood at around 17 percent in late 2019, compared to 49 percent for Poland in the same period. The country's privatization process largely occurred in two waves. During the 1990s a number of small SOEs were privatized and listed on the stock exchange. However, those listings were ad-hoc and did not provide the consistent supply of securities as in Poland.

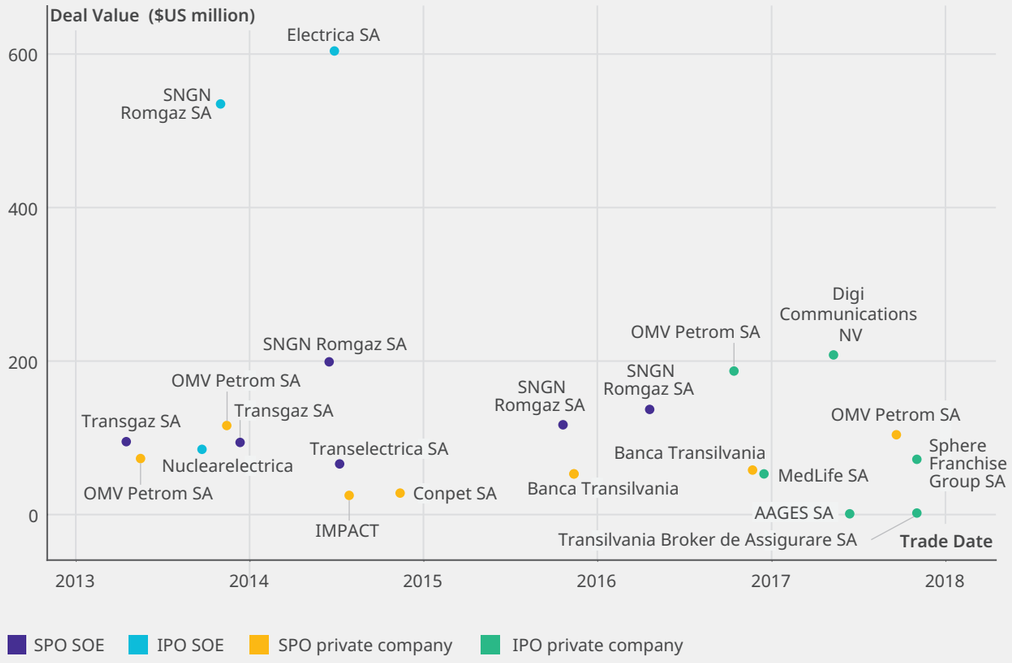
In 2012, Romania started its second privatization wave — following a loan agreement with the IMF and the EU in 2009. Between 2012 and 2016, Romania listed four oil and energy companies: Romgaz, Electrica, Transgaz, and Nuclearelectrica. These listings created a demonstration effect for private companies that kick-started the development of the local equity market. Each public listing was followed by at least one private company offering (see Exhibit i). Market capitalization rose from RON 98 billion to RON 147 billion in 2016. Yet, the demonstration effect on private companies has been significantly weaker compared to Poland due to Romania's smaller local investor base which has limited the local markets absorption capacity. In contrast to Poland, Romania's pension fund assets did not see the same growth momentum (in 2012, pension fund assets stood at just 1.7 percent of GDP).

**Box 2. (Continued)**

As a result, Romania had to predominately rely on the domestic retail and EU investor base — the latter has been a crucial source to absorb the series of SOE listings during 2012 and 2016. Further, Romania's pipeline of SOE listings has been smaller and accompanied by greater uncertainty than in Poland. As a result, foreign investor interest has been weaker and more cautious.

Comparing the experiences of Poland and Romania, it appears that the creation of demonstration effects is highly dependent on a number of factors. From the case of Poland and Romania, we could identify the following three: i) the size of the domestic investor base, including the importance of pension fund reforms, ii) the access to a large pool of foreign investors, and iii) a large SOE divestment program that provides equity markets with a constant stream of new, attractive assets over a longer period of time. Poland is likely to have seen a bigger demonstration effect than Romania as its SOE listings have been well planned and carried out regularly over an extended period of time, creating a constant supply of new listings. At the same time, such a demonstration effect will likely occur only where there is a sufficiently large investor base whose interest increases with each new listing that provides a diversification opportunity and justifies reallocation of resources.

**Exhibit i: Impact of demonstration effects on private companies, example of Romania**




Source: Dealogic



**Box 3. Argentina's ADR problem**

In Argentina privatization was a direct response to the near collapse of the Argentine economy in the late 1980s. The newly elected Menem administration aimed to rapidly transform and sell its loss-making public enterprises as part of its recovery plan.

Unfortunately, due to the urgency of the privatization program, reforms to strengthen the market infrastructure of the local capital markets fell short. When the privatization program started in 1990, trading value at the Buenos Aires stock exchange was less than US$ 2.5 million a day, and market capitalization was a mere US$ 2 billion. Among other factors, these low trading values were the result of an outdated market infrastructure, including high brokerage fees, the lack of an electronic trading platform and the separation between clearing and custody services.

As a result, Argentine's government chose to use ADRs as the main mechanism to sell their SOE shares. For example, the public offering of Telefonica de Argentina in 1991 raised US$ 838 million, of which 60 percent was raised through ADRs offered at the NYSE. Likewise, Telecom was sold for US$ 1.22 billion, of which 60 percent were raised via ADRs. Consequently, the locus of trading shifted offshore. YPF's ADRs represented more than 75 percent of the listing amount and have traded more than three times the normal stock. Over time more and more company shares converted into GDRs/ADRs, leading to a large number of delistings and creating a significant liquidity problem for the local exchange.[I]

Thus, although Argentina's SOE listings boosted market capitalization and attracted a large domestic investor base in the short term, in the long term it created unintended consequences by showcasing the attractiveness of the international markets over its own exchange.

I Gosse and Yanes (1998).

**Box 4. The importance of size and a good market infrastructure — the case of Egypt**

Egypt's privatization program began in 1991 and resulted in the full or partial divestment of 382 SOEs. To sell those SOEs, the government made use of multiple divestment methods, including employment share purchase programs and SOE listings. The overall proceeds from the divestment scheme amounted to EGP 57.4 billion (approximately US$ 9.4 billion) up to 2009.

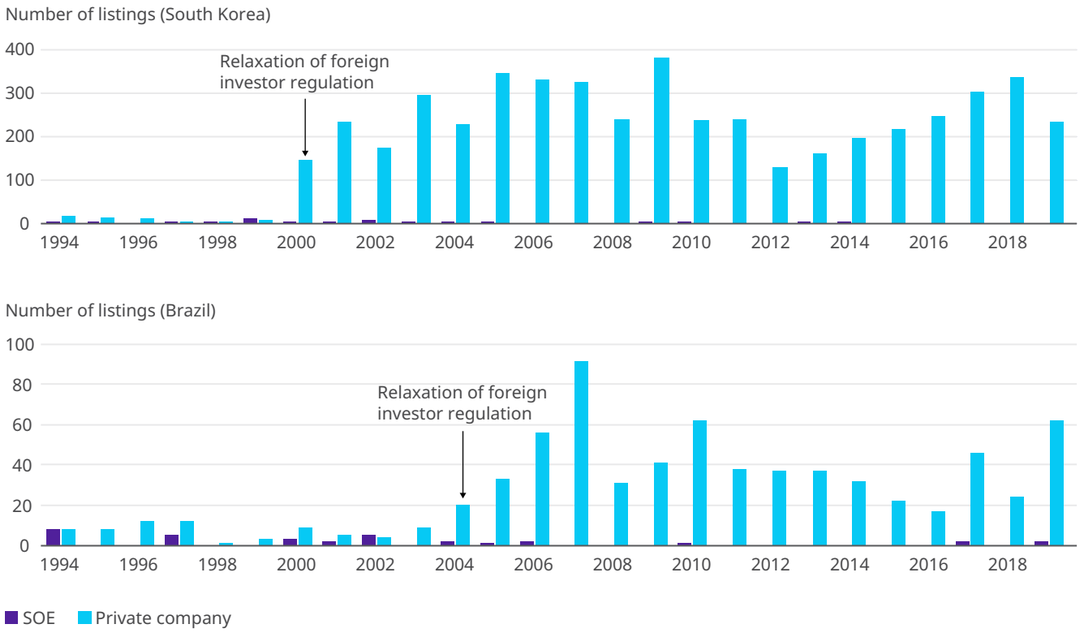
Despite the large scale of the program (over 50 listings), SOE listings have not led to any demonstration effects. One of the potential reasons relates to scale. The selected SOEs were mainly in the tradable sector — cement, pharmaceuticals, fertilizers, chemicals, food processing and housing construction. Unfortunately, many of those SOEs selected for listing have been too small to attract a broad interest among local and international investors. As a result, liquidity for those stocks dried up quickly, negatively impacting stock price performance. This effect was exacerbated by the use of GDRs/ADRs to sell Egypt's largest and most valuable SOEs.

Egypt's capital market infrastructure was also of concern. The brokerage industry was undercapitalized, and the clearing and settlement systems faced significant problems. To cite one example, until the introduction of a central depository in 1996, many titles remained unsettled, creating frustration across domestic and foreign investors. In addition, weak disclosure and accounting standards fostered insider trading and unbridled speculation.[I] In response, the capital markets regulator capped market moves for any given day creating further skepticism especially among foreign investors. Finally, listing standards were increased sharply (especially with regard to accounting and disclosure), as a result numerous delistings followed. We conclude that Egypt's SOE listing program exposed the large inefficiencies of the local capital market's infrastructure, sending a negative signal to private companies with the potential to list.

Since the privatization program during the 1990s and early 2000s, Egypt has continued to reform its capital markets to establish the exchange as a safer and more transparent destination for domestic and foreign investors, which included an overhaul of regulatory frameworks applied to key areas such as corporate governance, disclosure rules and transparency.

I Lieberman and Kirkness (1998).

**Exhibit 15: Impact of foreign investment flows on equity markets in Brazil and South Korea**




Source: Dealogic

**Exhibit 16: Bid-ask spreads for selected SOEs**

| | | | Average monthly bid-ask spread (percent) | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Country** | **Company** | **Month of IPO** | Listing month | + 1 year | + 2 years | + 3 years | + 4 years | + 5 years |
| Turkey | Türkiye Halk Bankasi AS-Halkbank | 05/2007 | 0,5855 | 0,81 | 0,86 | 0,91 | 0,41 | 0,51 |
| Romania | SNGN Romgaz SA | 11/2013 | 0,15 | 0,43 | 0,36 | 0,33 | 0,27 | 0,26 |
| Brazil | IRB-Brasil Resseguros SA | 07/2017 | 0,10 | 0,23 | 0,13 | n/a | n/a | n/a |
| Morocco | Maroc Telecom | 12/2004 | 0 | 0 | 0,43 | 0,19 | 0,58 | 0,40 |
| Egypt | Telecom Egypt SAE | 12/2005 | 0,30 | 0,57 | 0,39 | 3,33 | 2,52 | 1,91 |
| South Africa | Telkom SA Ltd | 03/2003 | 0,38 | 0,82 | 0,50 | 0,40 | 0,52 | 0,21 |
| Singapore | Singapore Post Ltd-SingPost | 05/2003 | 0,78 | 0,74 | 0,55 | 0,90 | 0,91 | 0,89 |
| Poland | PKP Cargo SA | 10/2013 | 0,04 | 0,49 | 0,83 | 0,60 | 0,54 | 0,63 |
| Morocco | Societe d'Exploitation des Ports-Marsa Maroc | 07/2016 | 0,16 | 1,18 | 2,24 | 1,61 | n/a | n/a |
| South Korea | Korea District Heating Corp | 01/2010 | 0,13 | 0,28 | 0,27 | 0,50 | 0,19 | 0,25 |

Source: Datastream



However, there have been a few exceptions to the rule. For example, Egypt tried to list a series of small SOEs, mostly operating in the manufacturing sector (see Box 4). Unfortunately, those listings have been too small to incite broad retail and foreign investor demand. As a result, liquidity has been extremely low. In contrast, the largest SOE listings — mainly telecom and oil companies — saw the highest levels of liquidity independent of the SOE's home country. Thus, size matters greatly for liquidity.

Further, we find that SOEs with a lower foreign investor participation also experience lower liquidity levels. For instance, WAEMU's Sonatel saw only a very small percentage of its listing being absorbed by foreign investors. As a result, the bid-ask spread has been relatively wide, with a monthly average of 200 bps. Similarly, where countries saw a limited participation of foreign investors in the locally listed SOE shares due to cross-listings or ADRs/GDRs (e.g., Argentina, Egypt), liquidity levels have been subdued.

Estimates show that where EMDE shares are cross-listed, on average, one-third of the total trading volume migrates to the international exchanges. An extreme example is Kazakhstan, where the trading volumes of its largest listed company, Kazatomprom (~ US$ 3 billion market capitalization), have been concentrated at the London Stock Exchange, resulting in MSCI's inclusion of Kazatomprom shares listed at the LSE rather than those outstanding at the KSE. In return, this created significant long-term problems for Kazakhstan's own equity market development and its potential upgrade to emerging market status.

Lastly, Morocco's SOE listings highlight the importance of a well-diversified investor base that spans retail, foreign and domestic institutional investors and that is not captive to either of those three. For example, shares of the port company Marsa Maroc have seen relatively wide bid-ask spreads (see Exhibit 15) despite large investor demand during the IPO and an overall positive share performance. Although the lack of liquidity is likely the result of a combination of factors, one reason has been the absence of a well-diversified investor base. Morocco benefits from relatively large domestic institutional investors with a strong appetite for equity. At the same time, foreign and retail investor participation has been relatively weak over the past 10 years, accounting, on average, for just about 10 percent and 17 percent of total trading volume respectively.[26] Especially retail investors have been retreating from the market since 2007, a result of a loss in market confidence partially due to some incidences of market misconduct (see Box 10). In consequence, many SOE shares, including those of Marsa Maroc, are currently held by the domestic institutional investors, especially insurance companies and pension funds, which tend to pursue a buy-and-hold investment strategy that reduces liquidity.

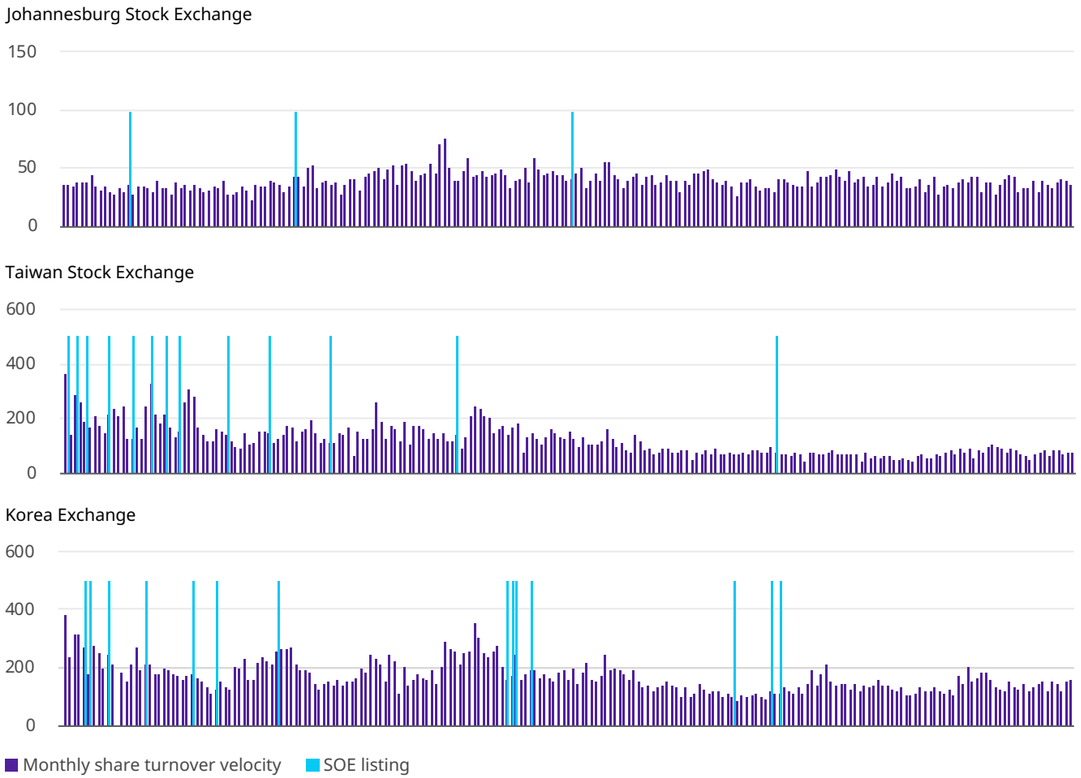
The significance of a well-diversified investor base to ensure adequate levels of secondary market liquidity cannot be overstated. Especially in frontier markets, foreign investors make up 60–80 percent of trading volume at local stock exchanges. Similarly, in many EMDEs retail investors account for a significant share of total trading volume — for example in Egypt, retail investors account for about 64 percent and in Thailand for about 59 percent of total trading volume.[27] Thus, the absence of those foreign and retail investors can have a knock-on effect on share liquidity. At the same time, a too-high exposure to either of those two investor groups is likely to increase excess volatility and, so, it requires a domestic institutional investor base that can counterbalance some of those trends and create a certain level of stability. Therefore, governments have the difficult task to strike the right balance. EMDE governments that have succeeded in doing so have usually encouraged a broad participation across all three investor groups while ensuring a well-functioning market infrastructure that can attract and manage large transaction volumes.

**Beyond individual stocks, we find that SOE listings have improved overall market liquidity only where SOE listings encouraged private companies to join.** Looking at the changes in turnover ratio in Poland, South Africa, Taiwan and South Korea during 2002-2019 (see Exhibit 17a and 17b), we find no significant correlation between SOE listings and turnover ratio except for Poland. By encouraging large, private companies to list, Poland has been able to increase its turnover ratio as part of its SOE listing program. Such demonstration effects did not materialize in any of the other analyzed markets, where turnover ratios remained largely unchanged.

26 www.ammc.ma/fr/publication/donnee-statistique

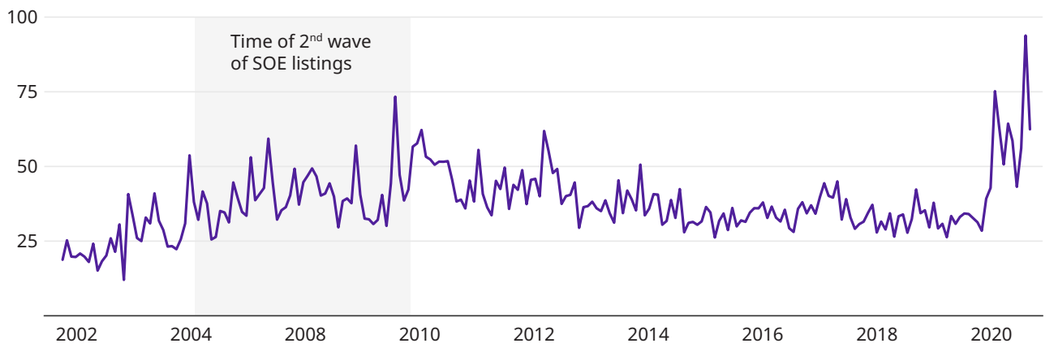
27 www.world-exchanges.org/storage/app/media/research/Studies_Reports/ WFE%20Enhancing%20Emerging%20Market%20Retail%20Trading%20Report%20-%203%20August%202017.pdf

**Exhibit 17a: SOE listing impact on turnover velocity for South Africa, Taiwan and South Korea (in percent)**




Source: WFE — World Federation of Exchanges

**Exhibit 17b: SOE listing impact on turnover velocity in Poland (in percent)**




Source: WFE — World Federation of Exchanges



The results described previously are more nuanced than findings in the empirical literature that detect a positive correlation between SOE listings and market liquidity in advanced economies.[28] However, there are several factors that may explain the discrepancy:

- One large contributing factor is likely to be the absence of a large and diversified investor base in EMDEs. Liquidity usually requires many investors with different investment horizons and risk appetite. Hence, the most liquid markets are often those where diverse types and formats of investors can be found, including foreign investors (e.g., hedge funds, foreign pension funds), retail investors (e.g., HNWI and middle-income households) and domestic institutional investors (e.g., domestic mutual funds, insurance companies and pension funds). Such a diverse investor base rarely exists outside advanced economies.

- Moreover, we find liquidity to be sticky. Often investors who bought into a SOE listing do not expand their portfolio into other securities listed at the local exchange. In other words, investors' appetite to trade in other local securities does not increase with exposure to SOE shares. The effect is prevalent in most EMDEs as can be shown by the high concentration of market turnover within few shares. For example, across our case study countries, median turnover concentration of the top 10 companies stood at about 70 percent of value traded.[29] Further, foreign investor liquidity is often driven by global indices. However, those indices include only the largest companies and not entire markets.

- Capital markets that are more developed, such as South Africa, Taiwan and South Korea, are likely to see no or only weak effects because their functionality and attractiveness is already well-known to investors and private companies alike.

In summary, SOE shares show an adequate level of liquidity across the majority of our case study countries. However, there seems to be no spillover effect to market liquidity except where SOE listings have had demonstration effects on private companies.

## Spillover effects into the non-sovereign debt markets

In addition to their effect on the size and liquidity of equity markets, SOE listings can contribute to the development of non-sovereign debt markets. The empirical literature suggests that when private ownership increases, the proportion of bonds in a firm's debt structure increases, too.[30] SOEs tend to prefer bank financing over capital markets because they often enjoy preferential lending terms, especially in countries with a strong state presence in the banking sector. For example, Boubakri et al. (2019) find that bank spreads for SOEs are up to 57 bps lower than bond spreads and that SOEs, in general, enjoy cheaper financing — up to 80 bps lower than comparable private companies. The lower funding costs are often the product of explicit or implicit government guarantees.[31]

However, with an increase in private ownership, the access to preferential lending may disappear and the need for more and alternative financing grows — this seems especially true for privatized SOEs.

The change in ownership may also affect the SOE's credit spread. As Exhibit 17 shows, a partial divestment can increase funding costs because investors may demand compensation for the rise in uncertainty over the government's willingness to rescue the company in the case of default. Yet, once a definite ownership structure has been established in favor of private owners, borrowing costs can drop significantly, below SOEs' prior levels, because investors may expect lower credit risks due to improved governance and firm performance. Therefore, we should see an increase in bond issuances, especially by SOEs that have been privatized.

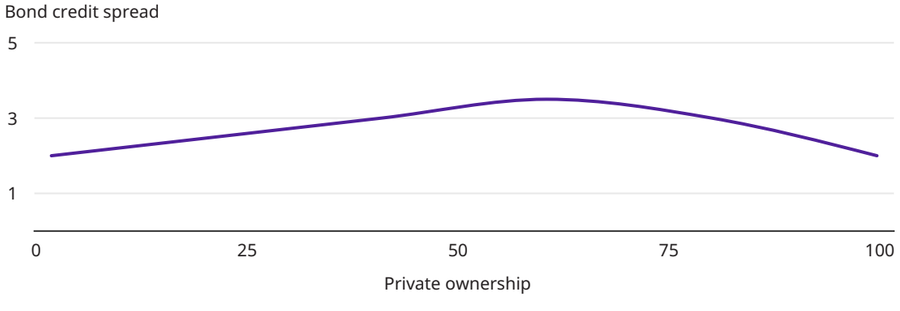
Our case study analysis corroborates the results of the empirical literature but finds them to be context-specific. Across our case study countries, only four SOEs have

28 See Bortolotti et al (2005); Pagano (1993); Subrahmaniam and Titman (1999).
29 WEF data.
30 Barbosa et al. (2012).
31 See also Borisova and Megginson (2011).

frequently issued bonds before and after their IPO: Banco Hipotecario, Ecopetrol, Korea District Heating Corp, and Petrobras.

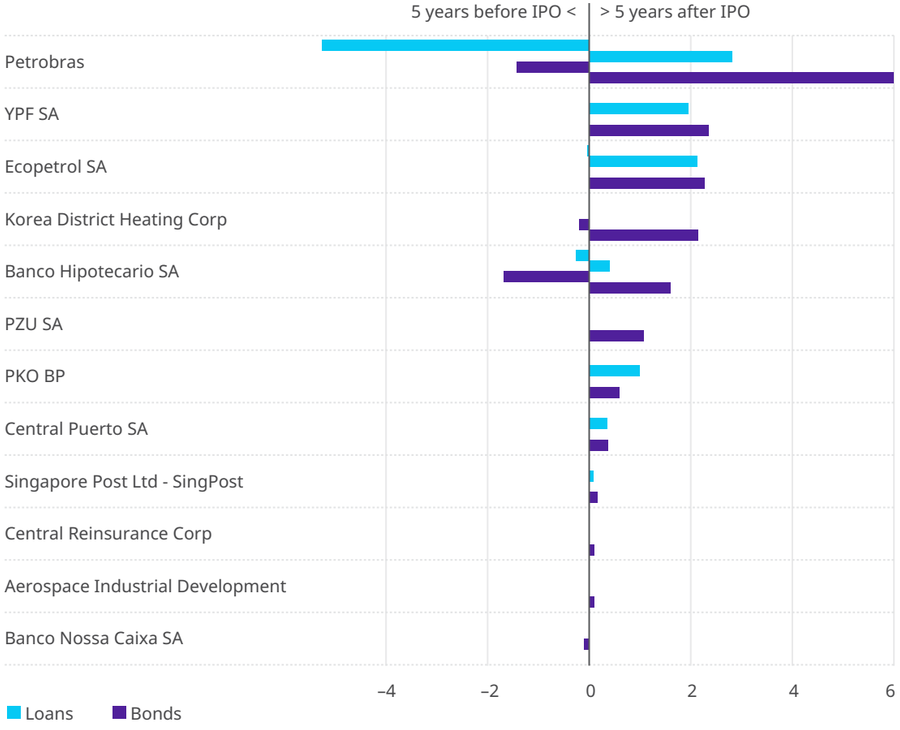
Except for Banco Hipotecario, all have grown their bond issuance volumes post-listing (see Exhibit 19).

**Exhibit 18: Theoretical relationship between credit spreads and ownership (in percent)**




Source: Theoretical relationship proposed in Borisova and Megginson (2011) Borisova, G., & Megginson, W. L. (2011). Does Government Ownership Affect the Cost of Debt? Evidence from Privatization. Review of Financial Studies, 24 (8), 2693-2737. doi:10.1093/rfs/hhq154

**Exhibit 19: SOE debt issuances pre- and post-listing (US$ billion)**




Source: Dealogic

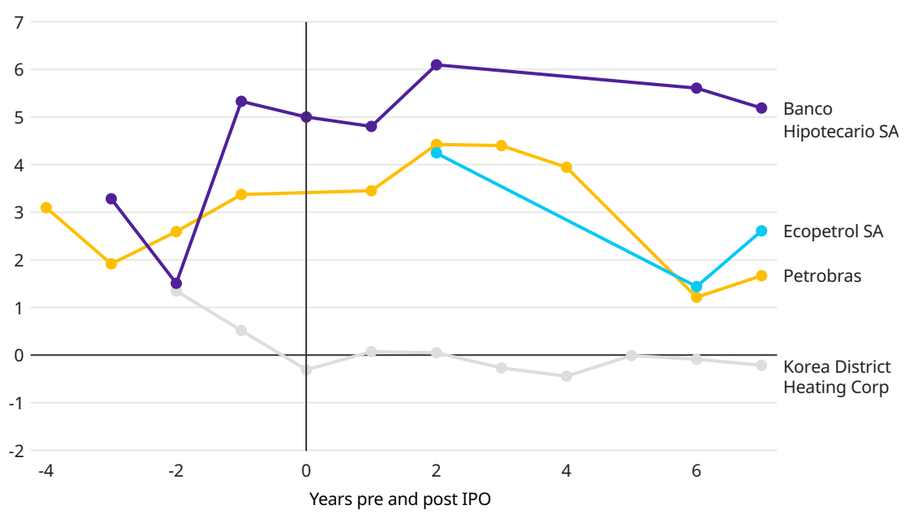


Brazil's Petrobras is an example of how a public offering can influence an SOE's debt structure. In the five years following its IPO, Petrobras reduced its reliance on bank loans and significantly increased its bond issuances — supported through the Brazilian Development Bank (BNDES), which included the company's debt issuances in its long-term yield curve development program. The first local currency bond was issued in 2002, just two years after the initial listing.

Several SOEs with no prior bond issuances started issuing bonds after listing (e.g., YPF, PZU SA, PKO BP and Central Puerto SA). However, many of these bond issuances occurred several years after the IPO and may not be a direct consequence of the SOE listing. Overall, there are many factors at play but the functionality of the non-sovereign debt markets appears to matter greatly for spillover effects to materialize. In all countries where SOEs' bond issuances increased post-listing (Brazil, South Korea, Colombia and Argentina) the non-sovereign debt market functioned relatively well and could offer equal or more attractive interest rates than the banking sector. The latter is only possible where sovereign interest rates are sufficiently low for corporate securities to become attractive vis-à-vis sovereign securities.

We could not identify any clear pattern for the impact of SOE listings on credit spreads (see Exhibit 19). For Banco Hipotecario and Petrobras, it seems that the uncertainty around governance and operational performance after restructuring and IPO initially increased credit spreads but then dropped after a track record had been established (both in terms of operational and financial market performance). For Korea District Heating, credit spreads improved immediately post-listing while Ecopetrol only started issuing bonds two years post-listing.

**Exhibit 20: SOE credit spreads of selected SOEs pre- and post-IPO (change in bps)**




Source: Dealogic

## Investor base expansion

Apart from boosting market capitalization, SOE listings' most considerable impact on capital markets development is on the investor base, especially retail and foreign investors.

### Retail investors

According to empirical studies, SOE listings can significantly raise the number of retail investors in a market. A single SOE listing can yield over one million shareholders, particularly in countries with little tradition of retail investor share ownership.[32] Thus, governments like to use SOE listings to introduce a "culture" of equity investing and gain popular support for divestments (see Box 5).[33]

At the same time, empirical studies also show that such large shareholder bases are rarely sustainable. SOE listings with more than 100,000 investors tend to see massive sell-offs during the first day of listing.[34]

**Box 5. Retail investor participation in SOE listings in Kenya, WAMU and South Africa**

**Kenya:** One of the largest public offerings in the history of the Nairobi Stock Exchange (NSE) was the privatization of Kenya Airways in 1996 (listed simultaneously on the NSE and the London Stock Exchange). In 1996, the Kenya Airways privatization team obtained the World Bank Award for Excellence for the divestiture of state-owned enterprises. The operation enabled Kenyan institutions and individuals to acquire 34 percent of the shares issued and international investors 14 percent. The airline's employees were able to enroll in a special program to purchase three percent of the shares. Overall, as many as 110,000 shareholders participated in the domestic offering.

**WAEMU**: Initially, 35 Ivorian companies were listed on the BRVM (including 14 former SOEs), amounting to a total capitalization of US$ 5.14 billion. The listing of the first non-Ivorian company (the Senegalese telecommunications group Sonatel), in 1998, raised the total market capitalization by more than 20 percent. The 17 percent stake in Sonatel offered for sale was considerably over-subscribed. Two-thirds of this block of shares were reserved for Senegalese nationals and institutions, leading to the participation of 9,000 Senegalese individuals who paid a total of CFAF 17 billion (US$ 30 million). This came as a surprise, as low individual participation had been expected based on Senegal's generally low savings rate. In 2001–2002, Sonatel shares offered considerable returns to investors based on the company's exceptional financial performance.

**South Africa:** The Khulisa offer consisted in targeting low-income earners by proposing a lock-up period of three months, an individual participation cap of R5000 (US$ 725) and a loyalty bonus for individuals who retained their shares for at least two years. On the first day of quotation, 127,000 South Africans invested in Telkom, 60 percent of them through the Khulisa offer. The Telkom IPO (the first IPO of a public enterprise in South Africa) should be considered the first real success story of the black empowerment strategy, since, according to the empowerment rating agency Empowerdex, in late 2002 black investors controlled less than 10 percent of the JSE listed stocks.

32 Boutchkova and Megginson (2000).

33 Swaminathan (2004); Bortolotti and Pinotti (2003).

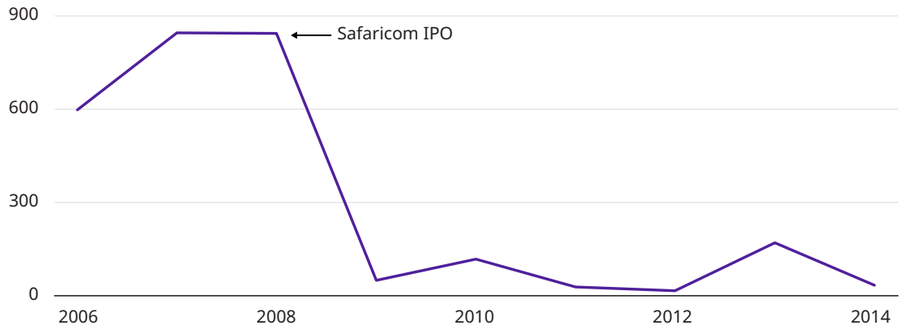
34 This is also true for private company IPOs with a large retail shareholder participation. For more details see Boutchkova and Megginson (2000).



Across our case study countries, we find supporting evidence for both arguments. On the one hand, SOE listings were able to attract an extremely large retail shareholder base. For example, in the case of Kenya's Safaricom IPO, more than 800,000 retail investors subscribed, many of them first-time investors (see Exhibit 21). In Singapore about 1.3 million retail investors participated in the Singtel IPO; in Poland, the floating of PZU and Tauron Polska Energy allowed the country to grow an already large investor base from 1.1 million account holders to 1.4 million account holders (see Exhibit 22).

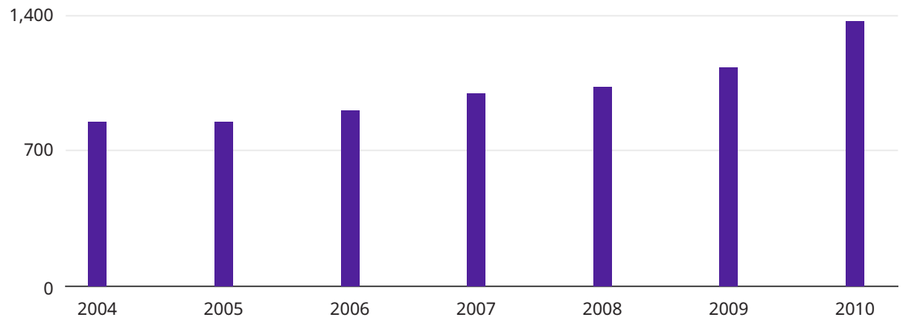
Unfortunately, most EMDEs that have seen their retail investor base boom on the back of SOE listings have also experienced large sell-offs during the first days of trading (also referred to as flow back). For example, Kenya's KenGen and Kenya Airways saw large sell-offs during the first day of trading. Because the government heavily underpriced both listings, under-subscribed investors — mostly foreign and domestic institutional investors — that believed the shares were still relatively cheap, bought them in the secondary market. As a result, the share price increased, further encouraging retail investors to sell and quickly crystallize capital gains. Then came the time when the foreign and domestic institutional investors stopped buying while retail investors continued to sell. The share price fell below the issue price — and in the case of KenGen, it never fully recovered, punishing long-term investors (see more details in the wealth distribution section).

**Exhibit 21: New accounts opened during Safaricom IPO (in thousands)**




Source: CMA Kenya

**Exhibit 22: Total number of brokerage accounts in Poland (in thousands)**




Source: KDPW (National Depository of Poland)

Even if sell-offs by retail investors are not unusual, measures can be taken to prevent them from growing too large and potentially hurting the long-term development of local capital markets. These measures include:

- **Aiming for a diversified investor base during the IPO.** Although SOE IPOs provide governments with a good opportunity to redistribute some of the wealth produced by those companies, reserving 30–40 percent of an IPO allocation to foreign and domestic institutional investors is likely to enhance share price stability due to their different investment horizons. Especially domestic institutional investors can provide a floor to valuation and thus maintain a certain level of stability.

- **Making use of stabilization techniques, such as the green shoe.** A green shoe is an over-allotment facility. Depending on the stock price's behavior, the arranger can either exercise his green shoe and sell more shares to meet excess demand or buy shares to mop up excess supply, thereby stabilizing the price.

- **Creating retail investor schemes with incentives for long-term investing.** Several EMDE governments (e.g., South Korea, Singapore and Peru) have created dedicated retail investor programs through which they offered additional discounts or shares if retail investors would hold on to their investments over a certain period (usually 3–5 years).

- **Sustaining dividend payments and offering them as a stable source of income (where possible).** For specific industries, such as telecom or oil and gas, dividend payments can be used as an additional incentive for retail investors to keep a stock over a longer time. A good example is Singapore, where Singtel shares paid 1.5–5 percent dividend yield over a 10 year period.

Singapore and Poland are two good examples where governments have used these measures to maintain the growth momentum created by SOE listings and develop their retail investor base in a more sustainable way. In Poland, domestic pension funds have provided a secure source of demand for listings, stabilizing share prices and providing confidence to retail investors. Further, listing a series of SOEs over a sustained period has ensured that initial investor excitement is maintained over a longer period, allowing retail investors to gain confidence that equity investments can be part of their savings strategy — in some representative public listings, like Poland's divestment of PGE in 2010, retail investors bought up to 25 percent of the equity.[35] On the other hand, Singapore has used a combination of incentives, including a dedicated retail investor scheme and attractive dividend payments to sustain Singtel's large shareholder base.

But even where EMDEs have seen flow backs, it may not necessarily lead to noticeable negative effects on the retail investor base. Some of our interviewees highlighted that those large sell-offs should not necessarily be interpreted as a sign of investor dissatisfaction but rather a reflection of the more short-term investment horizon of retail investors. Some exchanges find that retail investors tend to return for new SOE listings provided they have made a positive market-adjusted return during previous listings (see more information under chapter wealth distribution). For example, in Kenya, when the government listed more than 10 SOEs, retail investor participation was oversubscribed for all of them. At the same time, we believe that such incentives can create misleading expectations, whereby retail investors expect that every IPO will carry short-term gains. However, this expectation is likely to be disappointed as soon as a public offering discontinues the tradition of heavy discounts. Kenya's retail investors had to learn this lesson the hard way. The Safaricom IPO in 2008 was only marginally underpriced — partially due to greater interest from foreign and domestic institutional investors — and even fell below the issue price shortly after the IPO. As the short-term gains did not materialize, many retail investors were deeply disappointed with the Safaricom IPO, resulting in a drop in retail investor participation that is still evident today.[36]

Where retail investors have had a negative investment experience and suffered losses during a market downturn, they have been reluctant to return to the market. Compared to institutional investors, retail investors tend to be more sentiment-driven in their investment decisions. A single experience of loss, particularly if coupled with a perception of misconduct, may cause retail investors to exit the market for a very long time. In these cases investors often liken capital markets to gambling in a casino rather than a wealth creation mechanism.[37] We find evidence for such behavior across several case study countries, including Kenya (after the Safaricom IPO) and Morocco. In the case of Morocco, retail investor participation initially rose as part of the SOE listing program in the 1990s before collapsing as a result of the market's downturn in 1998. Retail investor participation slowly recovered in the mid-2000s thanks to a renewed increase in SOE and private company listings. Unfortunately, retail participation dropped again to historical lows when retail investors incurred losses as part of various real estate scandals. Therefore, creating a sustained positive investor experience is extremely important for the development of the retail investor base over the long term.

In conclusion, SOE listings provide an excellent opportunity to grow the retail investor base, especially in countries with little tradition of equity investing. Yet, governments and market stakeholders should aim to provide the right incentives to minimize the risk of large sell-offs and incentivize longer-term holding periods.

### Foreign investors

SOE listings also offer an excellent opportunity to attract foreign investors, most of which require a minimum investment size to make their efforts cost-effective. This is also showcased by the fact that a large proportion of the global indices is constituted of SOEs. For example, in 2018, SOEs accounted for about 59 percent of the MSCI emerging market index in energy and 44 percent in the financial sector.[38] Across our case study analysis, we find that foreign investors often use the opportunity of a SOE listing to either acquire first-time exposure in a market (especially in frontier markets) or expand their portfolio allocation (particularly in larger emerging markets). However, for those effects to be long-lasting, governments should seek to: i) develop a pipeline of SOE listings which would allow foreign investors to diversify their portfolio, and ii) create an overall foreign investor-friendly environment, including guaranteed currency convertibility and tax neutrality (see Box 13).

When comparing foreign investor participation across EMDE SOE listings, we find that the inclusion of SOE shares in a global index has a positive effect. For example, comparing foreign investor participation in Kenya's KenGen (not included in a global index) with that of Safaricom (included in MSCI frontier index), foreign investor participation is significantly higher in Safaricom (see Exhibit 23). We find this pattern to be true across all our case study countries.

Contrarily, cross-listings and ADRs/GDRs tend to hurt foreign investor participation in the local equity markets. Due to an information asymmetry and home bias, foreign investors usually prefer investing in their home markets. Thus, making EMDE shares available at international financial centers, such as London or New York City, will reduce foreign investors' incentive to invest locally. Often this creates a vicious cycle as liquidity will move abroad, further reducing the attractiveness of the local market, including the opportunity to get SOE shares included in a global index.

Therefore, whenever possible, governments should refrain from cross-listings and ADRs/GDRs and undertake the required capital markets reforms that would allow them to attract and manage a large number of foreign investors in their local markets.

Lastly, we find that despite the benefits that foreign investor participation brings, foreign participation should be managed with care. Particularly in frontier markets with no or only a small domestic institutional investor base, foreign investor participation can lead to excess volatility, which in return can damage market confidence, especially of risk-averse investor segments.

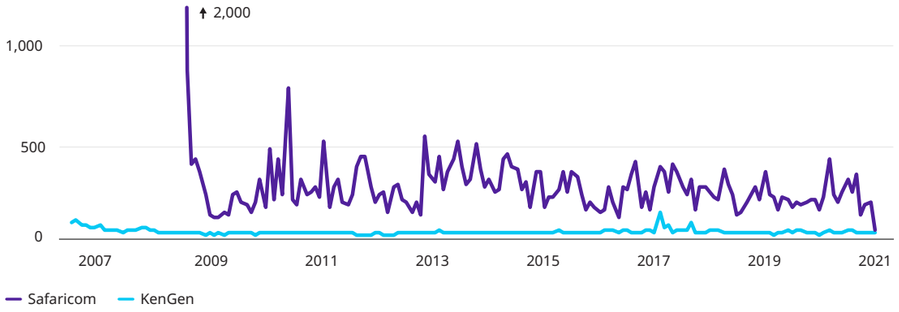
This risk is exacerbated in countries with a volatile macroeconomic environment. Nigeria is an example where a volatile macroeconomic environment combined with a stagnating reform process has led foreign investors to focus on short-term returns. Hence, foreign flows have fluctuated tremendously (see Box 6).

35 www.globalcapital.com/article/k4tx4h0qmldq/polish-exchange-leads-new-wave-of-cee-ipos
36 www.businessdailyafrica.com/bd/news/267-000-retail-investors-exit-safaricom-since-ipo-2265398
37 Alan (2012).
38 Economist (2012).

At the same time, it is likely to narrow the investor base to those investors with a higher risk tolerance, such as hedge funds. Thus, countries that have used SOE listings to kick-start their capital markets development have often embedded their divestment programs into a wider reform agenda aiming to improve the overall economy, including strengthening the macroeconomic environment.

**Exhibit 23: Foreign investors' trading volumes — KenGen versus Safaricom**

Trading volume — KES (by millions)




Source: Refinitiv



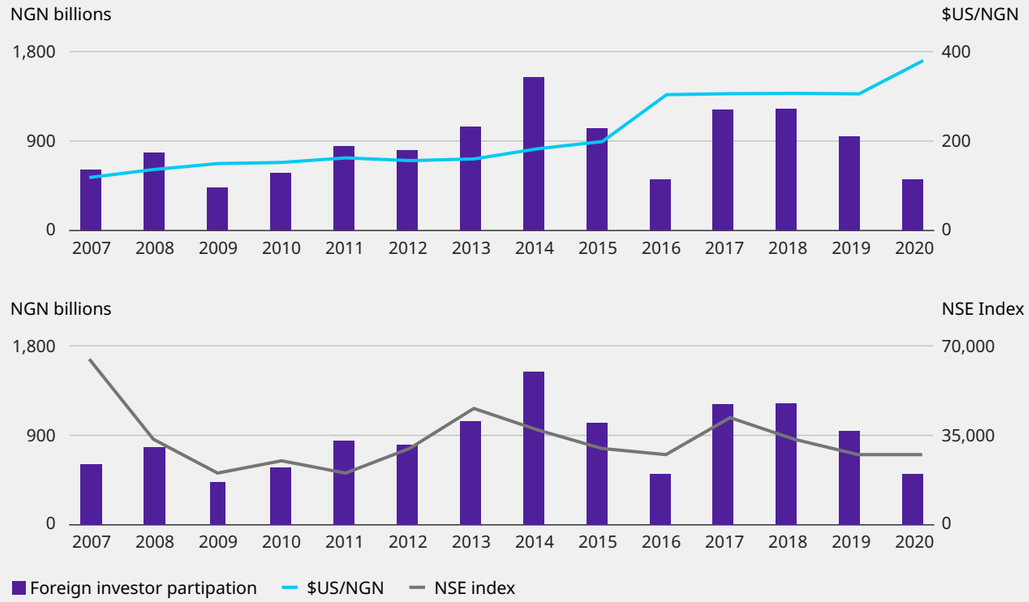
**Box 6. The importance of macro-economic stability — the example of Nigeria**

Nigeria's privatization program during the 1990s has been an important component of its structural adjustment program (SAP) with the IMF, into which Nigeria entered as a result of large macroeconomic turbulence during the 1980s. The SAP included two main components: stabilization of the macro-economic environment, and reform of the economy, including reducing the government's footprint.

The privatization program's integration within the broader reform agenda aimed at strengthening the macroeconomic environment has allowed Nigeria to successfully list a series of SOEs. Among those were Okomu Oil Palm, Flour Mills of Nigeria and African Petroleum (now Ardova Plc), all of which saw substantial foreign investor participation. Yet, a continued volatile macroeconomic environment combined with stagnating reforms led foreign investors to apply short-term oriented investment strategies. In return, foreign investor participation fluctuated significantly and led to substantial stock price volatility, sending a warning of speculation rather than a signal of market efficiency to Nigeria's private companies. Consequently, SOE listings failed to incentivize any increase in private company share flotations. Likewise, the perception of Nigeria's equity market as a place for speculation rather than long-term investing is likely to have hindered the development of a large retail investor base.

Those same challenges persist in Nigeria today, hindering the development of its local capital markets as a place for long-term savings and investments. Due to macroeconomic volatility, foreign investors continue to focus on short-term gains rather than long-term investments. For example, during the large currency devaluation in 2015–2016 — engineered by the Central Bank to withstand a fall in global oil prices — foreign flows reversed before returning quickly to take advantage of the sudden drop in share prices (see Exhibit i, ii). Thus, Nigeria's continued volatile macro-economic environment does not necessarily reduce foreign investor appetite but narrows it to investors with a higher risk appetite and a shorter-term investment horizon. Contrarily, it prevents the participation of long-term oriented capital, such as foreign pension funds and insurance companies.

**Exhibit i: Foreign flows to NSE**




Source: SEC Nigeria

# SOE LISTING'S IMPACT ON ECONOMIC DEVELOPMENT

**The overall positive effect of SOE listings on capital markets development will have to be viewed in the socio-economic context of a country.**

Many SOEs not only provide crucial public goods and services but also employ a large share of the population. In the following chapter, we summarize the effects of SOE listings on i) firm performance, ii) quality of service delivery, iii) wealth distribution, iv) employment and v) fiscal revenues. As mentioned in the introduction, we do not aim to provide an exhaustive discussion on the respective topics. Rather, our goal is to help policymakers gain a better understanding of the effects of SOE listings on capital markets development and beyond. We hope that this provides valuable input for government decision makers for well-informed decisions about the design of their future divestment plans.

## Firm performance

To understand the impact of listings on a SOE's performance, we have complemented the empirical literature with an assessment of 21 SOEs operating across the five sectors with the largest divestments in our case study countries. We studied the following financial metrics, five years pre- and post-listing: i) profitability and returns, and ii) leverage and capital funding. Overall, we find that the impact of SOE listings on firm performance varies greatly, depending on various factors, including the sector, the ownership structure, the choice of management and the strength of market institutions. However, similar to the effects on capital markets development, the reader should treat these results with care as the analysis may contain biases (e.g., selection bias, endogeneity) that could not be fully controlled for.

The empirical literature that has analyzed the relationship between SOE listings and firm performance shows a huge variation of results, from slightly negative to highly positive. For example, Megginson (2005) reviewed more than 300 empirical analyses on privatization, including SOE listings, and concluded that the impact is overall positive. Similarly, Dinc and Gupta (2006) find that SOE listings in India increased firm profitability and productivity — even where governments continue to hold a controlling share. In contrast, Aharony et al. (2000) find that the return on assets peaks in the IPO-year but then declines thereafter for Chinese SOEs that listed shares during 1992–1995. Other studies find that SOE listings improve firm performance but only where listings lead to a transfer of ownership and control.[39]

The large divergence in results suggests that there are various factors at play that influence SOE listings' impact on firm performance. As we will show below, there are at least four factors on which the impact of SOE listing on firm performance depends: (1) choice of the sector, (2) ownership structure, (3) choice of management and (4) strength of market institutions.

Our analysis shows that the impact of SOE listings on firm performance varies by sector. For example, controlling for industry trends, the EBIT margin of listed SOEs rises post-listing for all sectors but oil and gas. Post-listing performance for companies in that sector seems to weaken mostly in cases in which governments have failed to open the sector to market competition. In most cases, except for the energy sector, operational performance improved already before listing when governments started to restructure their SOEs (see Exhibit 24).

39 Sun and Tong (2003).



For the banking sector, we find that in addition to an improved EBIT margin, the ratio of non-performing loans in a loan portfolio (NPL, a measure of asset quality) and the loan-deposit ratio (a measure of capital funding) improved (see Exhibit 25). In conclusion, efficiency improvements seem to be greatest for those sectors that operate under market competition or where urgent restructuring was imperative as SOEs were being disrupted by technology (e.g., telecommunications). In contrast, the impact is smallest for sectors dominated by natural monopolies, such as oil and gas and energy.

The empirical literature identifies the ownership structure to be one of the main factors that influence the impact of SOE listings on firm performance. Who controls a company seems critical to a firm's performance post-listing. For example, efficiency improvements seem larger for privatized companies than those that remain under majority-ownership of the government.[40] Privatization often leads to changes in the board and management composition. The new directors and managers bring new experience, new practices, technologies and know-how.[41] Particularly, foreign ownership has been associated with stronger productivity improvements. For example, Boubakri, Cosset, and Saffar (2013) find that foreign ownership is positively related to corporate risk-taking and that this effect is even stronger in countries with better institutions.[42]

In contrast, governments that continue to hold a significant share in SOEs have often struggled to refrain from political interference (see Box 10) or imposing hard budget constraints. Thus, performance improvements have been weaker or did not materialize at all.

Lastly, we find that corporate governance and market institutions matter, albeit to a lower than expected degree. In theory, a good corporate governance framework reduces agency costs and provides the right incentives for managers to improve a firm's performance. In practice, we find this to be true only in rare cases.

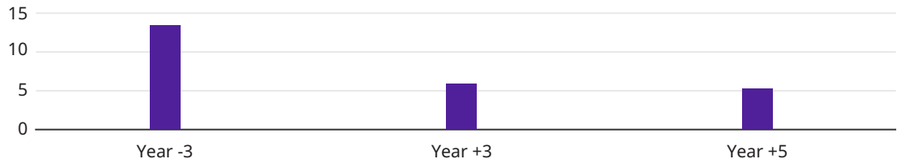
**Exhibit 24: EBIT Margin across sectors pre- and post-listing**

| Sector | Year -3 | Year | Year +3 |
|---|---|---|---|
| Utility and Energy | 19 | 17 | 22 |
| Transportation | 19 | 21 | 23 |
| Telecommunications | 20 | 28 | 31 |
| Finance | 26 | 36 | 36 |
| Oil and Gas | 10 | 22 | 14 |

EBIT margin improvement EBIT margin stability EBIT margin deterioration

Source: Capital IQ

**Exhibit 25: NPL ratio (in percent)**




Source: Dealogic, World Bank WDI

40 Megginson (2005).
41 Boutchkova and Megginson (2000).
42 Du et al (2014); Clarke et al. (2005).

For example, an OECD study found that in India, firm performance improved even where governments sold only a minority interest because the corporate governance framework mandated the appointment of at least one independent board member. China found an innovative way to use market mechanisms to incentivize SOE managers to increase firm performance despite continued government-ownership (see Box 7). However, contrary to those examples, we find no or only marginal improvements across most listed SOEs across our case study countries that remained majority government-owned — with the exception of Singapore. There the government has been able to create an efficient "firewall" between itself and its SOEs by setting up a holding company (see Box 11). Therefore, we conclude that listing alone seems to have only a weak impact on firm performance in most EMDEs.

Compared to corporate governance, we find the choice of highly qualified management to have a greater impact on firm performance.

Argentina and Colombia provide us with two good examples: Argentina's success in restructuring YPF has been ascribed largely to the appointment of José Estenssoro, a former executive of Hughes Tool Company in Latin America and Argentine oil entrepreneur. During his leadership, YPF improved its financial bottom line from a loss of ~$1 billion in 1991 to a profit of $1 billion in 1993.[43] Similarly, in Colombia, Javier Gutiérrez has been the central figure that laid the foundations of Ecopetrol's turnaround and ultimate listing in 2006.

In summary, the overall impact of SOE listings on firm performance largely depends on whether or not a listing is accompanied by a change in ownership and management.

The effect from listing itself — through the corporate governance framework and market institutions — seems relatively weak and only successful under certain conditions (e.g., number of independent directors, effective incentive systems).

**Box 7. SOE listings in China — Incentives to improve firm performance**

To reduce entrenchment risks in a weak institutional environment, China created a staged listing process that incentivizes managers to increase firm value in government-controlled companies.

In the first stage, the SOE is divided into equity share blocks, with a portion of the shares being sold to the public. These shares are tradable on the stock market. The remainder continues to be controlled by a local government or other public entity and is non-tradable. In rare cases, those non-tradable shares are sold to foreign, private companies.

In the second step, the government allows the non-tradable shares to become tradable after a defined lockup period. On the unlock day, a shareholder with non-tradable holdings unlocks a portion of their shares and locks up the rest for another period. The unlocking of non-tradable shares is based on specific guidelines. By making the unlocking of non-tradable shares performance-dependent, the government can induce sufficient investments from a SOEs' controlling shareholders in the first stage of the divestment. The government allows only firms that have undergone sufficient restructuring to unlock their non-tradable shares.

The mechanism through which the government shareholders induce corporate change, is the use of promotions and demotions of CEOs. The Chinese Corporate Law requires CEOs to be appointed and monitored by the board of directors. As a result, government shareholders can exercise control through their shareholdings and associated authority to appoint or dismiss SOE CEOs.

According to Jiang and Wang (2015), this staged process achieved success. Analyzing SOEs that went through the staged listing process, they found a positive impact not only on CEO turnover but also on return on assets, industry-adjusted sales growth rate and Tobin's Q.

43 Gosse and Yanes (1998).



## Provision of goods and services

Although governments should strive to improve SOE efficiency, the objective should not be limited to profitability but include targets on access to and quality of goods and services provided. There is a widespread concern that SOE divestments in the infrastructure sector will lead to price increases and consequently limit access to goods and services for lower-income households. In the following, we provide an overview of the most recent findings of the empirical literature. Due to data limitations, our case study analysis is unfortunately limited to anecdotal evidence obtained through our interviews.

Empirical literature shows that the impact of SOE listings on the provision of goods and services is not systematic but depends on the government's willingness to address fundamental sector inefficiencies. For example, Gasmi et al. (2013) note that SOE listings in the telecommunication sector can expand and ameliorate network coverage if coupled with sector reforms that create strong institutions — first and foremost, an independent regulator. Similarly, the study of Zhang, Parker, and Kirkpatrick (2008) provides an econometric assessment of the impact of privatizations, including SOE listings, on the quality and accessibility of power services using panel data for 36 developing and transition countries over the period 1985 to 2003. They find that while privatizations improve firm performance, they lead to improvements in the quality and accessibility of the goods and services provided only if accompanied by the creation of strong institutions, quality regulation and enforcement.

In sectors where SOEs and privatized firms operate under market competition, prices are likely to remain stable or decrease even in the absence of government financial support. For example, in Côte d'Ivoire, connection costs dropped by 20 percent following the privatization of CI-Telecom, which coincided with the entry of several competitors in mobile telephony and internet services. A similar example can be found in Senegal (see Box 8). In contrast, SOE listings in the power and water sectors have frequently led to higher tariffs as governments in EMDEs have failed to address fundamental sector inefficiencies. As a result, public monopolies were simply replaced by private monopolies, often accompanied by increases in tariffs.

Furthermore, our case study evidence suggests that even though proceeds from SOE listings are often transferred to the government budget, the listing allows SOEs to access the local capital markets for future investments. A good example is Kenya's KenGen. In 2016, the company issued rights worth KES 28.7 billion to fund new wind and geothermal plants that would generate an additional 720 megawatts of electricity. Therefore, we conclude that a combination of sector reforms combined with SOE listings could maximize the impact on delivery of public goods and services.

## Employment

SOE listings are often perceived to result in massive job cuts. This perception has often led to protests by trade unions, which can be one of the most vehement opponents to SOE listings and privatization. However, results from the empirical literature and our case study analysis cast doubts on this perception. It appears that the listing of a SOE in itself does not affect employment. But where SOE listings include a prior restructuring of a company, the effect can be highly negative — unless the effects can be off-set to some degree by alternative employment opportunities. In the following we analyze the short- and long-term effects of SOE listings on employment, and investigate some of the conditions under which SOE listings have led to lay-offs and long-term unemployment.

Even though selling SOEs to outsiders undoubtedly induces deeper restructuring than continued state ownership, several empirical studies argue that when sales grow fast enough, the increase in labor productivity can be offset — causing employment to remain stable or increase. For example, recent research using large data sets over long periods of time in Hungary, Romania, Russia and Ukraine found no evidence for strong negative effects on employment or wages from any form of privatization, including SOE listings. Where privatization and SOE listings lead to employment shedding, other welfare benefits can be generated as the remaining workers are usually paid more. Where the SOE operates in a

strategic infrastructure sector, increases in the firm's performance can accelerate a country's economic growth and create employment opportunities in other sectors.[44]

On the other hand, various studies show that privatization and SOE listings can lead to large lay-offs, especially early on after a listing. Before a listing, employment shedding is highly likely at SOEs that are unprofitable or require restructuring, such as in the case of Argentina's YPF (see Box 1). Workforce reduction can cause significant opposition, especially in countries where the prospects of an alternative employment opportunity are scant. Lay-offs can lead to long-term unemployment and increased poverty levels, particularly in countries with highly concentrated wealth structures and an underdeveloped private sector. For example, in the Democratic Republic of Congo, the privatization of Gecamines (although not through listing) resulted in massive unemployment and wider social costs, including the end of education for employees' children and a reduction in the quality of education for 73 percent of families, as Gecamines provided education and healthcare among other public services. [45] Where overall conditions continued to deteriorate, protests erupted in response to privatizations and SOE listings in several EMDEs, leaving some with no choice but to re-nationalize several of the privatized companies (e.g., Egypt re-nationalized several of its listed SOEs in 2011 after a long series of strikes and protests).

The results from our case study analysis also indicate a workforce reduction for SOEs prior to and shortly after listing, which, however, turns into employment growth in the medium term. Due to data restrictions, our analysis has focused on the energy sector in Romania and Poland. Looking at full-time employment, we find that the impact is negative between two to four years post-listing — reflecting restructuring and efficiency measures — but becomes positive in the medium term when the listed SOEs start to expand successfully (see Exhibit 26).

Overall, the impact of SOE listings on employment remains ambiguous and dependent on various factors, including the SOE's pre-listing profitability and the country's economic structure. The effect also seems to change over time, as companies expand post-listing. To reduce social costs throughout the process, various governments have put transition policies in place. For example, in Turkey, the Privatization Law establishes several compensation and mitigation schemes available to SOE employees who lose their jobs in the wake of privatization.

**Exhibit 26: SOE listing impact on employment**

| | | | | |
|---|---|---|---|---|
| ENEA (2008-11) | 101 | 99 | 99 | 148 |
| ENERGA (2013-12) | 87 | 92 | 101 | — |
| PGE (2009-10) | 95 | 89 | 66 | 89 |
| TAURON (2010-06) | 96 | 91 | 90 | 89 |
| TRANSGAZ[1] (2007-12) | — | 102 | 101 | 96 |

Note: FTE data for year of listing unavailable, year before listing has been used as proxy

Source: Refinitiv Eikon

44 Megginson (2005).
45 Coudouel (2008).



## Wealth creation

SOE listings have been a popular strategy for governments to redistribute some of the wealth created by SOEs to the citizenry. As shown above, SOE listings can attract a large retail shareholder base. But can we with confidence say that it also increased their income? In the following, we have complemented the empirical literature by looking at the change in share prices one-year post-listing for all case study countries. We also included Kenya and Morocco as an illustrative example because the specific lessons could be highly relevant for other EMDEs. Our results find an overall positive impact on wealth creation, the magnitude of which seems to depend on various factors, including pricing, distribution policy, the public offering's timing, and the strength of the market infrastructure.

The empirical literature and our case study analysis establish that investors who participate in SOE listings earn a significant excess market-adjusted return — especially in the short-term. For example, Paudyal, Saadouni and Briston (1998) find that SOE listings are underpriced to a higher degree than private offerings and as a result create positive returns for retail investors. Su and Fleisher (1999) have found similar results for Chinese SOE listings.

Our case study analysis confirms those results. In our analysis of the share price performance of selected SOEs, we found only two companies that have seen their share prices fall below the issue price one year after the listing (see Exhibit 8). Given the large discount at which most SOEs are priced, those results are not surprising. However, the question remains, what are the implications for long-term returns?

Several empirical studies have tried to find an answer through a detailed analysis of the effect on long-term returns.

**Box 8. Expanding telecommunication in WAEMU**

Starting in 1985, the Senegalese government undertook a series of reforms to improve the performance of the telecommunication sector. As part of the first reform package, the government decided to merge domestic telecommunication providers with the international ones, creating the national company Sonatel and endowing it with a monopoly right, which was contingent on achieving five objectives, including the expansion of the network and improvement of the service quality. After ten years of operations, Sonatel multiplied fixed lines connection three fold, from 25,000 to 75,000, reaching a density of about nine lines per 1,000 inhabitants. Service quality improved to some extent, from 47 percent to 50 percent for local calls, and from 25 percent to 45 percent for inter-city calls. The expansion of the network and the improved quality went hand in hand with an improved financial performance of Sonatel, the turnover trebled over this decade, from CFA 16.5 billion to more than CFA 60 billion, while the value added increased in the same proportion. Hence, even before the start of the privatization and listing process, Sonatel was profitable and could build on a history of success.

The Government determined that Sonatel's performance was not sufficient and went one step further, privatizing Sonatel and liberalizing the sector in the mid-1990s. On February, 22, 1995, the National Assembly introduced a law that laid the groundwork for the privatization process. Sonatel's monopoly right was rescinded and a new framework introduced that organized competition in the sector. Following the liberalization of the sector, Sonatel was privatized by targeting different investor segments as follows:

1. A bloc sale to a strategic investor (33.33 percent) — France Telecom won the bid
2. A sale of shares to employees (10 percent)
3. Public offering (17.66 percent)
4. Remaining shares were kept with the government (34 percent)
5. Five percent were reserved for a potential African operator

As a result of the privatization and liberalization process, not only Sonatel's efficiency improved (e.g., turnover doubled in 1999) but also access to telecommunication services was significantly expanded. The number of main lines almost doubled in 1999 relative to the 1994-96 average, from about 84,000 to 166,000. In addition, Sonatel cut prices, and improved the quality of service. connection charges were cut by 50 percent in July 1998, from 87,700 CFA to 43,900 CFA for an ordinary line.

However, all studies had significant methodological issues, e.g., struggling to calculate long-term returns and construct test statistics. And yet, some conclusions can be drawn from the diversity of methodologies used. The overall trend indicates large positive, absolute returns — though for some markets they may turn insignificant once adjusted for market trends.[46]

Our analysis faced similar challenges. We have therefore focused on individual cases of SOE listings that bear important lessons learned. Kenya's KenGen and Safaricom (see Box 9) offer the following learnings:

- **Find the right degree of underpricing to avoid the creation of perverse incentives.** Although discounts for retail investors can be extremely useful to attract broad investor participation and create positive returns, they can create false expectations and potentially negative effects for long-term investors, if not used carefully. In the example of the KenGen IPO, short-term investors were rewarded with excessive returns while long-term investors were punished as the share price performed below its issue price for most of the time post-listing. Contrarily, retail investors who bought into the Safaricom IPO in expectation of short-term gains were severely disappointed since the degree of underpricing was significantly smaller compared to previous SOE listings while long-term investors could reap high returns (see Exhibit 27). Governments should aim to strike the right balance between encouraging retail investor participation and incentivizing long-term investing.

**Box 9. Short-versus long-term investment gains in Kenya**

The SOE listings of KenGen and Safaricom in Kenya provide two good, contrasting examples of retail investor participation. The KenGen IPO in 2006 attracted a large number of retail investors; the 30 percent share offering in KenGen by the government was more than four times oversubscribed. One of the main attractions was the large discount that the government offered to attract as many Kenyan investors as possible. The shares were sold at KES 11.90 with a minimum subscription of 500 shares. The heavy discount allowed many Kenyan retail investors to make large gains during the first day of the listing: The share price closed at KES 40, an increase of 236 percent, putting a market value of 87.9 billion shillings (US$ 1.2 billion) on the company. However, it also led to a large sell-off by retail investors as the large underpricing rewarded short-termism over a long-term investment approach. At the same time, long-term investors were punished as the share dropped after its initial high during the first day. Over the three-to-five year period post-listing, the KenGen shares significantly underperformed their issuance price. For example, after three years, KenGen's CAR was -4.14.

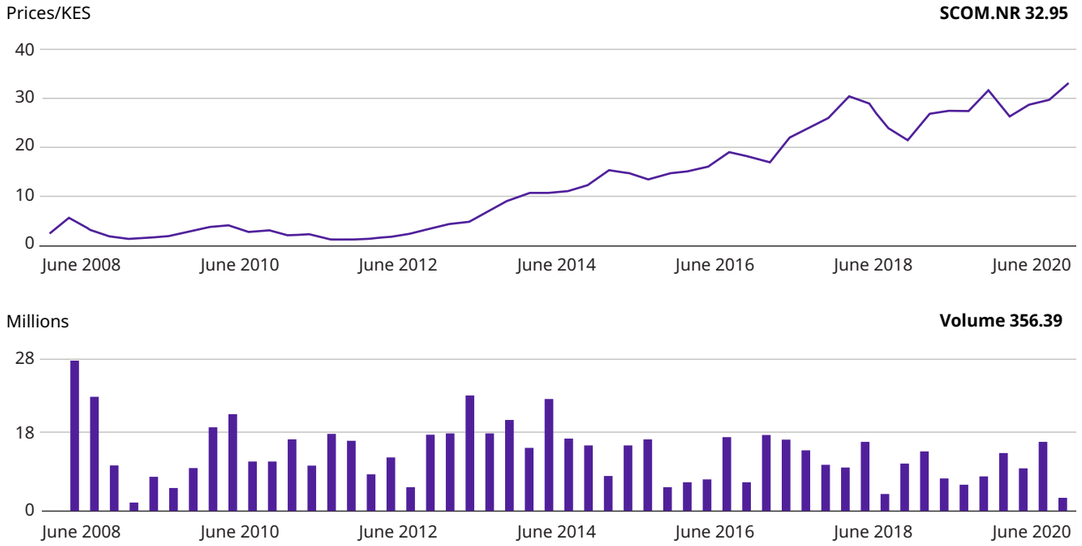
Fueled by the good (short-term) experience during the KenGen IPO, the subsequent listing of Safaricom in 2008 attracted an even larger retail investor base. However, in contrast to the KenGen IPO, investors did not see the expected large jump in the share price during the first day. In fact, the Safaricom shares saw an only marginal price increase before underperforming their IPO price for five consecutive years before growing strongly, tripling in price within a year. However, the situation was made worse, as in expectation of short-term gains, many retail investors had taken out loans to buy the Safaricom shares. Due to the interest payments, many retail investors could not wait long for the share price to improve. As a result, many Kenyans had to sell their shares below the price they bought, incurring large losses on their investments. In contrast, long-term investors had been rewarded with large gains as the share started to outperform their IPO price after more than 5 years — an increase of 820 percent between the IPO date and today.

46 Megginson et al., (2000). Boubakri and Cosset (1999), Perotti and Oijen (2000).

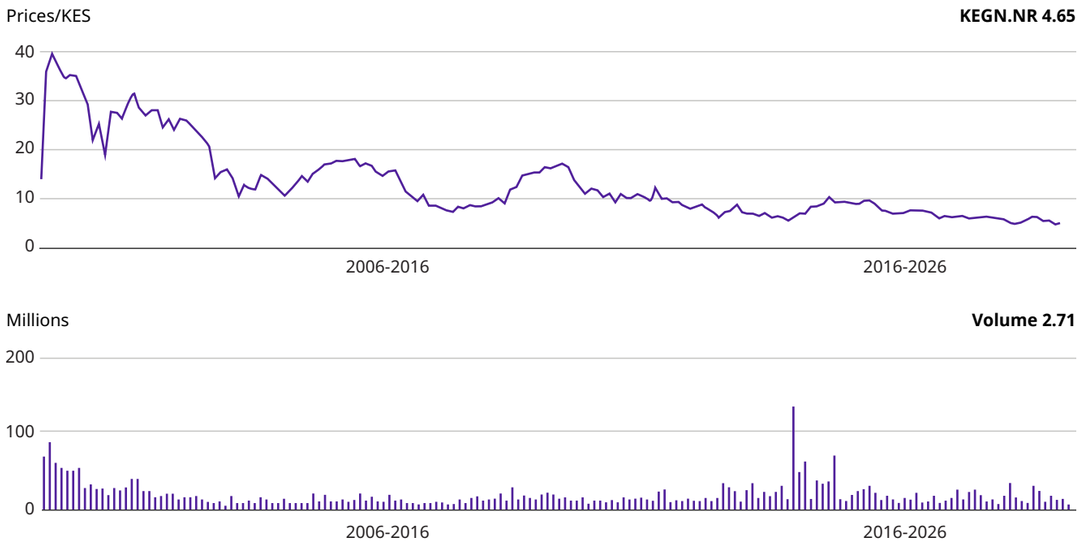


**Exhibit 27: Share price performance**

Safaricom




KenGen




Source: Refinitiv Eikon

- **Timing matters**. The KenGen and Safaricom IPO stress the need to find the right timing — a challenge faced by all governments that not only aim to maximize fiscal revenue but also seek to redistribute wealth across their population. To illustrate, the KenGen shares were sold during a bull market, allowing the government to achieve a reasonable price despite a hefty discount. Simultaneously, short-term investors were rewarded as prices increased quickly while longer-term investors were punished with falling returns as the market started to contract. In contrast, the Safaricom IPO took place during an economic downturn. Short-term investors were disappointed as prices stayed subdued while long-term investors, which had to wait five years, were rewarded with high profits. Despite the Safaricom shares' long-term success, governments should seek to list SOEs in bull markets. Otherwise, institutional investors may be reluctant to absorb a large proportion of the listing unless it is heavily discounted.

- **Governments and banks should refrain from encouraging leveraged retail investing through consumer loans.** In both listings, Kenyan banks had extended a significant number of consumer loans that would allow Kenyans from lower-income households to participate in the IPO — at average interest rates of 19 percent. Though leveraged subscription payed out during the KenGen IPO, it left many Kenyans with large losses during the Safaricom IPO which only achieved marginal price gains in the first weeks. Hence, better alternatives would be to offer smaller denominations or allow retail investors to pay in installments.

- **The broker industry needs to be well capitalized and regulated to ensure a smooth subscription process.** Especially during the Safaricom IPO, where brokers had to deal with over one million subscription requests, complaints were voiced that several brokers failed to return the initial paid-in capital in cases where retail investor subscriptions where declined due to the high demand. Hence, many retail investors have lost their savings without even investing in the IPO.

The example of Morocco's Société Anonyme Marocaine de l'Industrie du Raffinage (SAMIR) highlights an additional factor that influences the long-term return for investors:

- **Firm performance matters.** Although share prices do not always mirror a company's operational performance, they usually are influenced by it. In the case of Morocco's SAMIR, the privatization and listing at the local exchange preceded sector reforms that would have ensured the right performance incentives would have been in place. As a result, SAMIR's operational performance remained lackluster and the company eventually had to surrender to competitive forces when the government decided to liberalize the market. SAMIR's weak operational performance and consequent liquidation translated into weak stock performance and ultimately a suspension from trading. Even though no share repurchase offer has been made yet, retail investors that are holding SAMIR shares over the long term are likely to incur losses.

**Box 10. The impact of firm performance, corporate governance and market conduct on long-term stock price performance in Morocco**

Morocco listed about 13 SOEs over the past 45 years as part of its public sector reforms. Most of the listings were successful in attracting large investor interest and in achieving a positive share performance. However, there were cases in which a mix of weak corporate governance, misconduct and a lack of sector reform had led to under-performance of the stock and eventual delistings of the companies. Investors incurred heavy losses, which has been hurting market confidence ever since. [I, II]

**Société Anonyme Marocaine de l'Industrie du Raffinage (SAMIR)**

Morocco listed SAMIR, its only oil refinery in 1996 as part of the privatization program. The controlling interest was sold to a Saudi group, Corral Holdings, in 1997. Under the sale's agreement, Corral promised to upgrade the existing refinery and build a hydro-cracking unit to transform crude oil into gasoline and other petrochemical products. In return, the government would provide SAMIR with temporary market protection, including tariffs on oil imports. The promised capital investments by Corral never materialized but in 2002, the former Minister of Privatization, Abderrahmane Saïdi, who took over the general management of the refinery, succeeded in negotiating an extension of the government's market protection. Unfortunately a fire broke out at the largest SAMIR plant in the same year, resulting in damages that made the refinery unusable. Under the threat of a nation-wide oil shortage, the government decided to liberalize the market. SAMIR, which had not seen any significant capital investments since its privatization in 1997, could not keep pace with the competition from oil importers and eventually was liquidated in 2016.[I] The demise of SAMIR's operational performance was reflected in the share price performance. After the initial collapse in the share price and in the absence of dividend payments, Bourse de Casablanca decided to suspend SAMIR shares from trading in 2015. IPOed at a price of 243 DH, the stock last traded at a price of 128 DH, resulting in a potentially large loss for investors. So far, no re-purchase offer has been made.[II] On a positive note, Morocco's authorities learned quickly from their privatization experience with SAMIR, they focused on better sequencing sector reforms and privatization efforts as well as improved the transparency and communication for subsequent privatizations and listings, such as of Maroc Telecom (2004) and Banque Centrale Populaire (2004).

I telquel.ma/2019/02/19/privatisation-de-la-samir-le-peche-originel-du-chaos-des-carburants_1628895
www.jeuneafrique.com/mag/296330/economie/chute-de-samir-enquete-mauvais-feuilleton-marocain/

II www.leboursier.ma/Actus/4961/2019/06/24/La-Samir-les-petits-porteurs-bloques-en-bourse-depuis-bientot-4-ans.html



## Funding raised for governments

SOE listings can have large direct and indirect, positive effects on a government's fiscal revenue. The size and sustainability of those effects depends on the success of the SOE listing and the way governments decide to use the proceeds. In the following we have looked at the direct effects, i.e., the proceeds and dividends received from the sale. To a limited extent, we have also investigated the indirect effect, mainly via the elimination of government financial support. Overall, it seems that SOE listings can provide governments with a substantial source of income, which, if wisely used, could offer debt relief or finance economic development.

Due to their large size, SOE listings can raise a significant amount of capital for governments. For example, Poland raised over US$ 28 billion between 1990 and 2019, followed by Brazil with US$ 20 billion and Taiwan with US$ 18 billion. In relative terms, SOE listings have provided up to one percent of GDP annually for our case study countries (see Exhibit 28).

The empirical literature argues that SOE listings raise a larger amount of capital for a given percentage of shares relative to other divestment methods, especially where SOE are sold incrementally through multiple offerings.[47] However, across our case study countries we find mixed evidence. Whether or not a listing raises more capital for a given share largely depends on the sale structure and the level of development of the local capital markets. For example, in countries where SOEs have been divested through multiple offerings (e.g., South Korea), an initially underpriced IPO was followed by competitive prices in SPOs. In those cases, public offerings usually raised more capital per given share than a comparative trade sale. Similarly, where listings involve a large domestic institutional investor base (e.g., South Africa, South Korea), there has usually been no need to under-price the IPO — book-building was preferred over fixed-pricing in these cases. These listings resulted in better or similar prices than achieved through trade sales. On the other hand, we find examples where governments combined IPOs with trade sales to strategic investors and received a higher price for their SOE. Good examples of this have occurred in Argentina, Colombia and Morocco.

**Exhibit 28: Proceeds raised from listings**

| Country | Total revenue (US$ billions) | Average annual revenue (Percent GDP) |
|---|---|---|
| Singapore | 6.70 | .86 |
| Colombia | 3.77 | .85 |
| Morocco | 3.22 | .82 |
| Taiwan | 18.42 | .40 |
| Poland | 28.47 | .37 |
| Argentina | 4.99 | .35 |
| Egypt | 1.32 | .29 |
| South Africa | 1.58 | .22 |
| Brazil | 19.49 | .19 |
| South Korea | 16.87 | .18 |
| Turkey | 9.90 | .17 |
| Romania | 2.13 | .14 |
| WAEMU* | 0.13 | .13 |
| Nigeria | 0.01 | — |

* The focus is on Cote d'Ivoire
Source: Dealogic

47 See Megginson (2005).

The price difference is usually a result of the discount provided to retail investors during the IPO. Yet there are examples, where the intention to list or the price of the listing itself have strengthened the bargaining power of a government vis-à-vis a strategic investor. For example, in the case of Safaricom, the government had initially struggled to agree with Vodafone on an appropriate offer price. But the planned Safaricom IPO provided Kenya's government with an attractive alternative to mobilize foreign capital, thereby providing sufficient bargaining power to get Vodafone to raise their offer price. Similarly, the Moroccan government achieved a 27 percent premium on its open tender of Banque Marocaine du Commerce Exterieur (BMCE) thanks to the good track record built prior in the IPO and subsequent offerings. Whether or not public offerings raise more or less revenue than comparable divestment methods appears to be highly context-specific.

The large amount of capital raised during SOE listings provide governments with an opportunity to put their "fiscal houses" in order. For example, the IMF finds that the net receipts from divestments, including SOE listings, have mostly been saved — i.e., used to retire debt — rather than spent.[48] Other studies draw a more nuanced picture. For example, Macedo (2000 and 2005) argues that apart from using some of the proceeds raised through SOE listings for debt relief, the Brazilian government spent a large proportion of their receipts to sustain budget expenditures that ultimately increased fiscal deficits. Thus, whether SOE listings can improve a government's fiscal position depends on the use of proceeds.

SOE listings could also have indirect, positive effects on government budgets by eliminating government financial support to SOEs. However, such effects are highly case dependent and are likely to materialize only for SOEs operating in competitive markets. The empirical literature finds an overall positive trend. Still, these results should be approached with caution because it has often been difficult to determine the fiscal savings from divestment and SOE listings due to data limitations.[49] For instance, Davis et al. (2000) observe that for 18 middle and lower- income countries the net effect from SOE listings and the subsequent elimination of government financial support equaled about one percent of GDP. However, savings depended on how successful the listing was in setting the SOEs onto a commercial viable path. In a large proportion of EMDEs where governments have not created market competition, listed or privatized SOEs often continue to require government support. In other instances, private sector solutions have required governments to provide certain securities, such as offtake agreements in the utility sector, to reduce operational risks, which can be expensive. Thus, governments should carefully weigh the direct and indirect fiscal implications before selling SOEs, independent of whether they are sold directly or via a public offering.

Finally, we find anecdotal evidence that governments can expect a recurring positive cash flow from dividend payments — provided they continue to hold a share in the company. For example, in the case of YPF in Argentina, the government received a recurring positive flow of dividends, which rose from US$ 239 million in 1992 to US$ 587 million in 1994.[50] Similarly, in Romania, the government received on average US$ 23 million per year in dividends from Transelectrica.[51]

SOE listings provide governments with an opportunity to transform their role from an entrepreneur to a strategic investor and regulator. For example, in the case of Brazil and Singapore, governments took on the role as a strategic investor (see Box 11 and 12). This has allowed the government not only to benefit from recurrent cash flows in form of dividends but also to continue to support the development of those firms — where needed. Similarly, where governments fear that the commercialization of a sector has adverse effects on the prosperity of its citizens, strong and efficient regulation can be put in place to ensure better outcomes.

In conclusion, we find that a government's net worth improves insofar as SOE listings improve SOE performance and result in rising shareholder value. SOEs listings also have ongoing implications on a government's budget through dividend income, reduced financial support and tax revenues. Government decisions on the use of proceeds should reflect these inter-temporal effects.

48 www.imf.org/external/pubs/nft/op/194/index.htm

49 Savings on government financial support are difficult to source from budget reports. Megginson (2005); McKenzie and Mookherjee (2005); Brune et al. (2004).

50 regulationbodyofknowledge.org/wp-content/uploads/2013/03/Welch_The_Case_by.pdf

51 www.romania-insider.com/romania-additional-dividends-transelectrica



**Box 11. The government's role as strategic investor — the example of Brazil**

Brazil's privatization program during the 1990s to 2000s has not diminished the Brazilian government's role in the economy but rather transformed it. Instead of acting as the main entrepreneur of the economy, the government assumes the role of a strategic investor.

Brazil has kept significant majority and minority stakes (often through its national development bank BNDES) in privatized companies that operate in strategic sectors, such as oil and gas (e.g., Petrobras) or iron (e.g., Vale). Not only has this allowed the government to benefit from some of the financial wealth created by the SOEs, it also has allowed supporting firms while developing their capabilities. According to Inoue et al. (2013), government minority investments have helped to improve firm profitability of companies despite constrained investment opportunities. For example, in the case of Aracruz (pulp and paper), the BNDES' 38 percent equity stake allowed the company to finance part of its expansion plan, thereby increasing its global competitiveness.

At the same time, a government's minority interest can invite unwanted political interference. For example in the case of Brazil's Vale, a large iron producer, the government has used its position as an investor — empowered by its golden share veto power — to actively intervene in the company's business. Under the presidency of Luiz Inácio Lula da Silva, Vale's management was pressured to integrate vertically and invest into the steel industry because the government was afraid of a potential "Dutch disease" in the Brazilian economy that could lead to higher iron prices that ultimately could damage the competitiveness of the manufacturing industry. The interference went so far that Vale's former CEO Agnelli publicly declared that Lula's Workers' Party was interested in controlling Vale. Agnelli was eventually forced to resign even though the company reported profits of 292 percent at the time.

The decision to divest a large proportion of its SOEs can offer governments an opportunity to re-invent themselves in the role of a strategic investor, benefiting from the wealth created by those companies while continuing to provide support for their development. To do so, government's shareholder rights should be well-organized and respected. Board directors should continue to be appointed by the company's general assembly, based on proposals from shareholders, with the government's stake in decision-making in accordance with its block of shares. At the same time, the government has to act within the parameters of its new role as a strategic investor. In other words, the government's role is focused on the strategic allocation of capital to those segments of the economy that are either of central importance to the country's sovereignty or need government support.

**Box 12. Creating agents of divestment — the example of Singapore's Temasek**

In 1974, the government of Singapore incorporated Temasek Holdings as a private commercial entity that would hold and manage investments in government-linked companies (GLCs). The creation of Temasek has allowed the government to lend professionalism and autonomy to the divestment program, decoupling it from political influence and interference. This has allowed the various ministries that were previously responsible for the management of GLCs to concentrate on policy making.

Temasek's initial portfolio was valued at S$354 million. Over the years, Temasek gradually divested the initial portfolio of GLCs, some by listing them on the exchange, which resulted in holdings in 35 GLC's from the initial portfolio (out of more than 100). Temasek re-invested the proceeds in Singapore's economy.

Singapore's agency model has several benefits:

1. It allows the government to actively and professionally manage its investment portfolio, bringing stability to share capital and creating value by instituting strong corporate governance;

2. It ensures the long-term fulfillment of public service obligations, which were created to ensure privatized companies continue to contribute to the delivery of key public services.

3. Provide a pipeline of SOEs that could gradually be listed based on the capacity of the Singaporean market to absorb the listings.

As of 2019, Temasek managed a portfolio of over S$230 billion, a fourfold jump from S$66 billion in 2004. Its compounded annualized total shareholder return is 15 percent in Singapore dollar terms.

# WHEN TO LIST? — PRECONDITIONS OF SUCCESS AND DRIVERS OF IMPACT

**Once a government has made the decision to divest one or several of its SOEs, listings can provide an attractive divestment method for many EMDEs.**

As our analysis has shown, listing SOEs at the right time and the right conditions can kick-start a country's capital markets development while achieving other divestment objectives, such as raising fiscal revenue and democratizing ownership. The following section summarizes those conditions by identifying i) the preconditions under which SOEs are successfully listed, and ii) the drivers under which SOE listings create positive effects on capital markets development. Because SOE listings do not take place in a vacuum but affect a country's broader economy, the last section of this chapter will also highlight the conditions under which SOE listings have positive development effects on the key economic variables examined in this report.

## Preconditions for success

Minimum requirements for successfully selling a SOE appear to be achievable for many EMDEs, as highlighted by the numerous successful SOE listings that include frontier markets. As a reminder, for the purpose of our analysis an SOE listing is successful if i) the listing has been oversubscribed, ii) the shares were successfully settled and iii) trade with sufficient liquidity, i.e., narrow bid-ask spread.

### Gain political commitment and high-level support

Most SOE listings take place as part of a broader divestment program that sits at the center of the government, attached to the president's or prime minister's office, the ministry of finance or some other powerful central ministry or department. There are a number of reasons for this set-up:

- SOE listings often encounter bureaucratic opposition and political resistance — as they often change the status quo. By locating the group responsible for divestment and listing near the center of government power, bureaucratic opposition can be overcome and political issues more effectively managed.

- SOE listings affect many parties inside and outside the government — including line ministries, the enterprise being sold, labor unions, national and local politicians, as well as the SOE's employees, customers, and suppliers. As a result they can be very contentious and senior officials often have to intervene to resolve issues and move the process forward.

Some countries have chosen to create a fund or holding company that manages the government's SOE holdings on its behalf (see example of Singapore, Box 12). This approach can be extremely beneficial, especially where divestment programs are at risk of being derailed by changes in the political leadership or suffer from political interference. However, strong corporate governance is required for fund or holding company structures to be successful.

The importance of creating public support cannot be over-emphasized. Across our case study countries, interviewees unanimously agreed that if governments cannot secure support from labor unions, employees and the wider public, risk of failure increases significantly and can result in re-nationalization.



SOE listings, like any divestment, will always create winners (e.g., consumers, new managers and shareholders) and losers (e.g., displaced workers, unproductive suppliers and competing firms). Thus, a government will have to ensure that benefits and costs are analyzed and as equally distributed as possible to ensure a broad consensus.

### Set clear objectives and communicate them well

Given the wide range of interests affected by any significant divestment, trade-offs will need to be made between stakeholder and the government. Clearly defined objectives are required to make these trade-offs and to prevent SOE listings from being bogged down in a welter of unresolved issues. For example, governments must strike a balance between the interests of line ministries, which may be more concerned about how the divestment will affect their policies and the government's need to restructure the economy or raise income for the treasury.

The preparation of comprehensive business cases can be a good way to better understand expected outcomes and clarify the key objectives of the listing. The business case should consider the costs and benefits for the SOE as well as for the wider economy. The business case should also assess the risks associated with the listing and identify actions to mitigate them.

Once objectives are set, they will need to be tied to clear and consistent messages that are communicated to all stakeholders. The government should develop a unified communication strategy that focuses on the long-term benefits of the SOE listing. Clear objectives can also help unite stakeholders and gain public support by highlighting areas where their interests align. It is crucial to manage expectations, and the communication should articulate clear and realistic outcomes that are measurable and that can be tracked throughout the process. Some governments have created websites through which they have provided up-to-date information on their SOE listings — a medium that, if well-promoted, can reach a broad audience.

### Develop institutional competence and transparent processes

Government institutions need to have the credibility that provides investors with confidence. At a minimum, investors want to be protected against expropriation, and property rights have to be well defined and protected through the courts. EMDEs that have put SOE listings before institution-building have often payed a high price.

Political risk can suppress offer prices and limit the number of reputable long-term investors. The remaining investors often look for either short-term gains or carefully hedged arrangements with most, if not all, of the commercial risk being borne by the government.

Governments should aim to create a centralized body that can develop the commercial skills and ensure an efficient, transparent listing process that attracts reputable investors. Many decisions will have to be taken, e.g., which SOE should be listed, should the listing be underwritten and if so who should best manage the offering process. Spreading the listing effort over a number of institutions or ministries is a mistake that will lead to conflicts and undermine the institutional capacity needed. In some countries, governments have chosen to institutionalize the process through a privatization law — good examples are Argentina and Brazil.[52]

The central body should work independently but not blindly, specialist independent external advisers should be hired and external stakeholders consulted. For example, the Nigerian Stock Exchange has established a specific department for SOE listings, which actively analyzes SOEs and recommends them to the government for privatization and listing as part of its role in the sub-national investment committee.

The overall process needs to be transparent and should make use of competitive procurement methods wherever possible. A competitive and transparent vendor selection process has been successful in preventing collusion and ensuring that the government can meet all of its political and economic objectives — especially

52 For further details on how to create a strong privatization process see: www.oecd.org/corporate/a-policy-maker-s-guide-to- privatisation-ea4eff68-en.htm

regarding the nomination of the right investment banks and legal advisors. Similarly, if an SOE requires restructuring the process needs to be transparent and bound to clear objectives and time lines to guarantee continued support from the public. There have been too many instances of fraudulent restructuring and privatizations which ultimately have risked the success of the listing and created discontent. Wherever there is serious risk of corruption in the restructuring process it may be better to list the SOE before restructuring or not divest it at all.

### Develop an efficient market infrastructure

SOE listings require a well-functioning capital markets infrastructure to attract and manage a broad shareholder base. This includes a well-capitalized broker industry that can handle a large volume of subscriptions, the existence of credible custodians that function as safe-keepers on behalf of investors, appropriate and well-enforced disclosure and accounting standards and a strong trading, clearing and settlement infrastructure. Where SOE listings occurred prior to the development of local capital markets, governments have often divested their SOEs via ADRs/GDRs or dual-listings because domestic market infrastructure was not sufficient for foreign investor participation.

Examples are Argentina, Kazakhstan's and Egypt. The consequences are often difficult to reverse. In the case of Argentina, the heavy reliance on ADRs has slowly but surely drained the local exchange of its liquidity and ultimately its listed companies. Similarly, the listing of Kazakhstan largest SOE (Kazatomprom) at the LSE has made it extremely difficult for the local exchange to achieve the liquidity needed to be upgraded to Emerging Market status because a large proportion of the stock's liquidity is traded in London.

### Chose the right SOEs and prepare them well for listing

Although SOE listings should be preferred over other divestment methods, it is unlikely that every SOE can be successfully listed at an exchange. Successful SOE listings usually have the following characteristics in common:

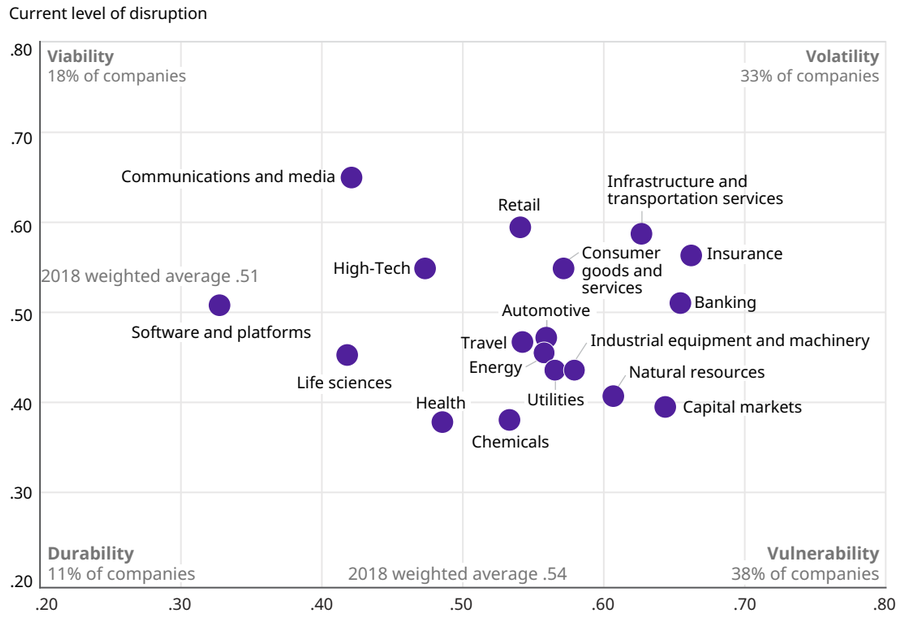
**Size:** Because public offerings are expensive, divestment via listing should only be pursued for larger SOEs. Capital markets require scale to develop; liquidity is correlated with the size of the free float and investors require sufficiently large investment opportunities to justify costs. An MSCI risk-return analysis of the Emerging Markets and Frontier Markets Indexes vis a vis the MSCI World Index shows that company size drives risk-adjusted returns. Therefore, offering size is especially important to attract foreign investors.

**Profitability:** To meet listing requirements, SOEs usually need to show a track record of profitability before they can list. As a result, some SOEs may require restructuring before their shares can be offered to the public. While some governments have successfully restructured their SOEs on their own, other governments partnered with strategic investors — as was the case of Safaricom in Kenya or Aeromexico in Mexico. SOE restructuring is generally a long-term operation (6-10 years), specifically where work force restructuring is required. However, there are certain sectors that may require no or only limited restructuring of the workforce and thus may be better suited especially in the beginning of a national privatization program.

**Sector:** Because of the need for size and profitability, SOE listings suit some sectors better than others. According to our analysis, the telecommunication sector has seen the highest success rates, followed by energy and banking. These sectors usually have a higher capital and a lower labor share when compared to other industries (e.g., manufacturing). The restructuring of these industries usually focuses on the productivity of capital rather than labor, requiring fewer job cuts and less time. Restructuring can often be achieved in two to three years without a complete workforce restructuring. Examples of successful SOE listings that did not go through an extensive workforce restructuring include Ecopetrol, Petrobras, Romgaz, Banco do Brasil, and Türkiye Halk Bankasi. Similarly, sectors that experience disruptions (see Exhibit 29) may require no or only limited restructuring and are easier to list. A good example is the telecommunications sector, which in the late 1990s faced rapid disruption from mobile technology. Many SOEs built around fixed-line monopolies were ill-equipped to compete with the new mobile operators and needed to restructure their business models rapidly. Many SOEs partnered with strategic investors (e.g., Vivendi for Maroc Telecom, Vodafone for Safaricom) that acquired a stake in the SOE (via trade sales) and then supported the radical transformation of the operating models through a mix of technology transfer, capital investments and workforce up-skilling. In each of the cases, the new business model was established three to four years before the SOE's listing.[53] In contrast, the water and sewage sector has proven to be very difficult to divest and list. Water and sewerage businesses often struggle to operate at a price that is profitable for service providers and affordable for consumers — especially in countries that require large capital investments to upgrade their networks. Although there are a few successful examples, e.g., in Argentina, they required significant sector reforms and a population willing to pay a higher price for those services.

**Exhibit 29: Sectors of disruption**

Disruptability index industry sector matrix — 2018 results




Note: 0-1 scale (1 = most susceptible/disrupted)
Source: Accenture research's disruptability index, September 2017

53 hbr.org/2018/01/how-likely-is-your-industry-to-be-disrupted-this-2x2-matrix-will-tell-you

### Choose a price discovery method based on your target investors

The choice and efficiency of the price discovery process are crucial components of any SOE listing as it allows for fair and consistent value creation and increases the likelihood of a broad investor base to participate. In some regards, the price discovery is even more critical for SOEs than for private company IPOs, since a wrongly set price may lead to public opposition.

According to our analysis, countries have faired well that have chosen to sell their SOEs in tranches and chose their price discovery mechanism accordingly. For example, the fixed price method has proven to be efficient with retail investors. A fixed price can benefit from underpricing because it captures demand and creates a positive experience for retail investors. Underpricing should not be too high; the risk of a large sell-off during day one of the IPO dramatically increases with the degree of underpricing.

For the domestic institutional investor and foreign investor tranche, a book building process is likely to be the best approach. It allows for fair and transparent price determination, often achieving slightly better offer prices than alternative methods.

### List according to market conditions

The timing of an SOE listing is incredibly important to create long-lasting, positive effects on capital markets development. Governments should aim to list based on the capacity of their respective equity markets to absorb a new listing. As our analysis has shown, only where the investor base is large enough to absorb a listing, offer prices will appropriately value an SOE, and send a positive signal to private companies encouraging them to list.

Further, governments should aim to sell during times of economic expansion but if possible avoid market peaks. This is especially important for frontier markets that heavily rely on retail investor participation and have yet to build market confidence. As shown above, retail investors participated in new listings only if their experience during previous investments had been positive. Whether that experience is positive in the short-to medium-term largely depends on market conditions. Hence, governments should aim to sell their SOEs during bull market phases. This approach also ensures that offer prices are perceived fair and criticism of "selling the country's crown jewels too cheaply" is avoided.

Offering an appropriate discount for certain groups, such as retail investors and employees, coupled with incentives for long-term investments, can lower the risk of losses for retail investors and not only increase public support but also make it attractive for retail investors to return to the market for new IPOs.

Lastly, global market conditions play a crucial role in attracting foreign investors, as they influence FDI trends and a country's attractiveness. Though perfect timing is hard to plan, governments should be well prepared to exploit opportunities when they present themselves and sell companies when market conditions are right.

## Drivers of impact

Because SOE listings have serious consequences for capital markets development and the broader economy, the drivers of impact are at least as important as the preconditions for a successful listing. Ultimately, impact is the base on which the public will judge their governments and not by how much a listing was oversubscribed. As defined above, a listing is seen as impactful when it creates positive direct and indirect effects on market capitalization, listings, liquidity and investor base development over the short, medium and long term.

## Political and economic drivers

### Create a pipeline of SOE listings

For governments aiming to develop their local capital markets, the impact of SOE listings is largest where there is not one but multiple SOEs in the listing pipeline. SOE listings can expand and diversify the investor base if they provide large enough diversification opportunities. Private companies are more likely to be attracted to the market if a number of companies had successfully floated their shares and traded successfully in the local market. With every new listing, local financial services players have the opportunity to learn and build capacity. Thus, a government that seeks to support capital markets development through SOE listings will have to develop a comprehensive listing program.

To maintain public support, the easiest and least controversial sales should be executed first. This also allows the government to build a track record and gain investor confidence. Policy makers should allow sufficient time for listings to be recognized as successful and for the financial industry to develop and acquire the necessary skills.

### Ensure an economy of scale

For governments that aim to maximize the impact of SOE listings on capital markets development, the size of the economy and the existence of large private companies with the potential to list is particularly important. Even though a stock exchange can survive on a few SOE shares, markets require economy of scale to function well. Whether an SOE listing has any demonstration effects will also depend on the size of the overall economy and the number of large companies within it. Smaller countries may need to find innovative solutions to attract foreign companies because their ability to create scale may be limited by the size of their domestic economy.

## Transaction specific drivers

### Divest incrementally through multiple offerings

SOE divestments are usually a multi-year process and rarely create 100 percent privately-owned companies during the initial offering. Especially extremely large SOEs, such as in telecommunications or oil and gas SOE, should be divested in multiple offerings over several years so as not to overwhelm the national stock markets' absorption capacity. A gradual process is also the better choice from a value generation perspective. SOEs sold in a number of distinct offerings have often seen an increase in share price over time, thereby maximizing the government's receipts.[54] Divesting slowly provides sufficient time for legal and regulatory frameworks (e.g., corporate governance) to be updated and the financial service industry to build the required skills. Contrarily, governments should pursue a fast listing process where a SOE is profitable, not too large and the capital markets liquid. In such a scenario, there is no need for governments to drag out the divestment process.

### Aim for a large free float

SOE listings are usually large in size and, even though they ensure adequate liquidity levels, we find that the impact of listings on market capitalization and stock liquidity is significantly better where SOE listings had a large enough free float (>15 percent).

### Target a diversified investor base

Governments have several difficult decisions to make regarding share allocation during public offerings.

One decision concerns the participation of retail investors. Retail investors are an important target group for SOE listings, not only because governments often aim to redistribute some of the wealth created by SOEs but also because they can absorb a large proportion of the listing, especially in frontier markets. Retail investor participation is desirable, but governments need to find the appropriate structure and incentives to minimize adverse effects. Retail investors often have a short-term investment horizon compared to pension funds and insurance companies. Higher market volatility can be expected for frontier markets with high retail investor participation. Therefore, governments should chose the allocation amount reserved for retail investors carefully. The retail allocation should vary according to the development stage of the capital market. Governments should also consider introducing incentives for retail investors to invest longer-term. For example, in South Korea, the government has offered a more significant discount to retail investors willing to invest longer-term. An alternative solution could be creating mutual funds that pool retail investor demand and make investment decisions on their behalf, thereby increasing diversification for individual investors.

54 Megginson (2005).

Mutual funds have to be carefully regulated and monitored to minimize fraud and mismanagement, such as from insider control or inadequate legal protection of shareholder voting rights. Mutual funds may therefore not be viable in countries with a weak institutional environment.

A second difficult decision concerns the participation of foreign investors. Foreign investor participation can be important to ensure a stock's liquidity. Especially in frontier markets most liquidity is generated by foreign investors. In many cases, they have allowed local stock exchanges to absorb larger listing amounts and improve listing prices. However, foreign investors are often among the first to divest their holdings, especially in economic downturns, which increases the risk of excess market volatility. Based on these observations, governments should aim to attract foreign investors, but should decide on an allocation amount that reduces potential for adverse effects. As one of our interviewees summarized, "a capital market can survive on the basis of foreign investors, but in order to develop it requires a domestic institutional investor base." In any case a foreign institutional investor base is a component for EMDEs to develop and a suitable enabling environment needs to be put in place, e.g., FX convertibility and tax neutrality (see Box 13).

The majority of a SOE listing should ideally be absorbed by the domestic institutional investor base. Domestic institutional investors, such as pension funds and insurance companies, are long-term investors that can help in lower market volatility by balancing out the effects of short-term investors and volatile foreign flows.

However, in many frontier markets, such a domestic institutional investor base does not exist and may take time to develop. As a result many governments had to focus on "next best solutions." For example, in Brazil, a large proportion of SOE shares — especially during the 1980s and 1990s — was absorbed by the Brazilian Development Bank (BNDES).

Romania has used a slightly different solution. The government created Fondul Proprietatea, an investment fund that has managed several of the government's SOE investments. Fondul Proprietatea sold its SOE holdings gradually, in line with the absorption capacity of the market while a domestic institutional investor base was developing.

## Capital markets drivers

### Strengthen the legal and regulatory framework

Because SOE listings focus on attracting minority shareholders, they require an adequate corporate governance framework and well-enforced minority shareholder rights. Legal protection for minority shareholders provides investors with confidence and offers an additional layer of supervision. Minority investors can have a deciding vote in areas where the government or the controlling shareholder may be conflicted.[55] For the stock market to enforce its full disciplinary pressure, strong minority shareholder protection is required.

Good corporate governance is critical to ensure that SOEs and privatized firms operate efficiently and is essential for companies to attract investment (see Box 14). Special attention should be paid to boards' independence and professionalism to deter political interference and entrenchment. Recent empirical studies suggest that politically connected SOEs are common among listed companies in advanced economies and EMDEs. Political connections are prevalent in firms operating in strategic industries and jurisdictions with weak judicial independence.[56] Many countries have devised specific procedures for board nomination and appointment to ensure a competitive process and have set minimum requirements for board composition to include a minimum number of independent board members to balance state-appointed representatives.

55 Roland (2001); Svejnar (2002).
56 Bortolotti and Siniscalco (2004).



**Box 13. Creating the right enabling environment for foreign investors**

Our estimates suggest that institutional investors across the OECD countries allocated about US$ 30–35 trillion to listed equity in 2018 with an increasing amount allocated to EMDEs. Over the past decade institutional investors have moved to a global asset allocation framework that allocates increasing amounts to EMDEs — the Pension & Investments Magazine puts the average allocation of institutional funds at about five percent in 2017, up from four percent in 2010. Most institutional investors will follow a benchmark process and measure their performance against global and emerging market indices. For example, out of a total US$ 12 trillion assets benchmarked against MSCI indices, about US$ 1.5 trillion of assets were benchmarked against the Emerging Markets MSCI in 2019 — with only 20 percent in passive investment strategies. This indicates that emerging markets investors are mostly active investors that follow a detailed investment process to select specific markets and companies.

Overall, foreign investor participation is likely to depend on a country's credit worthiness and whether it has a continued strong track record in its capital markets that includes the following conditions:

- **Accessibility and good settlement infrastructure:** the ability to open an onshore account easily and have access to at least one bank that can service foreign investment flows and meets international standards. In addition, foreign investors require an effective way to port money in and out of a country and prefer economies with either no capital controls or stable capital control policies.
- **FX convertibility:** Confidence in a country's exchange rate regime, supported by a low and stable inflation environment. The presence of a developed foreign exchange market that allows currency to be converted at any time.
- **Legal and information infrastructure:** the protection of property rights and contract enforcement.
- **Data:** quality data on a macro- (e.g. economic growth, government debt forecast) and micro-level (e.g. a firm's sales performance, equity return, leverage) that is easily accessible.
- **Size of listed companies:** a certain minimum investment size that allows large institutional investors to justify their costs and results in efficient deployment of their assets under management.
- **Liquidity:** an exit option (independent of price) at any time, a requirement that foreign investors value, especially after the financial crisis.
- **Tax:** a level playing field that ensures a fair treatment of foreign vis-à-vis domestic investors.

Although the benefits of foreign investor participation in domestic capital markets can be large, the timing and conditions for a country to liberalize should be carefully chosen. Foreign investors are driven by relative yield premia, and so their investment decisions can reverse quickly, causing increased market volatility. Therefore a successful liberalization of capital markets requires a certain degree of domestic market development first, including:

- A large domestic investor base that has the capacity to keep liquidity in the country, including times of larger international liquidity outflows;
- A strong central bank with well-functioning monetary policy and liquidity management tools to quickly respond to any larger investment in- and outflows.

### Minimize transaction costs

Transaction costs in EMDEs can be very high. On average, secondary trading costs for emerging market equities are three times higher than those of advanced markets and six times those of the United States. For example, total custody and agency costs range between 15 and 75 bps. The magnitude of these costs can create a large hurdle for a foreign investor to generate value on their investment. To compensate, foreign investors must outperform their equity investments by 100-150 bps.

Consequently, market infrastructure costs in EMDEs need to be minimized as much as possible, while ensuring robust and reliable processes.

In addition, the costs for companies to list at an exchange can be high and discourage listing. For example, in some EMDEs listed companies are obliged to publish their audit reports quarterly in newspapers and send physical reports to each investor. A potential solution to achieve lower listing costs can be through digitalization, as in the example of Singapore (see Box 15).

**Box 14. Corporate Governance in Brazil — the Novo Mercado**

The Brazilian Novo Mercado is a case for how the listing segment was repositioned to attract investment from foreign institutional investors. Launched in 2000 as a response to international investor complaints and stagnating international interest, the segment was introduced for companies who voluntarily adhere to the code to adopt corporate governance practices in addition to those that are required by law in Brazil. By 2010, the Novo Mercado included 174 companies, accounting for 65 percent of market capitalization and 79 percent of trading volume. Listing criteria for the segment have been reviewed in 2008, 2011 and most recently in 2017.

The recent adjustments have focused on minority share holder protection (minimum free float, 100 percent tag along and better-defined delistings process), board independence and periodic independent review of corporate governance and board as well as the requirement to publish news and information relevant to investors in English and Portuguese simultaneously. Most partially listed large and smaller SOEs are now part of Novo Mercado (e.g., Banco do Brasil, Braskem, Embraer, Electrobras, Petrobras). The government aims that all new SOE listings conform to the higher corporate governance standards that Novo Mercado represents. Other markets have since worked to replicate the model, e.g., the Romanian Bucharest Stock Exchange's "Transparency Plus" listing segment.

**Box 15. Low transaction costs through digitization in Singapore**

The Singaporean monetary authority is focused on providing low cost and efficient mechanisms for the participation for retail investors. The security depository, CDP, operated by the Singapore exchange (SGX) offers free securities depository accounts for retail customers and highly electronic services with an online application and verification process that opens new retail securities depository accounts in 15 minutes. The Singaporean monetary authority also regularly reviews the effectiveness and cost efficiency of the entire securities processing infrastructure to identify opportunities to eliminate costs while guaranteeing high resilience to reduce overall investment costs, for institutional and retail investors.



### Make use of low interest rates

In many EMDEs, sovereign interest rates are high, which, combined with a relatively small domestic investor base, can crowd out demand for other financial assets. Investors use the sovereign yield curve as a benchmark to determine their required returns. If interest rates are high, companies will have to offer a higher risk-adjusted return to attract investors. Many companies in EMDEs have access to bank loans with more favorable rates, as an alternative to rates on non-sovereign debt securities that are often too high to be attractive. Thus, spillover effects from SOE listings in the non-sovereign debt markets are likely to be limited where sovereign interest rates are prohibitively high over extended periods. High interest rates are often a result of insufficient fiscal prudence and weak fiscal management. Therefore, SOE listings should be embedded in a longer-term plan to strengthen a country's fiscal performance.

The effects of high sovereign interest rates are less clear-cut for equity instruments. Generally, it seems that sovereign debt and equity markets complement each other in a low-risk environment or periods of economic expansion. As more income becomes available, demand for both assets grows in unison (see Exhibit 30). However, in higher-risk environments or during periods of economic contraction, the relationship changes and the demand for lower-risk sovereign debt is substituting the demand for higher risk equity. In environments that are generally higher risk, i.e., where interest rates are persistently high, there seems to be a general preference for sovereign debt (e.g., Turkey, Kenya, or WEAMU). The empirical literature also argues that where interest rates are high, companies will have to offer a significantly higher return to investors, which creates a barrier of entry and reduces the attractiveness of the equity market to raise financing for companies. We therefore conclude that the impact of SOE listings on capital markets development, primarily through its demonstration effect on other private companies, is higher in countries where sovereign interest rates remain stable and low.

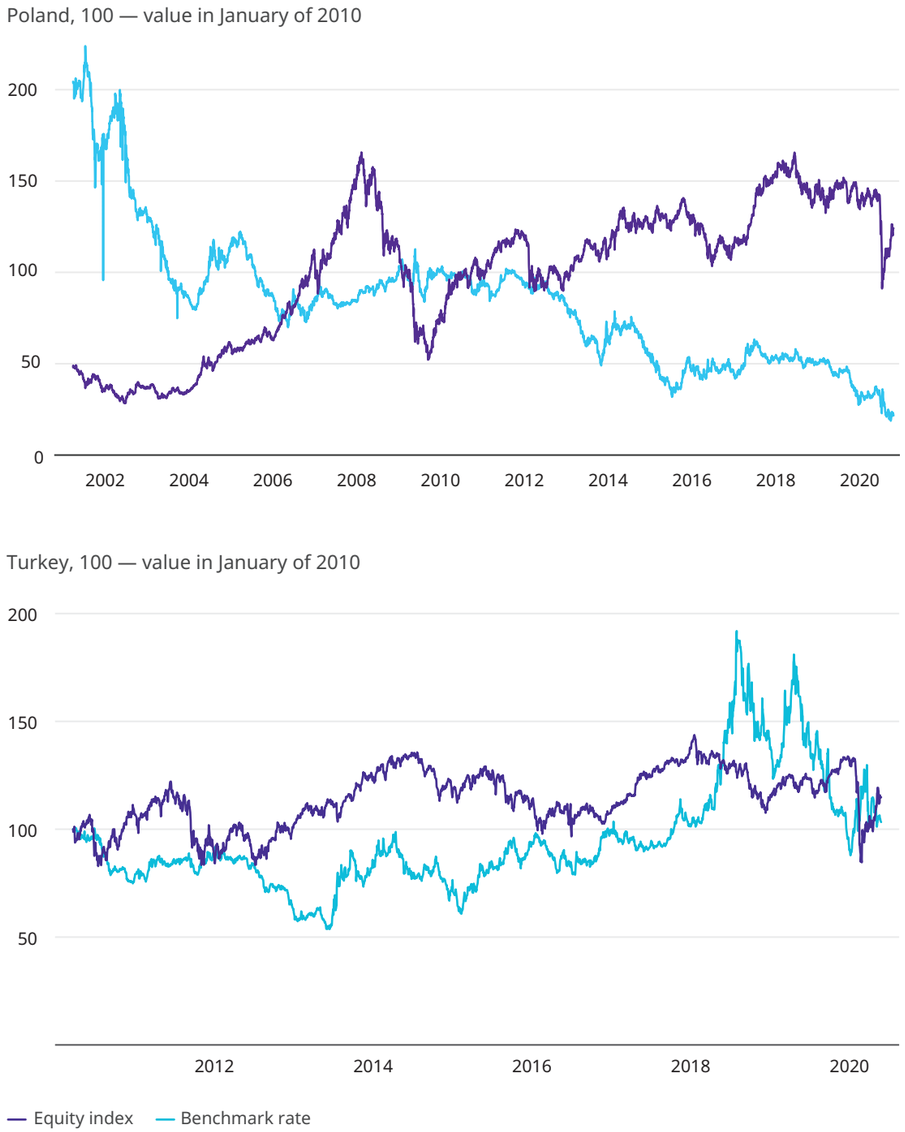
**Exhibit 30: Interest rates — crowding out effects on equity?**

Correlation coefficients between equity indices and benchmark rates

| Advanced economies | | Case study countries | | | |
|---|---|---|---|---|---|
| United States | -0.58 | Argentina | 0.33 | Singapore | -0.54 |
| United Kingdom | -0.63 | Turkey | 0.30 | Taiwan | -0.61 |
| Hong Kong | -0.66 | Egypt | 0.06 | Morocco | -0.61 |
| Germany | -0.84 | Nigeria | 0.05 | Romania | -0.69 |
| | | Brazil | -0.16 | South Korea | -0.73 |
| | | South Africa | -0.47 | Poland | -0.74 |
| | | | | Colombia | -0.78 |

Numbers reported are Pearson correlation coefficients for data gathered from Thomson Reuters. The data generally covers years 2000 to 2020, although shorter for countries with limited data availability. The benchmark rate is the yield on the 10-year government benchmark bond — the only exception being Argentina where the 7-year bond is used. The most commonly used equity indices are used.

**Exhibit 31: Behavior of equity indices versus sovereign benchmark rates in Poland and Turkey**




Source: Refinitiv Eikon



**Develop and diversify your investor base**

SOE listings require a sufficiently large domestic institutional investor base, especially if they are to create demonstration effects for the broader capital markets. Many countries that have successfully listed their SOEs have engaged in pension fund reforms before or during their SOE listing programs (e.g., Chile and Poland, see Exhibit 32). These pension fund reforms have not only ensured that the local stock exchange could absorb large SOE listings but also allowed the listings to have a demonstration effect on private companies. Where pension fund reforms have been more challenging, governments have supported the development of other long-term institutional investors, such as the mutual fund industry in Brazil or the insurance industry in Thailand.

In countries where a domestic institutional investor base has yet to develop, demonstration effects of SOE listings are likely to be limited, unless alternative solutions can be developed. Those solutions could include the creation and participation of state-owned investment funds or support from national development banks.

Foreign investors can be a good temporary substitute, but their impact on market development is likely to be more extensive and sustainable during the later phase of capital markets development as their participation comes at a cost — e.g., inducing higher market volatility. Foreign investors have specific requirements (see Box 13) that include the existence of a domestic institutional investor base that can provide them with an exit option. This is crucial for governments that aim where governments aim to attract long-term interest from foreign investors.

**Exhibit 32: Pension fund systems (figures in percent)**

| Country | Pension System | Pension Fund Assets/GDP in 2008 | Pension Fund Assets/GDP in 2018 | Pension Fund Asset Growth | Workforce Covered |
|---|---|---|---|---|---|
| Brazil | Voluntary personal and occupational | 19 | 26 | 7 | 13 |
| Colombia | Mandatory | 14 | 24 | 10 | 45 |
| Mexico | Mandatory and voluntary personal | 11 | 16 | 5 | 67 |
| Poland | Voluntary personal | 11 | 9 | -2 | 68 |
| Romania | Mandatory | — | 5 | 5 | 60 |
| Singapore | Provident funds | 60 | 80 | 21 | 82 |
| South Korea | Mandatory | 7 | 29 | 21 | 17 |
| Taiwan | Mandatory | 4 | 23 | 20 | 50 |
| Turkey | Voluntary personal and occupational | 1 | 3 | 2 | 20 |

Source: OECD, supplemented with individual country statistics

## Other key drivers of impact

SOE listings' effect on capital markets development cannot be judged in isolation from its impact on the broader economy. The following section lists the key drivers of impact important to create a positive effect (or at the minimum, no negative effect) on the key economic variables that were investigated as part of this report.

### Define your role as a strategic investor

Where governments continue to hold an interest in a listed SOE, it is of utmost importance that they define how they plan to exercise their new role as a strategic investor. The better a government can communicate its intentions (and act in accordance with them), the better it will be received by the market — which often also translates into better pricing.

If well executed, the role of a government as a strategic investor can bring various opportunities, with government benefiting from the wealth created by the SOEs and providing continued support to those SOEs that require it. In these cases government's shareholder objectives should be well organized and focused on value creation and performance management. This also requires that according to the proportion of the government's stake, board directors should continue to be appointed by the General Assembly, on a proposal from the government, as is the case for private shareholders. Broader government goals should be achieved through regulation and not directly through SOE interference.

### Address market inefficiencies through sector reforms pre-divestment

SOE listings are no silver bullet but require a strong sector framework for their benefits to fully develop. Listings can improve firm performance and potentially the provision of public goods and services. However, the best results are achieved when listings are preceded by sector reforms that address fundamental inefficiencies, such as limited market competition or underpricing of goods and services. The last 30 years of divestments have demonstrated that such reforms should take place prior to ownership changes. Otherwise

reforms are likely to stagnate due to the vested interests of incumbent stakeholders. There are many examples of privatizations, including SOE listings, that resulted in the creation of private monopolies, which have every incentive to restrict output and charge excessive prices.

### Target an ownership structure that aligns with your divestment objectives

Depending on the political and economic objectives, governments may want to choose different ownership structures for SOE listings, carefully evaluating some key trade-offs. If a government's main objective is to improve a SOEs performance, privatization and a partnership with a strategic investor may be the preferred option. Although governments can improve a company's efficiency through minority sales, privatization usually achieves significantly better results. Especially where governments aim to restructure poorly performing SOEs but lack the capacity to execute restructurings, public offerings should be combined with trade sales that aim to introduce a strong, controlling shareholder. Foreign strategic investors can be good partners in such an endeavor, providing SOEs with new technology and know-how. But, wherever possible, governments should seek domestic investor participation to encourage the development of a local business community that is incentivized to invest in the country's growth and development — a solution that aims to balance short versus long-term benefits and create foreign-domestic investor consortia like those created in Brazil (see Box 16). When governments decide to privatize an SOE, they should refrain from including restrictive conditions — such as golden shares or restrictions in company charters — as these increase uncertainty and restrain the privatized firm's commercial freedom.

Additional conditions need to be in place for SOE listings to have the maximum impact on firm performance: i) a robust corporate governance framework that is well-enforced and ii) adequate protection of minority shareholder rights. As our analysis has shown, SOE listings rarely have a significant impact on the majority shareholders.

Instead, SOE listing impact is largely determined by minority shareholders and the enforcement of good corporate governance. Enforcement of corporate governance can reduce the risk of entrenchment and provide an additional layer of monitoring and supervision



to ensure a strong operational performance post-listing. In countries with developing corporate governance and minority shareholder frameworks, the use of lock-up periods for majority owners may be a good alternative solution, as they create strong incentives for controlling shareholders to improve firm performance (see the example of China, Box 7).

Governments whose main objective is to develop local capital markets should aim to sell a large enough free-float (>15 percent). As mentioned above, capital markets require size. Sufficient free-float is required to ensure sufficient liquidity of the SOE stock and create spill-over effects for the overall market. Although a controlling shareholder may be important to ensure strong operational and stock performance, governments should seek a diversified investor base that includes retail and institutional investors, with an interest in active trading. Where government's main objective is to raise fiscal income, minority sales through public offerings are a popular strategy with foreign investors as one of the main targets. As shown above, foreign investors' participation usually creates additional price pressure that allows governments to maximize the proceeds from the sale.

**Box 16. Building local expertise — the example of Brazil's investor consortium**

An interesting feature of the privatization process in Brazil was that around 50 percent of divestment auctions involved "mixed consortia" controlled by domestic private groups, foreign investors, and state-related entities such as BNDES and SOE pension funds. This allowed Brazilian SOEs to benefit from technology and knowledge transfers from foreign investors, while developing the local investor base and reducing potential public resistance for selling out to foreign investors.

For instance, the Brazilian government sold 42 percent of Vale, Brazil's largest mining company, to a consortium of investors in 1997. The consortium included BNDES, the Japanese group Mitsui, the Brazilian banking group Bradesco, and a host of SOE pension funds such as Previ (from Banco do Brasil) and Petros (from Petrobras). In the first year after the sale, Vale achieved a profit growth of 46 percent.

# CONCLUSION

This report investigated the impact of SOE listings on capital markets development in EMDEs over the past 30 years. Comparing the findings of the empirical literature — which is largely based on advanced economies — with our case study analysis of 14 EMDEs, we find that the relationship between SOE listings and capital markets development is more complicated than suggested by the empirical literature.

On the positive side, many EMDEs successfully listed a large number of their SOEs at their local stock exchanges, often oversubscribed by a large percentage and with sufficient liquidity in the secondary market. Due to the large size and value of many SOEs, a single listing can significantly increase an exchange's market capitalization — in the case of Singapore and South Korea by up to 170 percent. SOE listings have attracted a broad shareholder base — sometimes with over one million investors, many of them first-time retail investors. SOE listings have also provided governments with a great opportunity to draw foreign investors into the local economy. For example, SOEs constitute about 60 percent of the MSCI emerging market index in energy and close to 40 percent in the financial sector.

On the other hand, the positive effects on capital markets development have often been short-lived and rarely sustained over the medium to long term. Where SOE listings created long-term benefits for capital markets development, certain conditions had been in place that created a positive signal to private companies and encouraged them to float. Based on our analysis, the conditions include (1) a large SOE listing pipeline, (2) a domestic institutional investor base, (3) a certain size of the economy and (4) a minimum level of macroeconomic stability, including stable low local interest rates.

SOE listings' impact on the development of the retail and foreign investor base is likely to be sustainable only where measures to strengthen market confidence are implemented and incentivize long-term investing.

We found very few examples in which SOE listings have created a negative impact on capital markets development. In all cases, the root cause was a weak capital markets infrastructure. There is a downside risk of listing SOEs too early or under the wrong conditions but, to our knowledge, it seems relatively small.

Beyond SOE listings' impact on capital markets development, we find that SOE listings create positive results for a government's fiscal revenue and wealth distribution. Across our case study countries, most governments have capitalized well on their SOE listings. For example, Poland raised over US$ 28 billion between 1990 and 2019, followed by Brazil with US$ 20 billion and Taiwan with US$ 18 billion. In relative terms, SOE listings have provided up to one percent of GDP annually. In addition, SOE listings have allowed governments to earn a continued income from dividend payments and in some cases, where listings have been combined with sector reforms, governments were able to reduce their financial support to SOEs (sometimes up to one percent of GDP). Moreover, SOE listings are the only divestment method that allows the ordinary citizen to participate in the country's wealth creation. As a result they can reduce opposition to divestures as at least some of the "family silver" stays within the family.

SOE listings' benefits for capital markets development, fiscal revenue and wealth creation can often be achieved through the sale of minority interests. SOE listings allow for a gradual divestment, whereby the government can choose to keep or sell its controlling interest. This has proven to be a good alternative to privatization, especially in countries where past privatization attempts have created considerable public opposition.

The effect of SOE listings on firm performance seems relatively weak unless listing is combined with restructuring measures, e.g., the sale of an SOE's controlling interest to a strategic investor. Because SOE listings rarely lead to a change in majority ownership and control, boards and management teams often remain the same — and with them their (sometimes antiquated) technologies, know-how and management techniques. Where SOE listings have not been combined with trade sales to strategic investors or other restructuring measures, they have often seen no or only a weak performance improvement. On the other hand, where governments have chosen to restructure their companies as part of the SOE listing process, the results have mostly been positive — examples include Kenya's Safaricom, Romania's BCR or Argentina's YPF (before its re-nationalization).

In summary, the experience of SOE listings in EMDEs is more mixed when compared to advanced economies. However, the positive benefits from listings, especially where governments listed their SOEs at the right time and under the right conditions, poses a question: Why have not more EMDE governments chosen to divest their SOEs through public offerings at the local stock exchange?

For many EMDEs SOE listings pose a dilemma. On the one hand, they stand to benefit greatly from SOE listings. On the other, most EMDEs still need to fully implement the conditions for success and drivers of impact that are required to unlock the full scope of SOE listing benefits. SOE listings are more complex processes — when compared to other divestment approaches — and require a certain enabling environment. At a minimum, strong political institutions and a well-functioning capital markets infrastructure must be in place to avoid negative effects. Ideally a range of additional drivers are in place, including a large domestic institutional investor base, large pipeline of public and private companies, a strong sector framework that introduces market competition (wherever possible) and a well-diversified economy that provides alternative employment opportunities.

Having said that, this does not mean that SOE listings should not be pursued by EMDEs where the pre-conditions remain underdeveloped. EMDEs should rather aim to strengthen their enabling environment. Many of these reforms will form a crucial part of any country's economic development. There are simply no quick fixes. Once the pre-conditions are met and developed, SOE listings can offer an attractive divestment method with long-term positive effects on local capital markets. We conclude that listings should be considered by EMDE governments as viable option to divest SOEs.

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### Databases

S&P Capital IQ; Refinitiv/Datastream; Dealogic; Economist Intelligence Unit; World Bank; World Economic Forum and World Federation of Exchanges.



# ANNEX

### Selection of case study countries

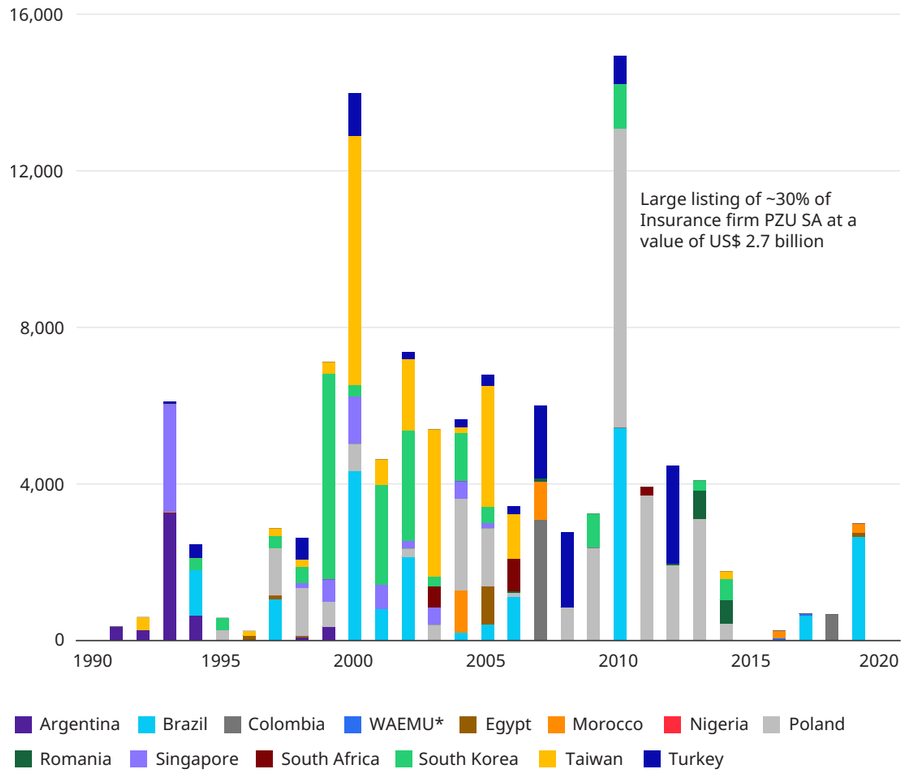
| Country | High level rationale and description |
|---|---|
| **Argentina**<br>Market Cap: $40 billion<br>MSCI: Emerging Markets Index | Argentina had a series of listings with mixed success. The government initiated a vast privatization process in the 1990s, aimed at restructuring the economy and improving the overall state of the SOE sector (67 firms privatized in less than 6 years). However, the currency, fiscal and banking crisis in 2001 led to measures to reinforce the role of the state in the economy and renationalize a number of SOEs. A second wave of nationalizations was started in the economic crisis of 2012 when, among others, Argentina partially renationalized the oil company YPF. |
| **Brazil**<br>Market Cap: $1,180 billion<br>MSCI: Emerging Markets Index | A series of privatizations accompanied by a pension reform 15 years ago increased local investor participation, the BNDES (development bank) has played a key role in establishing a debt funding source for listed SOEs. |
| **Colombia**<br>Market Cap: $130 billion<br>MSCI: Emerging Markets Index | Partial listings of the oil and gas company and utility companies and pension reform supported local investor demand and high inward FDI-flows. Colombia was able to carry out privatization initiatives in a systematic and orderly fashion, facilitated by learnings from previous privatization efforts in the region. |
| **Egypt**<br>Market Cap: $44 billion<br>MSCI: Emerging Markets Index | Egypt launched a program to improve economic conditions in the early 1990s with privatization as one of the main pillars. Some 382 SOEs were fully or partially privatized as part of the program. After 2011 the privatization program was suspended and led to the annulment of the privatization of some companies. The privatization efforts were revived in 2015 and 2018 after announcement of the government to list 23 SOEs, however the initiatives were delayed. Privatization activities picked up again in 2019, with the floating of a 4,5 percent stake in the tobacco producer, Eastern CO SAE. |
| **WAEMU**<br>Market Cap BRVM: $8 billion<br>MSCI: Emerging Markets Index | Initiated privatization in the 1990s, the process was disrupted during the political crisis between 2002-2011, but in recent years there have been several SOE listings, e.g., NSIA Banque Cote d'Ivoire in 2017 and the food processing company Sucrivoire SA in 2016. |
| **Morocco**<br>Market Cap: $65 billion<br>MSCI: Emerging Markets Index | Privatization initiatives in Morocco were initiated by the government in the early 1990s. Morocco has been active in privatizing SOEs in recent years and floated an additional 8 percent stake in Maroc Telecom in 2019 (starting with an IPO in 2004, where 15 percent of the company was offered to the public). |
| **Nigeria**<br>Market Cap: $44 billion<br>MSCI: Emerging Markets Index | Since 1993 SOE divestment concerned 34 companies and in 2005 alone, the privatization agency privatized eight enterprises. Over recent years few SOEs have been privatized through listing, other methods of privatization were preferred (e.g., direct investor sales, asset sales, concessions). This year for example, Skyway Aviation Handling Company Plc was listed on the Nigerian stock exchange, after being privatized and sold to the SIFAX Group in 2009. |

| | |
|---|---|
| **Poland**<br>Market Cap: $150 billion<br>MSCI: Emerging Markets Index | In the 1990s, Poland positioned itself as leading transitionary economies away from state-led markets through a wave of consistent privatizations (mainly through IPOs), and have seen many and large privatizations over the last 30 years. |
| **Romania**<br>Market Cap: $33 billion<br>MSCI: Emerging Markets Index | A range of listings over 15 years improving liquidity on the Bucharest exchange, e.g., listing of Romgaz on the Bucharest Stock Exchange and the London Stock Exchange in 2013. The listings subsequently attracted private companies into the market. |
| **Singapore**<br>Market Cap: $700 billions | The formal privatization program in Singapore was initiated between 1985-1987. Unlike many other countries, Singapore privatized SOEs after significant restructuring and investment when the companies reached competitive viability as regional champions, when the rationale that state ownership was no longer required. |
| **South Africa**<br>Market Cap: $1,050 billion<br>MSCI: Emerging Markets Index | Eskom has been, and is, a case of a heated privatization debate, discussion of privatizing other less strategic SOEs continue — e.g., partial or full privatization of the struggling airline SAA. South Africa has not been particularly active in listing SOEs over the past 20 years.<br>Apart from the IPO of Telkom SA in 2003, floating a ~27 percent stake, only minor follow-on issuances of existing privatizations have occurred. |
| **South Korea**<br>Market Cap: $1,480 billion<br>MSCI: Emerging Markets Index | Privatization was the main instrument for increasing SOE efficiency during the 1980s and 1990s. Although privatization achieved meaningful efficiency improvements, public resistance to selling state shares to private parties has grown. As a result, in recent years, privatization has not been considered a viable option in South Korea (latest listing of SOE in 2014). |
| **Taiwan**<br>Market Cap: $1,220 billion<br>MSCI: Emerging Markets Index | Recent history of a large number of SOE listings, including privatization of Chunghwa Telecom in 2000. Privatisation in Taiwan came in four waves and categories 1) Industrial firms (1989~96), 2) Financial institutions (1998~99), 3) Financially troubled SOEs (1999~2004), 4) Utility companies (yet to be privatized). |
| **Turkey**<br>Market Cap: $180 billion<br>MSCI: Emerging Markets Index | Turkey has undertaken many privatizations. The shares of the national telecommunications company, a petrochemical firm and Halkbank, are examples of large companies offered publicly over the last couple of years. In Turkey, most of the privatization transactions have been trade sales of SOEs in the utilities sectors. Some stock market offerings have also occurred. |



**Distribution of SOE listings across case study countries**

Table B. Value of SOE listings[1] across Case Study Countries ($US billion, 1990-2019)




1. Privatization listings include privatized IPO and follow-on deals at deal value
* The focus is on Cote d'Ivoire
Note: Poland, Singapore, South Korea and Taiwan feature as high-income economies in the World Bank's current taxonomy (2019)
Source: Dealogic database

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