

State-Owned Enterprises and Fiscal Risks in Peru

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Abstract*

This paper presents an overview of the SOE sector in Peru, with special focus on the fiscal risks that it may create. The analysis suggests that such risks have generally been contained through a centralized system of governance and controls, including through the holding company, FONAFE. However, this system has also had costs in terms of the SOEs' efficiency and their ability to plan, finance, and execute needed investments in both the maintenance and the expansion of existing infrastructure. Therefore, the challenge for the Peruvian authorities is to design and implement reforms that, while safeguarding fiscal responsibility and sustainability, would strengthen the SOEs' incentives to operate efficiently, compete effectively with private enterprises in the same sector, and improve the access to and the quality of their services to the population. The paper makes a number of suggestions for such reforms.

Keywords: fiscal risks; state-owned enterprises

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1. Introduction

This paper is part of a series of case studies of state-owned enterprises (SOEs) in selected Latin American (LA) countries commissioned by the Inter-American Development Bank (IDB), focusing in particular on fiscal relations between SOEs and the respective central governments (CGs).¹ The main motivation for these studies is the fact that, despite substantial privatizations during the 1990s, SOEs remain quite important for LA economies and their public finances.

Throughout the LA region, SOEs play a particularly large role in the strategic energy and mining sectors and in the provision of some basic public services, such as electricity, gas, and water and sanitation. In some countries, they account for significant shares of value added, investment, and employment. Their fiscal relations with the respective CGs are complex and not always fully transparent, as many are the object of quasi-fiscal operations (implicit subsidies, specific regulatory requirements that affect the enterprises' profitability, etc.). Moreover, the information needed to evaluate the operational efficiency of SOEs is often inadequate.

Governance arrangements of SOEs vary across countries and over time and are also sometimes opaque, especially because actual practice (e.g., concerning political influence in the management of the enterprise) may diverge from statutory regimes. In general, as discussed in detail in Musacchio, Pineda Ayerbe, and Garcia (2015), relations between SOEs and CGs suffer from a variety of principal-agent problems. There is also growing empirical evidence that financial markets do not exert adequate discipline on SOEs, reinforcing the risk of a soft budget constraint that is inherent in the public ownership of the enterprises (see Kornai, 1992 and Jara et al., 2015). Therefore, SOEs can represent a significant source of fiscal risks in a region like LA, where many countries are already in need of fiscal adjustment.

Section 2 provides a brief discussion of the main potential sources of SOE-related fiscal risks and good practices in assessing and managing such risks. Section 3 follows with an overview of SOEs in Peru, including their sectoral distribution, economic characteristics, and governance arrangements. It then focuses on the financial performance of the enterprises, and on their fiscal relations with the CG, including possible subsidies, taxation and dividend arrangements, investment policies, and borrowing constraints. In light of the analysis in the preceding sections, Section 4 analyzes the main sources of fiscal risks stemming from SOEs in Peru. Section 5 presents some conclusions and suggestions for reforms aimed at mitigating such risks and improving the efficiency of SOEs.

¹ Given the widespread deficiencies in the information on the performance and finances of enterprises owned by subnational governments (SNGs) in the region, the case studies do not cover these enterprises.

2. Assessing and Managing SOE-related Fiscal Risks

As evidenced by an extensive literature and by a wide range of relevant international experiences, SOEs can be a significant source of fiscal risks in countries at all levels of development.² These risks are especially evident when a country chooses to define its fiscal targets in terms of the public sector as a whole, but they are also present when the targets only cover the CG, because SOEs' finances can, and often do, have adverse repercussions for government finances.

The seriousness of such risks depends on the weight of the SOE sector in the economy, the nature and the social and political sensitivity of the services they provide, the vulnerability of SOEs' finances to exogenous shocks, and the way in which governments choose to exercise their ownership rights over the enterprises.

The root cause of fiscal risks from SOEs is the fact that it is difficult to avoid a soft budget constraint for them. SOEs are vulnerable to the same exogenous shocks as private enterprises operating in the same sector, including macroeconomic shocks (cyclical demand fluctuations and changes in international commodity prices, interest rates, credit availability, and exchange rates) and natural disasters (droughts, hurricanes, earthquakes) or civil strife. But SOEs may not have the same incentives as private enterprises to prepare to withstand such shocks, because they may expect their owner (the government) to use its fiscal resources to bail them out if the shocks occur. SOEs have also fewer incentives to maximize efficiency than comparable private companies operating in competitive markets if they expect to receive subsidies for losses or if they are not allowed to retain a significant portion of their profits.

A number of factors can exacerbate the potential softness of the SOEs' budget constraint inherent in the state ownership of the enterprises. One important factor is the imposition on SOEs by the government of non-commercial objectives and practices, uncompensated by adequate budgetary transfers. Examples of such practices include:

- The imposition of pricing policies that do not allow recovery of operating costs at a level of efficiency in line with that of private competitors, or the generation of profits sufficient to sustain an adequate level of investments;
- The imposition of wage or employment policies that place SOEs at a competitive disadvantage; and
- Requirements to use domestic supplies and equipment, even at a higher cost than imported ones, or encouragement to tolerate customer arrears or distribution losses.

SOEs that incur protracted losses as a result of such policies and practices can understandably come to expect to be ultimately bailed out by the government, if and when their finances become unsustainable. In the same vein, a practice of politically motivated interference in the SOEs' operations, including decisions on the location and type of investments, the recruitment of staff, procurement, and others, can justify expectations of bailouts.

² For discussions on the assessment and management of fiscal risks in general see, for example, Cebotari et al. (2009), IMF (2012 and 2016), and Petrie (2013). On SOE-related fiscal risks, see, in particular, Longmore, Riveira, and Verhoeven (2014), OECD (2014), Ossowski (2014), and World Bank (2015).

Another source of bailout expectations can be an excessive extraction by the government of resources from SOEs through dividend distribution, or taxation or royalty policies that ultimately undermine the capacity of the SOEs to invest and to compete effectively in their respective markets.

While such sources of soft budget constraints reflect policies that adversely affect SOEs' finances, other sources may be policies or circumstances that favor the SOEs unduly, specifically:

- Preferential access to financing. This may involve more favorable lending terms from domestic public or private banks than those extended to comparable private enterprises; or a lower cost of bond financing in domestic or external markets, due to expectations of government support of the SOE, in the event of subsequent financial difficulties (Musacchio, Pineda Ayerbe, and Garcia, 2015);
- Information asymmetries between the SOEs (the agents) and the government (the principal) regarding the enterprises' operational, economic, and financial performance. These asymmetries may reflect delays, incompleteness, lack of standardization, or limited relevance of the reporting flows from the SOEs to the government. They may also be partly the result of fragmented systems of control of the enterprises, as when they report to different parts of the government (the multiple principals problem); and
- A system of controls over the enterprises' budgets and their resort to borrowing that depends greatly on government discretion, thus opening up ample scope for bargaining.

Effective management of SOE-related fiscal risks requires careful identification and assessment of such risks and policy and institutional reforms to mitigate them. Given the multiplicity of potential sources of such risks, their assessment is necessarily country- and sector-specific, and requires an in-depth analysis of the institutional framework governing SOEs' operations, as well as of the main factors affecting their economic and financial performance. The task is complicated by the fact that actual practices, in particular with respect to governance and management of SOEs, sometimes do not fully conform to the letter of the law. Moreover, published databases on SOEs' finances do not always include all the information needed to adequately assess and quantify the fiscal risks that they may create.

Although risk-mitigation strategies also need to be tailored to reflect the country and sector specificity of the assessed risks, international experiences point to some broadly applicable good practices in this respect (e.g., IMF, 2016; World Bank, 2014).³ In particular, they point to the importance of:

- SOE governance arrangements that ensure operational independence and accountability of SOEs' boards and management, including through clear, well-articulated, and strictly enforced performance contracts, which are fairly common in OECD countries (OECD, 2015).
- Strictly limiting the use of SOEs in quasi-fiscal activities to instances where those activities can be more effectively performed through the enterprises than through the

³ Many of these precepts are similar to those discussed in the extensive literature on minimizing soft budget constraints for subnational governments. See Ter-Minassian (2015) for a summary of this literature.

public administration. Any such activity should be identified, costed, and compensated through transparent budget transfers.

- Minimizing discretion in interactions between the government and its SOEs. In particular, administrative approval by the government of SOEs' borrowing should be replaced by rules-based limits related to SOEs' capacity to service their debt.
- Sound budgeting and financial management practices by SOEs, including systematic assessment, disclosure, and adequate provisioning for the impact of adverse exogenous shocks and for contingent and known future liabilities.
- Timely reporting by SOEs to the government entities, including the Ministry of Finance, responsible for their oversight.

3. A Brief Overview of the SOE Sector in Peru

3.1. General Characteristics of the Sector

The CG SOE sector⁴ in Peru is smaller than in most other large LA countries, in terms of number of enterprises, contribution to GDP, employment, and investment. This reflects an extensive privatization process during the 1990s. Prior to this process, the number of SOEs exceeded 300, and their expenditures were equivalent to around one-third of GDP. Moreover, many of these enterprises were loss-makers, and in 1982 the combined deficit of the SOEs approached 5 percent of GDP. The privatization process was largely completed by the late 1990s, and the focus of government efforts shifted to strengthening the governance and especially the financial performance of the remaining enterprises under total or partial government control (World Bank, 2014).

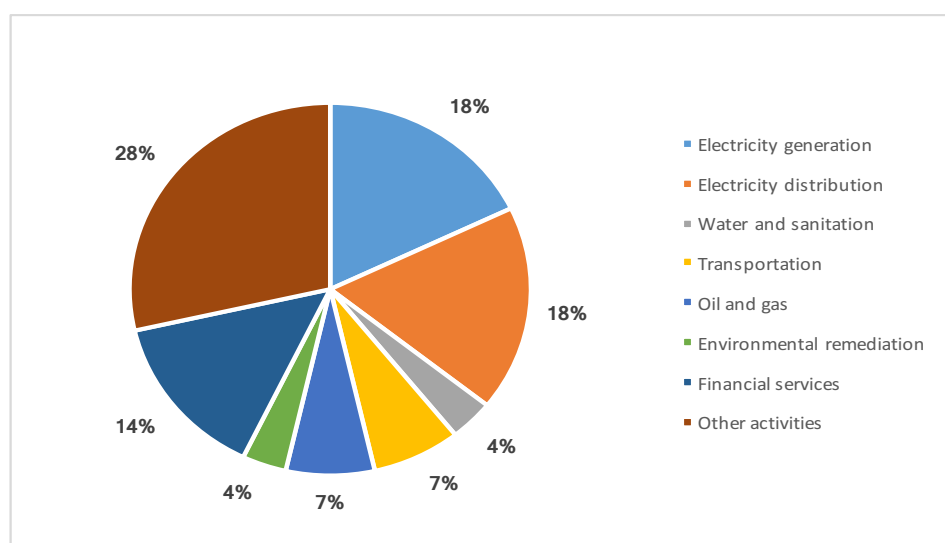
The CG SOE sector in Peru currently encompasses 33 enterprises, included in a holding company (Fondo de Financiamiento de la Actividad Empresarial del Estado, or FONAFE); and a national oil company (Petroleos del Peru, or PETROPERU), which is overseen by the Ministry of Energy and Mining (MINEM) and the Ministry of Economy and Finance (MEF).⁵ Of the 33 enterprises included in the FONAFE holding, 16 are in the electricity sector (five generators and 11 distributors); five in infrastructure (water and sanitation, and transportation); one in the administration of hydrocarbon contracts (PeruPetro); one in the remediation of environmental damages from mining (Activos Mineros); four in the financial sector; and the remaining six in miscellaneous activities (Figure 1). The government holds sole or majority control in all of these enterprises.

In addition, FONAFE represents the government's interests in 17 enterprises in which it holds minority participation, and in eight enterprises in the process of liquidation (see Figure A1 in the Annex). Since 2013, FONAFE is also overseeing the public health provider (ESSALUD). The operations of this enterprise are included in the government's financial statistics, and therefore will not be reviewed here.

⁴ Municipalities also own many enterprises. The CG's SOEs and municipal enterprises together constitute the public enterprise subsector of the nonfinancial public sector (NFPS).

⁵ The MINEM holds 60 percent of PETROPERU's shares; the MEF holds the rest.

Figure 1. Distribution of SOEs by Sector (in percentage)



Sources: FONAFE (2015); PETROPERU (2015).

Some of FONAFE's enterprises operate in competitive markets, and all are subject to the same tax regime as private companies.⁶ Their relative weight varies across sectors. The electricity generation companies provide about 23 percent of national production, and the distributors account for about 19 percent of domestic electricity sales.⁷ The water and sanitation company (SEDAPAL), which has the monopoly on provision of these services in the Lima and Callao metropolitan areas, accounts for about 50 percent of water output. The two transport infrastructure companies (CORPAC and ENAPU) operate 29 out of 50 national airports, and a declining share of the public ports,⁸ respectively. PETROPERU, which transports, refines, distributes, and sells oil and liquefied gas products, accounts for nearly 50 percent of the domestic oil market (PETROPERU, 2014). Banco Nación (the largest of the public financial institutions) accounts for about 11 percent of total bank deposits and 4 percent of credits.

The share of SOEs in total employment is quite small, namely, about 0.15 percent (of which 0.13 percent by the enterprises included in the FONAFE holding, and 0.02 percent by PETROPERU). The weight of SOEs in aggregate investments is also relatively small. The combined investments of the nonfinancial SOEs in the FONAFE holding and of PETROPERU were equivalent to about 2 percent of total investments, and to 0.4 percent of GDP, in 2015. However, their weight was more significant in specific sectors. For instance, the SOEs accounted for 7 percent of investments in the electricity sector in 2014; SEDAPAL accounted for 65 percent of investments in water and sanitation in 2012.

⁶ Total taxes paid by FONAFE's enterprises and PETROPERU in 2015 were equivalent to about 0.6 percent of GDP.

⁷ The electricity distributors operate, however, in near monopoly situations in their respective regions. They do not cover the Lima-Callao metropolitan area, which is served by two private providers and accounts for a large share of Peru's electricity consumption.

⁸ The operation of the major port of Callao was transferred to private concessionaires in 2010–11.

3.2. Governance Arrangements⁹

Since 1999, when the FONAFE holding company was established, Peru has followed a centralized model of oversight of its SOEs, aiming to strengthen financial control over the enterprises, resolve the multiple principals problem, and promote synergies within the sector. With the above-mentioned exception of PETROPERU, FONAFE is responsible for:

- Exercising the ownership rights of the shares of enterprises partially or fully owned by the State, and managing the resources generated by such rights;
- Establishing corporate governance and management norms for the SOEs;
- Overseeing their activities, to ensure that they conform with applicable laws, regulations, and directives;
- Approving the SOEs' five-year strategic plans and annual budgets and monitoring their implementation; and
- Vetting proposed appointments of directors of SOEs' boards and submitting them to the respective shareholders' assemblies for final approval.

The FONAFE holding company is governed by a board of directors, which is chaired by the minister of Economy and Finance and includes the president of the Council of Ministers and the ministers of Energy and Mines, Transport and Communications, and Housing, Construction, and Sanitation. The president appoints FONAFE's executive director on the recommendation of the minister of Economy and Finance.

In the last few years, FONAFE has created business networks, each comprising the CEOs of the companies in the same sector, with a view to promoting synergies in operational activities and investment decisions, and mutual learning. It has also implemented a system for electronic documentation exchange, a software package that facilitates both exchange of information among the enterprises included in the holding company and submission of periodic reports to FONAFE.

Boards of directors with three to seven members govern individual SOEs. They are responsible for strategic guidance and oversight of the company and for appointing its CEO. Board members must meet criteria set by FONAFE in terms of ethics, education, and professional experience, and are generally proposed by the line ministry of the respective SOE's sector. However, since 2010 at least one of the board members must be selected through an open public competition. Directors receive honoraria for attending board meetings but no salary or benefits. They are appointed for indefinite periods, and FONAFE's board of directors can revoke the appointments at any time.

CEOs are responsible for the operational management of the SOEs. They are selected through a competitive process conducted by private head hunters, and they must meet specific requirements in terms of professional expertise in the sector. Their appointments are also for indefinite periods and can be revoked at any time by the SOE's board. There is generally significant turnover of both directors and CEOs when the government changes. Managers' salaries are not linked to performance.

⁹ More detailed descriptions of SOE governance arrangements can be found in FONAFE's Directiva de Gestión and in World Bank (2014).

3.3. Planning and Budgeting

SOEs are required to prepare five-year strategic plans setting out the enterprise's mission and vision, specific objectives and targets, and indicators to measure achievement of the latter. These plans, which must be aligned with FONAFE's own strategic plan, serve as frameworks for each SOE's annual operational plans and budgets. The strategic targets and indicators reflect the sector's specificities. The most frequent ones relate to increasing the population's access to services provided by the enterprises; improving the quality of the services; speeding up the execution of the enterprise's investments; and improving operational efficiency, such as measures of output per worker or of operating costs over sales. FONAFE monitors the enterprises' progress in achieving these objectives, and publishes periodic rankings of the enterprises with respect to some of them.

In preparing their annual budget proposals for review and approval by FONAFE, SOEs are required to use the same macroeconomic assumptions regarding the growth of aggregate demand and output and the same international and domestic prices used by the MEF to prepare the CG's budget. The SOEs' budget proposals do not include systematic sensitivity or risk analyses of these assumptions.

FONAFE plays an important role in the budget process of the SOEs within its purview. It is charged by the MEF with the responsibility of ensuring that SOEs' budgets are in the aggregate consistent with the target for the overall balance of the NFPS set by the Multi-year Macroeconomic Framework (Marco Macroeconómico Multianual, or MMM) (MEF, 2016). Specifically, the MMM sets medium-term targets for the balance of the NFPS (general government (GG) plus the nonfinancial SOEs). The permissible level of GG expenditures in any given year of the period covered by the MMM is then derived by adding to projected GG revenues for the year the targeted primary balance of the nonfinancial SOEs, and subtracting the interest paid on the public debt.

Each year, the MEF provides FONAFE an aggregate target, consistent with the MMM, for the primary balance of the SOEs within its purview. Accordingly, FONAFE negotiates with each SOE adjustments in proposed expenditures (especially for investments) to ensure this consistency. In deciding the distribution of budgeted surpluses and deficits, FONAFE takes into account revenue prospects and current spending needs of individual enterprises, government priorities for investments across sectors, and the past record of each enterprise in carrying out its proposed investments.

The rate of implementation of SOEs' planned investments has typically been relatively low. This has reflected not only financial constraints (the SOEs have limited access to medium- to long-term borrowing), but also various types of capacity constraints and the cumbersome procedures to vet public investment proposals under the earlier National Public Investment System (Sistema Nacional de Inversión Pública, or SNIP), which has been recently replaced by a new more agile system (*Invierte.pe*) (see Box 1 below).

In the event of unforeseen developments, SOEs requiring modifications to approved budgets during the year must submit their requests with supporting documentation to FONAFE for approval. If a request involves a deterioration of the SOE's primary balance (on a cash basis) or of its overall balance (on an accrual basis), it must be approved not only by

FONAFE's board of directors but also by the Directorate General of Macroeconomic Policy and Fiscal Decentralization of the MEF.

SOEs are subject to extensive reporting and transparency requirements. They have to report monthly to FONAFE on their budget execution and financial performance; quarterly on the same, and on the execution of their operational plans; and annually on compliance with their strategic plans, their budget and financial accounts, and the results of their external audits. FONAFE's monitoring could be strengthened by a modernization of the group's information technology (IT) systems that would allow real time access of the holding to its enterprises' systems.

FONAFE has issued specific transparency regulations for its SOEs and monitors compliance with them. As a result, a significant amount of financial and operational information can be found on the websites of the holding companies and individual enterprises, although the narrative accompanying the information is often quite limited.

In 2006, the national oil company PETROPERU was excluded from the purview of FONAFE and granted operational and financial autonomy, under broad oversight by the MINEM. Its strategic and operational plans and its annual budgets are approved by its board, which also regulates its procurement procedures. Its investments have not been subject to the SNIP filter, and it retains its profits for reinvestment. However, an end-2016 decree (DL 1292) envisages that, after a reorganization and restructuring in 2017–18, PETROPERU would be reintegrated into the FONAFE holding company.

Box 1: Peru's National System of Public Investments

Until recently, all public investments—whether by general government entities or by SOEs except PETROPERU—had to pass through the filter of the National System of Public Investments (Sistema Nacional de Inversión Pública, or SNIP). The system was used to evaluate and approve or reject proposed public investments (pre-investment phase) and to monitor their execution.

The MEF, through its Public Investments Directorate (Dirección General de Inversión Pública, or DGIP), managed the system. The DGIP was responsible for developing and updating the system's methodologies, but its utilization was decentralized: it included nearly 1,300 evaluation units at the national and subnational levels and a large number of project formulation units.

The projects were evaluated on the basis of sector-specific methodologies that utilized social (shadow) prices for variables such as the exchange rate, the discount rate, the price of petroleum, and urban and rural unskilled labor. The DGIP maintained the database through which information regarding proposed projects was submitted to the system.

The system was widely regarded as excessively bureaucratic, and contributing to long delays in the approval and execution of public investments. It was also seen as inadequate to ensure that the approved investment reflected evolving government priorities.

For these reasons, the government recently replaced the SNIP with a new, more agile system (*Invierte.pe*), which uses the MEF to determine the total envelope of public investments within the framework of the MMM, formulate strategic priorities, and evaluate selected completed projects ex post. Responsibility for the preparation, approval, procurement, and monitoring of execution of individual projects will henceforth rest with the relevant sectoral entities. Individual SOEs will be responsible for their own investments within the respective overall investment limits approved by FONAFE.

3.4. Aggregate Financial Trends

The financial performance of the SOE sector as a whole improved substantially during the 1990s as a result of the economic stabilization, privatization and liquidation programs and of the government's efforts to strengthen SOEs' institutional framework, including through the creation of FONAFE and specialized independent bodies to regulate pricing and other policies in the main sectors in which the SOEs operate (see below for details).

Table 1 below shows the shrinkage of the sector after 1990, with both aggregate revenues and expenditures of nonfinancial SOEs being reduced by the 2000s to one quarter of their respective levels in relation to GDP in the 1980s.¹⁰ The structure of primary expenditures has been changing in recent years. The share of wages and salaries in total spending has been declining (to less than 19 percent in 2015), but that of outlays on outsourced services has been rising (to about 25 percent). The share of investment fluctuated narrowly around a slightly declining trend until 2013, when it began to rise again, mainly reflecting the beginning of a large investment by PETROPERU (see below for details).

Table 1: Peru: Operations of Nonfinancial SOEs, 1970–2015 (as percent of GDP)

	Av. 1970s	Av. 1980s	Av. 1990s	Av. 2000s	2010	2011	2012	2013	2014	2015
Current revenue	16.5	25.1	11.0	6.0	5.2	5.6	5.2	5.5	5.4	4.8
Primary expenditure	18.8	27.2	10.9	6.0	5.4	5.6	5.1	5.5	5.6	4.8
Current expenditure	15.3	23.4	9.9	5.6	4.9	5.2	4.8	5.2	5.1	4.2
Capital expenditure	3.5	3.8	1.0	0.4	0.5	0.3	0.3	0.4	0.5	0.6
Capital revenue	1.0	0.9	0.3	0.1	0.1	0.1	0.1	0.2	0.2	0.1
Primary balance	-1.2	-1.2	0.3	0.1	-0.1	0.1	0.2	0.2	-0.1	0.1
Interest payment	0.7	1.4	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Overall balance	-1.9	-2.6	-0.1	0.0	-0.2	0.0	0.2	0.1	-1.0	0.1

Source: Banco Central de Reserva del Peru

A number of the nonfinancial SOEs receive capital transfers from the CG, mainly under programs to support investments for improved access to essential public services, such as electricity and water and sanitation. Such transfers have averaged the equivalent of 0.1 percent of GDP in recent years (Table 2). The largest recipients have been SEDAPAL and some of the electricity companies. Transfers from nonfinancial SOEs to the CG (other than for payment of dividends) were larger (averaging nearly 1 percent of GDP in the last three years), but strongly concentrated in a few enterprises, mainly PeruPetro and Activos

¹⁰ The table covers the operations of all nonfinancial SOEs included in the NFPS, which exclude ESSALUD.

Mineros, for payment of royalties. Transfers to and from financial SOEs were concentrated in Fondo MiVivienda to finance SOE's credits for low income housing.

Table 2: Peru: Transfers between CG and Selected SOEs, 2013–15

Transfers as percent of GDP	2013	2014	2015
From CG to SOEs	0.20	0.22	0.32
Of which: to nonfinancial SOEs	0.12	0.11	0.07
From SOEs to CG	1.15	1.07	0.75
Of which from nonfinancial SOEs	1.12	1.04	0.73
Transfers from CG as percent of SOEs' revenues			
To electricity distributors	0.03	0.02	0.03
Of which: to Adinelsa	0.003	0.001	0.001
To SEDAPAL	0.07	0.1	0.03
To ENAPU	0.01	--	--
To Activos Mineros	0.004	--	0.003
Transfers from SOEs to CG, as percent of SOEs' primary expenditures			
From electricity distributors	0.05	0.07	0.03
From PeruPetro (royalties)	5.7	4.6	2.4
From Activos Mineros (royalties)	0.09	0.1	0.09

Table 1 also highlights the substantial improvement of the primary and overall aggregate balances of the SOEs over the period. The primary balance has averaged around 0.1 percent of GDP, and the overall balance has fluctuated narrowly around equilibrium since the early 1990s, compared with deficits averaging over 2 percent of GDP and reaching nearly 5 percent of GDP in some years during the 1970s and 1980s. For 2016, the Medium-Term Macroeconomic Framework for 2017–19 forecasts an aggregate primary deficit equivalent to 0.1 percent of GDP, reflecting large investments by PETROPERU and SEDAPAL.

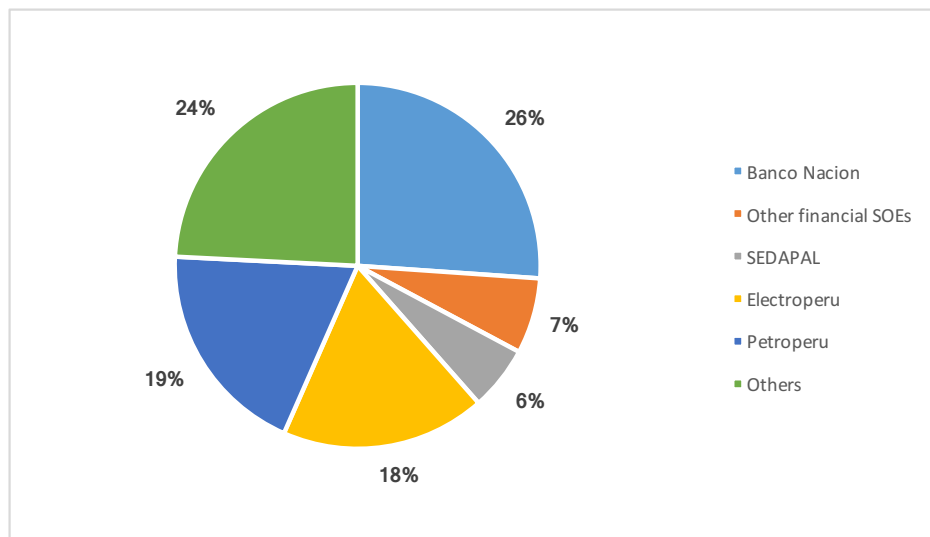
The majority of the SOEs have tended to record on average positive net profits in recent years, although some of them have experienced occasional losses in those years, in some cases reflecting adverse effects of exchange rate movements. Only three enterprises (Adinelsa, ENAPU, and Activos Mineros) have experienced net losses in at least three of the last seven years. The case of Adinelsa is discussed in the next subsection on the electricity SOEs.

The finances of ENAPU, the SOE that administers some nine ports in Peru, have been adversely affected by the difficulty in adjusting the scale of its operations, specifically its payroll, to the structural decline in revenues due to the transfer of some major ports to concessions and by the cyclical downturn in foreign trade in more recent years.

Activos Mineros is in charge of supporting mining projects and remedying environmental damages. Its revenues, which include fees from mining companies and budgetary transfers, have been structurally inadequate to cover expenses. Moreover, the company's annual reports attribute part of the losses in recent years to exchange-rate fluctuations.

The distribution of net profits is relatively concentrated. Four enterprises (Banco Nación, Electroperu, SEDAPAL, and PETROPERU) together accounted for 69 percent of SOEs' total net profits in 2015 (Figure 2).

Figure 2: Distribution of SOEs' Profits, 2015

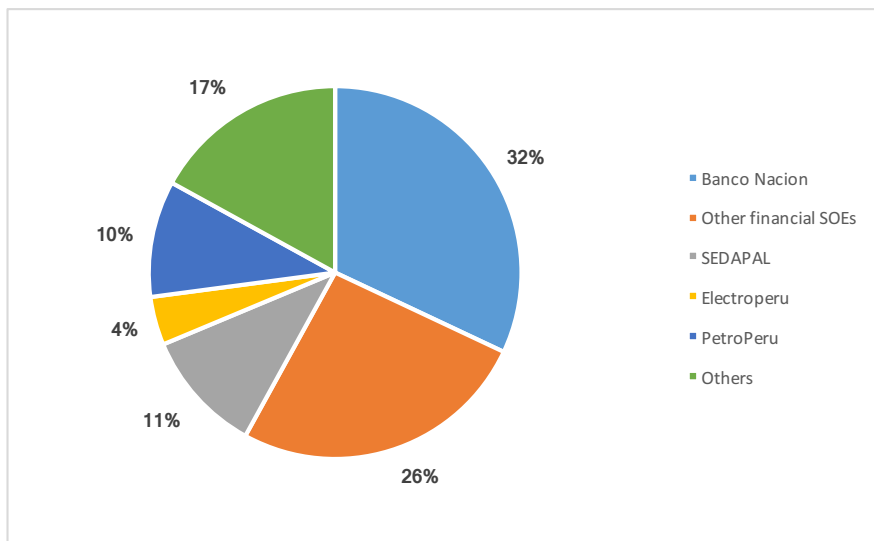


Sources: FONAFE (2015); PETROPERU (2015).

Most of FONAFE's enterprises are required by law to transfer all their profits to the holding company. Exceptions are Electroperu, which is required to transfer 86 percent of its profits to the Consolidated Provisional Reserve Fund (Fondo Consolidado de Reservas Provisionales), the actuarial public pension fund that is the legal owner of the shares of the company and the remaining 14 percent to FONAFE, and Banco Nación, which transfers its profits directly to the Treasury. The board and management of FONAFE decide on the allocation of the combined profits between dividends to the Treasury and reinvestments in some of the enterprises, in line with the government's investment priorities and the SOEs' record in carrying out investment plans.

The distribution of the SOEs' assets and liabilities is also quite concentrated. Not surprisingly, the four financial enterprises account for a large share (58 percent) of the assets, which were equivalent to 15.2 percent of GDP in 2015. The other major asset holders are SEDAPAL and PETROPERU (Figure 3).

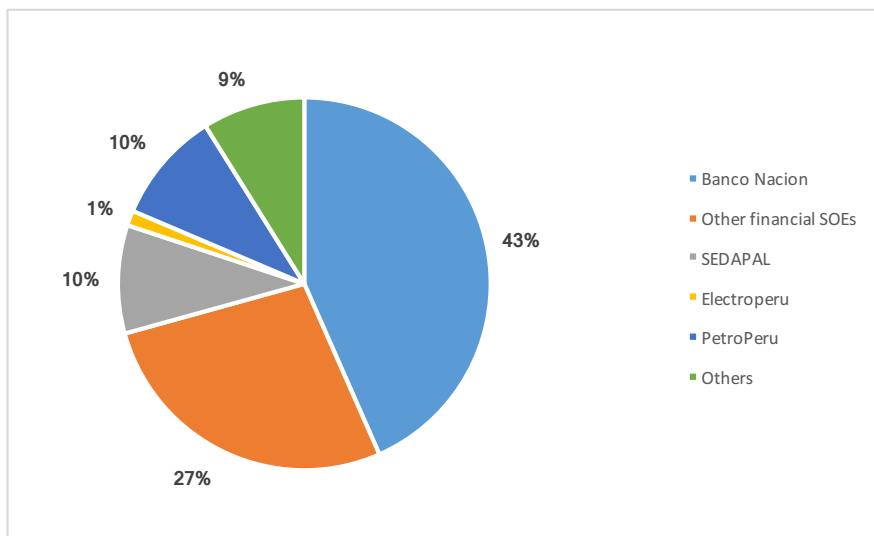
Figure 3: Distribution of SOEs' Assets, 2015



Sources: FONAFE (2015); PETROPERU (2015).

The financial SOEs account for an even larger share (71 percent) of total liabilities, and SEDAPAL and PETROPERU for nearly 10 percent each (Figure 4).

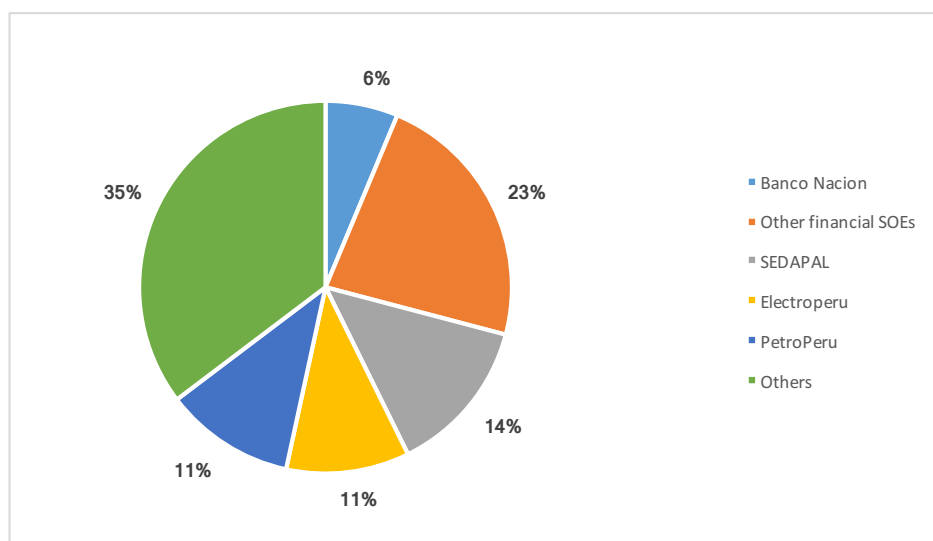
Figure 4: Peru: Distribution of SOEs' Liabilities, 2015



Sources: FONAFE (2015); PETROPERU (2015).

In contrast, the share of the total *patrimonio* (equity plus reserves, plus net profits) held by nonfinancial SOEs is more than double that of the financial ones (Figure 5).

Figure 5: Peru: Distribution of SOEs' Patrimonio, 2015



Sources: FONAFE (2015); PETROPERU (2015).

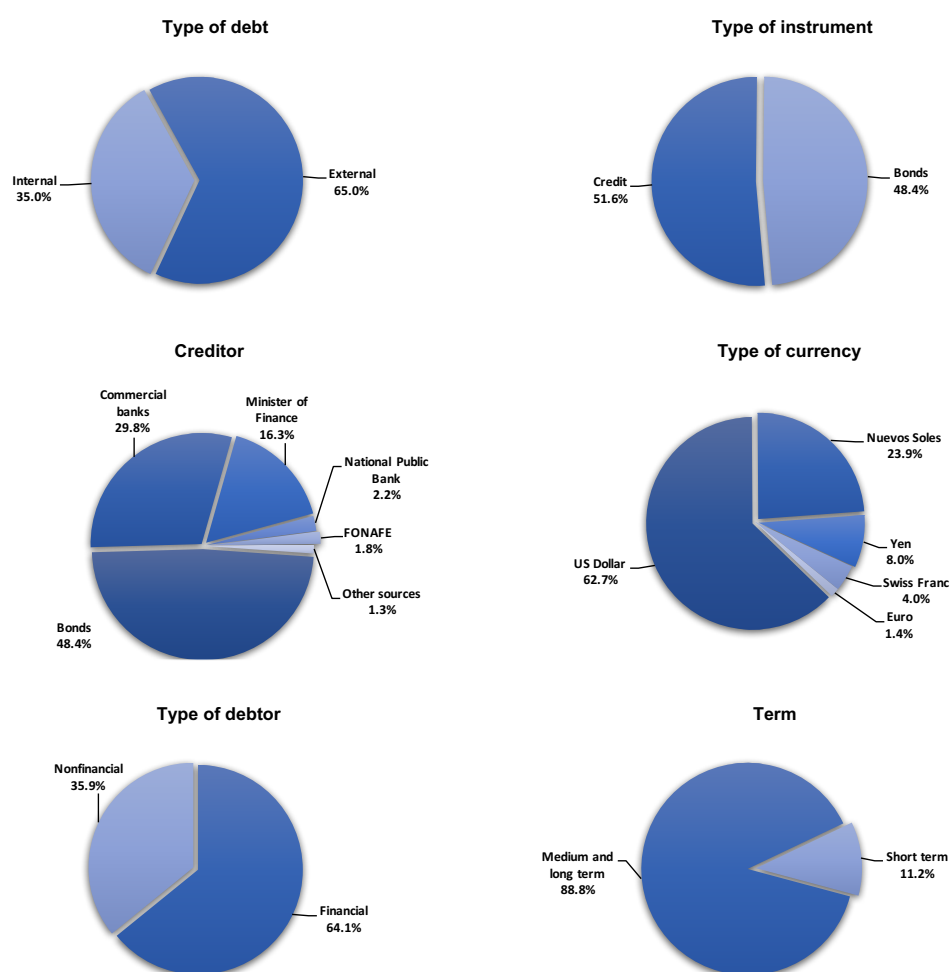
According to Law 28563 (Law of the National System of Indebtedness, or Ley General del Sistema Nacional de Endeudamiento), borrowing by SOEs is governed by the same principles of prudence, fiscal responsibility, repayment capacity, and transparency that apply to the rest of the public sector. The MEF, through its Public Debt Directorate, establishes the norms that regulate public sector borrowing, registers all debt operations, including those of SOEs, and approves all government guarantees to SOEs' debt.

All medium- to long-term borrowing by nonfinancial SOEs is subject to prior authorization by the MEF, while such borrowing by financial SOEs is not, unless guaranteed by the government. Nonfinancial SOE are also prohibited by law from borrowing abroad, except through the CG (so-called *creditos traspasados*). Given the narrowness of domestic capital markets, in practice, FONAFE's nonfinancial SOEs have not been able to access medium- to long-term financing, except through the CG or through FONAFE itself.

In contrast, PETROPERU has been authorized to access external markets for up to US\$4.3 billion to finance the renovation and expansion of its major refinery at Talara (see the next subsection for details).

Figure 6 shows the composition of SOEs' debt as of end 2015. The total debt was equivalent to about 3.6 percent of GDP. External debt represented about two-thirds of the total, and medium- to long-term debt nearly 90 percent. Financial SOEs accounted for nearly two-thirds of the debt. The main creditors were bondholders and commercial banks. About 16 percent of the debt was owed to the CG.

Figure 6: Peru: Composition of SOEs' Debt, 2015



Source: SBS (2015).

3.5. Selective Sectoral Analysis

This subsection presents details on the nature and the operational, economic, and financial performance of the most important SOEs in Peru.

3.5.1. Financial SOEs

The financial SOE sector includes four institutions: Banco Nación, Cofide, Agrobanco and the Fondo Mivivienda (FMV). FONAFE fully owns these four enterprises, although other entities own 2 percent of Cofide. The SOEs accounted for 15 percent of assets, 14 percent of liabilities, and 24 percent of the *patrimonio* of multipurpose banks in 2015 (FONAFE, 2015).

Banco Nación is a multi-purpose bank whose main function is the provision of financial services to government entities and to more remote communities in the country. It therefore

has a wide network of branches and ATMs, currently covering over 60 percent of the territory. At the beginning of the current decade, Banco Nación compared well with the average multipurpose bank with respect to most financial indicators (Table 3). This relative standing has been maintained or improved in recent years with respect to some indicators, albeit with year-to-year fluctuations, but has worsened with respect to others, notably those related to solvency. The 2015 performance was somewhat adversely affected by foreign exchange depreciation and wage increases. Nevertheless, Banco Nación contributed nearly 55 percent to the total profits of financial SOEs in 2015.

Cofide is a development bank, which finances itself on domestic and external financial markets and provides financing for domestic investments, either directly or through other financial intermediaries. Its financial indicators have weakened in recent years, but it remains comparatively well capitalized (Table 3).

Agrobanco accounts for about 15 percent of total credit to agriculture. It is relatively well capitalized, and some of its financial indicators have improved in recent years. However, it has been increasing its foreign indebtedness, albeit reportedly adequately hedged. FMV provides financing to both sides of the housing market (acquisition and construction of real estate). It finances itself on the capital markets, through Cofide, and through the above-mentioned transfers from the government budget for specific housing programs. It accounts for about 3 percent of total housing credits.

Table 3: Peru: Selected Financial Indicators for Financial SOEs, 2010–15 (*in percent unless otherwise indicated*)

Indicator	Banco Nación		Cofide		Agrobank		Multipurpose banks' average	
	2010	2015	2010	2015	2010	2015	2010	2015
Solvency								
Equity ratio	17.7	13.3	51.5	30.5	89.9	22.1	13.7	14.1
Liabilities/capital[1]	14.4	20.6	1.7	5.9	0.3	4.4	13.5	11.9
Asset quality								
Share of non-performing credits	1.4	0.6	0.3	0.8	2.8	2.1	1.5	2.5
Provisions/Non-performing credits	315.0	456.0	7567.0	1105.0	156.0	191.0	245.6	166.6
Efficiency								
Administrative costs/assets	3.9	3.9	1.5	0.6	9.9	4.0	4.0	3.3
Credits/personnel expenditures[2]	885	2,141	9,319	25,566	1,970	4,352	2,650	3,534
Deposits/number of branches[3]	36,347	51,858	....	....	....	....	77,681	96,305
Profitability								
Return on Equity (ROE)	24.5	37.3	2.8	3.0	1.2	3.9	24.2	22.1
Return on Assets (ROA)	1.9	2.5	1.2	0.8	1.0	0.8	2.4	2.1
Liquidity								
Liquid assets/ short-term liabilities	1.1	0.7	....	....	....	....	1.8	0.3

Source: SBS (2015).

Notes: [1]: number of times, [2]: thousands of PEN, [3] thousands of PEN.

3.5.2. The Electricity Sector

The electricity sector in Peru has experienced substantial gains in the last two decades. At the beginning of the 1990s, the sector was largely a public monopoly, plagued by serious problems: a capacity deficit, low coverage of the territory, frequent service interruptions, and large distribution losses. Inadequate tariffs, highly influenced by political considerations, over-staffing, and low investments contributed to the poor performance of the sector.

Substantial reforms were introduced with a law on concessions (Ley de Concesiones Eléctricas de 1992) and subsequent implementing decrees in the second half of the 1990s, which among other things separated the activities of electricity generation, transmission, and distribution; privatized more than half of generation and distribution; awarded the operation, maintenance, and upgrading of transmission lines to concessions; and created a regulator (Organismo Supervisor de la Inversión en Energía y Minería, or OSINERGMIN) to set tariffs and supervise compliance by the electricity enterprises with legal and regulatory requirements. Further reforms in the generation and transmission sectors were introduced in 2006 with Law 28832 (Law of Efficient Generation, or Ley de Generación Eficiente), aimed at stimulating investments and competition.

These reforms have contributed to substantial improvements in the operational and financial performance of the sector. Access to electricity has more than doubled, from 45 percent in 1990 to 93 percent in 2014, and the quality and reliability of the service has improved. Significant further progress is needed, however, in rural electrification, which remains below 75 percent; in improving the transmission infrastructure; and in reducing energy interruptions and losses.

The two main sources of electricity are hydroelectric and thermal power (with roughly equal shares). Since the coming on stream of natural gas from the Camisea field, thermal plants are increasingly shifting from oil to less expensive gas firing. Installed generation capacity significantly exceeds current and foreseeable demand over the near term. Industrial and commercial users account for nearly two-thirds of total electricity consumption.

The five SOEs in the generation sector account for less than one quarter of the output of the sector. A Colombian company (ISA) operates the main transmission system under a 30-year concession. The 11 SOEs in the distribution sector account for about one-third of the sector's sales. All the SOEs operate under the same regulatory regime as private enterprises in their respective sectors.

Sales of electricity among generators are negotiated freely in the spot market or through longer-term contracts. Tariffs for electricity sales to distributors have two components: one to cover variable costs, determined through contracts (subject to a maximum set by OSINERGMIN), and one to cover the recovery of investment costs, set annually by the regulator. Transmission tariffs are set in the context of concession auctions, or through contracts negotiated with large-scale users.

OSINERGMIN sets tariffs for electricity distribution based on a formula that combines an estimate of the annual replacement value of investments carried out by a "model efficient" firm with actual operation and maintenance costs. These tariffs vary geographically,

reflecting population density.¹¹ There are cross-subsidization systems (the Fondo de Compensación Social Eléctrica, or FOSE, and the Fondo de Inclusión Social Eléctrica, or FISE) that favor rural and small electricity consumers. Distribution tariffs are revised every four years, but can be adjusted more frequently to reflect changes in the exchange rate, or in relevant commodity prices, that exceed given thresholds.

According to OSINERGMIN, electricity tariffs for final consumers in Peru are broadly in line with the LA regional average. Tariffs for industrial users are higher than in Colombia, but lower than in Chile. The reverse is true for tariffs for residential users. Concerns about the adequacy of the existing tariff structure to cover the SOEs' needs for new investments, given their borrowing constraints, prompted the government in 2015 to create a trust within FONAFE, to be funded through tariff increases, to finance such investments (Decree Law 2108).

Tables 4 and 5 compare various financial indicators of the generation and distribution SOEs with the averages of the respective sectors. The tables show significant variation in the financial performance of the SOEs, both among themselves and with respect to the sector averages. In general, most of them compare relatively well in liquidity and solvency indicators, and less well in profitability and efficiency indicators. The weakest performer in the group is Adinelsa, which is responsible for electricity distribution in rural and remote areas of the country and has recorded repeated, albeit relatively small, losses (equivalent on average to about 1.5 percent of revenues) in recent years.

Table 4: Peru: Selected Financial Indicators for Electricity Generation SOEs, 2014

	<i>Egasa</i>	<i>Egamsa</i>	<i>Egesur</i>	<i>Electroperu</i>	<i>San Gaban</i>	Total generation system
Liquidity						
ST assets / ST liabilities	6.3	1.1	7.0	6.0	3.1	1.5
Cash/ST liabilities	1.1	0.1	4.3	5.1	1.6	0.6
Solvency						
Liabilities/net patrimonio	0.1	0.3	0.2	0.2	0.2	0.8
Profitability						
ROA (%)	6.0	6.0	3.6	13.2	13.2	11.8
ROE (%)	8.9	7.5	5.4	18.2	17.4	19.7
Efficiency						
Revenues/fixed assets (%)	40.0	18.0	47.2	35.9	35.1	42.1
Personnel	2.9	1.4	6.0	2.2	3.2	2.3

Source: OSINERGMIN Anuario Estadístico (2014).

¹¹ Specifically, the electric systems are grouped into six "models," from high-density urban to rural. See Dammert, Carpio, and Molinella (2013) for a more detailed description of the system of determination and revisions of electricity tariffs.

Table 5: Peru: Selected Financial Indicators for Electricity Distribution SOEs, 2014
(Part I)

	<i>Adinelsa</i>	<i>Electro Oriente</i>	<i>Electro Sur Este</i>	<i>Electro Ucayali</i>	<i>Electro-</i>	<i>Electro-Noroeste</i>	<i>Total distribution</i>
Liquidity							
ST assets / ST liabilities	7.7	1.9	2.1	2.9	0.8	0.5	0.9
Cash/ST liabilities	0.5	0.5	0.9	1.5	0.2	0.0	0.3
Solvency							
Liabilities/net patrimonio	0.1	0.3	0.2	0.1	0.3	0.6	0.7
Profitability							
ROA (%)	(0.5)	1.3	6.7	2.7	7.6	9.3	9.7
ROE (%)	0.4	3.2	7.0	4.2	11.3	14.2	16.3
Efficiency							
Revenues/fixed assets (%)	44.9	55.2	44.7	80.4	43.7	79.2	68.7
Personnel expend./revenues (%)	1.7	3.6	3.9	6.2	3.0	3.4	4.1
Electricity losses (%)	n.a.	10.0	11.9	12.8	9.2	9.8	7.5

Source: OSINERGMIN Anuario Estadístico (2014).

With respect to investment performance, the last several years have seen significant differences between the generation and distribution sectors. Investments by the SOEs in the generation sector grew by over 11 percent a year on average in real terms over the period 2011–15, peaking in 2014. They remain, nevertheless a small share of total investments in electricity generation in Peru. In contrast, investments in electricity distribution virtually stagnated over the same period, resulting in a significant decline in their share of total investments in the sector (from 34 percent in 2011 to 22 percent in 2015).

Table 5: Peru: Selected Financial Indicators for Electricity Distribution SOEs, 2014
(Part II)

	<i>Electro-Norte</i>	<i>Electro Puno</i>	<i>Electro-Sur</i>	<i>Hidrandina</i>	<i>Seal</i>	<i>Total distribution</i>
Liquidity						
ST assets / ST liabilities	0.7	6.7	1.5	0.5	1.5	0.9
Cash/ST liabilities	0.2	4.0	0.8	0.1	0.4	0.3
Solvency						
Liabilities/net patrimonio	0.8	0.3	0.4	0.4	0.3	0.7
Profitability						
ROA (%)	7.5	4.9	3.7	6.6	11.2	9.7
ROE (%)	13.2	7.0	8.0	8.7	16.7	16.3
Efficiency						
Revenues/fixed assets (%)	64.9	48.4	73.9	58.2	117.8	68.7
Personnel expend./revenues (%)	5.1	4.1	6.0	2.7	6.4	4.1
Electricity losses (%)	9.1	11.1	9.0	9.1	8.3	7.5

Source: OSINERGMIN (2014).

3.5.3. PETROPERU

With a share of about 50 percent, PETROPERU is a major player in the domestic market for the refining, transportation, and distribution of petroleum products.¹² It represents the sole supplier of such products in most rural areas of the country. PETROPERU operates four

¹² The only other significant player in the domestic oil sector is Relapasa, owned by the Spanish oil company Repsol, with a large refinery at La Pampilla.

domestic refineries. The bulk (87 percent in 2015) of its sales are in the domestic markets, while a substantial share (nearly half) of its inputs is imported.

As indicated above, in 2006, Law 28840 excluded PETROPERU from the purview of FONAFE and granted the company autonomy in setting its own strategic and operational plans, investment plans, and annual budget, under only broad oversight by the Ministry of Energy and Mines. It also authorized it to retain its profits for reinvestment. PETROPERU has been beset in recent years by significant problems with its pipeline through the Amazon region, resulting in several large oil spills, and giving rise to substantial remedial costs.

Domestic oil product prices in Peru are free to fluctuate within a band. When international oil prices converted in domestic currency exceed the ceiling of the band, PETROPERU and other distributor enterprises register notional credits in an account with the price stabilization fund. When the prices fall below the floor of the band, they register in the account notional debits towards the fund.

Following a period of slow growth during the 2000s and through 2012, PETROPERU's investments have accelerated rapidly in the last few years, as the company embarked on an extensive modernization and expansion project of its main refinery at Talara, partly motivated by requirements to reduce the sulfur content of the oil. The project is currently estimated to cost around US\$4 billion (about 2 percent of GDP), expected to be financed mainly through foreign loans.

The recent deterioration in emerging markets' access to international capital markets has required an injection of capital in PETROPERU of 1 billion PEN at the end of 2016. At the same time, the government overhauled the board and management of the enterprise, requiring it to prepare within two years a comprehensive restructuring plan, to ensure PETROPERU's financial sustainability and operational efficiency in line with international standards for the sector.

Table 6 shows some key financial indicators for the enterprise in the last two years. It points to an improvement in its operational balance, partly reflecting income tax credits, and to the substantial increase in investment.

Table 6: Peru: Selected Financial Indicators for PETROPERU, 2012–15
(in millions of PEN. except as otherwise indicated)

	2012	2013	2014	2015
Sales	12,030	13,415	12,942	10,542
Purchases	11,316	13,373	12,744	9,072
Operating costs	938	1,001	1,077	1,089
Operating balance	61	347	-140	945
Financial expenditures	-50	214	192	246
Income tax	-50	-46	107	-205
Net profit /loss	66	92	-218	503
Total investments	269	413	657	2,129
Ratio of ST assets to ST liabilities	0.6	0.6	0.7	0.7
Administrative costs as percent of net sales	2.6	2.7	3.2	5.0
Ratio of liabilities to <i>patrimonio</i>	1.3	1.6	2.1	1.9
Net profit as percent of net sales	0.5	0.6	-1.5	4.2
ROA (%)	1.0	4.9	-1.7	10.1
ROE (%)	2.0	3.0	-8.3	15.7
EBIDTA	246	285	237	1247

Source: PETROPERU (2015).

3.5.4. The Water and Sanitation Sector

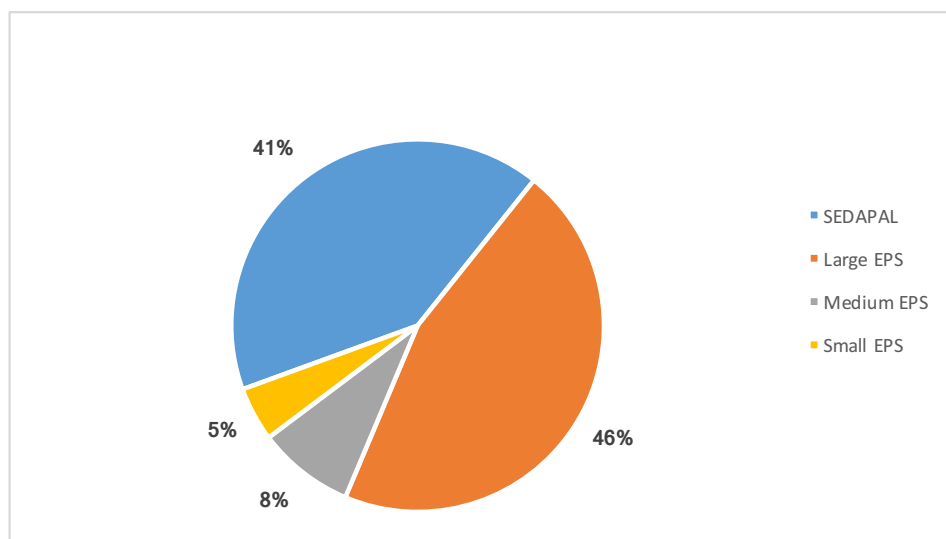
Peru has made significant strides over the last decade in improving households' access to water and sanitation services. For example, according to the most recent data published by the Institute of Statistics, the percentage of households with access to water inside the house increased from 62 to 79 percent between 2004 and 2014; that of households with sanitation facilities inside the house increased from 50 to 63 percent.

However, access remains quite low in rural areas, where the corresponding percentages in 2014 were only 62 percent and 14 percent, respectively, despite significant public investments since 2006 under the program Water for All (*Agua para Todos*). Moreover, the quality and reliability of water and sanitation services need significant improvement even in urban areas. The government has made rapid progress in the water and sanitation sector a priority objective for the next few years and has substantially boosted budgetary resources for investments in the sector, starting in 2017.

The provision of water and sanitation services is decentralized, with the role of the CG limited to regulation and oversight through the National Superintendence of Sanitation Services (Superintendencia Nacional de Servicios de Saneamiento, or SUNASS), and to ownership, through FONAFE, of SEDAPAL, which serves Lima and Callao. Other urban areas are mostly served by water and sanitation enterprises (*entidades prestadoras de servicios de saneamiento*, or EPS), which may be private, owned by the municipality, or mixed. In 2014, there were 49 such EPS, classified into three groups, depending on the

number of clients served. Together with SEDAPAL, they provided 17.4 million urban dwellers with water services, and 16 million with sanitation services, out of an estimated urban population of 23.6 million. Figure 7 below shows the share of the market held by each group of EPS and by SEDAPAL. Water and sanitation services in rural areas, where about one quarter of Peru's population still resides, are provided by myriad community organizations or directly by the respective municipal governments.

Figure 7: Peru: Market Shares of Different Types of Water and Sanitation Enterprises



Source: SUNASS (2015).

SUNASS has developed a benchmarking procedure to rank the operational performance of all the EPSs that it oversees, based on 14 indicators, including coverage of the population served, delay in meeting new requests for connection to the network, frequency of disruption of the services, number of hours of continuous service per day, and client satisfaction, among others. Not surprisingly, the composite index shows that the performance of SEDAPAL exceeds those of the other EPSs by a significant margin¹³ and that the average group performance declines with the size of the EPS, which underscores the importance of economies of scale in the sector.

Table 7 shows the evolution of selected operational performance indicators for SEDAPAL and the average of the system from 2009 to 2014. It confirms that SEDAPAL's performance exceeds the average and that it has improved in recent years, but also that there remains significant scope for further progress.

¹³ SEDAPAL's score (76 out of a possible 100) exceeds that of the next highest-ranking EPS by 6 percentage points.

Table 7: Peru: Selected Indicators of Operational Performance in the Water and Sanitation Sector, 2009–14

	<i>SEDAPAL</i>		System average	
	2009	2014	2009	2014
Water coverage (%)	83.6	91.6	82.4	90.5
Sanitation coverage (%)	80.7	88.4	75.4	81.6
Water pressure (mca)	22.6	23.4	18.4	19.8
Continuity of service (hours per day)	21.8	21.9	18.2	18.7
Unpaid service (%)	38.6	29.2	42.1	36.0
Consumption individually metered (%)	69.2	82.6	54.6	66.4

Source: SUNASS (2015).

SUNASS sets the water and sanitation tariffs for SEDAPAL based on a model that aims at ensuring the enterprise's economic and financial viability, given projected demand and cost developments and approved investment plans. The tariffs vary depending on the type of client served (residential, commercial, industrial or public) and include both a fixed charge and some variable charges differentiated by levels of consumption. Starting in 2017, the residential tariffs also include a subsidized category for households classified as extremely poor or poor. Tariffs are set for five years, with increases in the last two years of the period contingent upon the enterprise meeting or exceeding pre-specified performance targets.¹⁴

Table 8 shows that SEDAPAL recorded net profits in four out of the last five years. Its main financial ratios have also improved, albeit with some year-to-year fluctuations. The enterprise continues, however, to lag behind in the implementation of its investment plans, which has slowed its progress in achieving its operational targets. Investments by SEDAPAL have followed a declining trend (albeit with year-to-year fluctuations) in the current decade, and in 2015 were about a third of their level in 2009.

Table 8: Peru: Selected Financial Indicators for SEDAPAL, 2011–15

	2011	2012	2013	2014	2015
Operational profit/loss (MS)	-196	70	245	316	390
Net profit/loss (MS)	-437	182	227	261	151
Liabilities/ <i>patrimonio</i>	0.9	0.8	0.8	0.9	1.5
Liabilities/assets	0.5	0.5	0.5	0.5	0.6
Liquidity ratio	0.7	0.9	2.7	3.5	4.2
ROE (%)	-13.0	5.0	4.0	5.4	2.8

Source: FONAFE (2015).

¹⁴ See SUNASS (2015) for a detailed description of the method of determination of the tariff structure for 2015–20.

4. Assessing Fiscal Risks from SOEs in Peru

Since the fiscal target (the overall balance of the NFPS) in the Peruvian MMM includes the budget balance of SOEs, developments that adversely impact the finances of the enterprises create *ceteris paribus* immediate risks for the government's compliance with the target. However, even if the fiscal target were redefined in terms of the balance of the GG alone, significant deterioration in the SOEs' finances would eventually have adverse repercussions on government finances through a decline in revenues (taxes, royalties, or dividends) received from the enterprises and through pressures to provide subsidies or other transfers or to bailout enterprises in crisis. This is especially the case because it is difficult in most countries to avoid a soft budget constraint for SOEs, and Peru is no exception in this regard. Indeed, as evidenced by the analysis in the rest of this section, there are several features of the current framework for governance and management of the SOEs in Peru that can give rise to a soft budget constraint. In light of the analysis in Sections 2 and 3 above, the main sources of SOE-related fiscal risks in Peru appear to be the following ones.

4.1. Vulnerability to Exogenous Shocks

SOEs' profitability can be adversely affected by a range of macroeconomic shocks, including a downturn in domestic demand or external trade, changes in international commodity prices, and changes in interest and exchange rates. The impact of these shocks is likely to vary both across enterprises and over time, reflecting not only the intensity of the shock, but also the nature of each SOE's business, its economic and financial structure, and its regulatory regime.

An econometric analysis (detailed in Annex II) of the elasticity of revenues of the main Peruvian SOEs to changes in domestic demand (or to GDP) points to significant differences among the enterprises, with estimated elasticities being largest for the financial SOEs and SEDAPAL (both significantly larger than 1) and smaller (significantly below 1) for the electricity and transport SOEs. The demand elasticity for PETROPERU is estimated to be close to 1. Enterprises whose business is more linked to external trade, such as ENAPU and CORPAC, are also vulnerable to cyclical downturns in foreign demand.

Changes in international oil and gas prices can also be expected to affect different SOEs in different ways. An increase in these prices would boost the royalties received by PeruPetro and transferred to the budget. However, it would also boost the cost of electricity generation and distribution. The profitability of electricity SOEs would be adversely affected to the extent that these increases were not promptly reflected in the tariffs paid by industrial and residential consumers. Econometric estimates suggest that the elasticities of operating expenditures of electricity companies to changes in the international price of West Texas Intermediate (WTI) oil and of the exchange rate are less than 1, reflecting the only partial dependence of these companies on thermal generation.

Changes in international oil prices and in the exchange rate have a stronger impact on operating expenditures of PETROPERU, given the nature of its business. Econometric estimates reported in Annex II bear this out. However, the volatility of these variables within the allowed price fluctuation band need not affect the enterprise's profitability, since it can be reflected in adjustments of the prices to consumers. Changes outside the band would be reflected in the balance of the oil price stabilization fund (FOSE). However, the timing of the

notional transfers of PETROPERU to and from the fund could cause the enterprise's annual results to deviate from initial forecasts. Moreover, fiscal risks could arise in the form of pressures for the CG to supplement the fund, if it were to fall sharply as a result of sustained increases in international oil prices, or of a strong depreciation of the exchange rate. A government unwilling to adjust the price band, or to boost the resources of the fund through budgetary transfers, could ultimately put the burden on PETROPERU and the private oil companies (as a number of international experiences demonstrate).

SEDAPAL's operating expenditures are also highly sensitive to changes in construction prices. The effects of changes in interest rates and exchange rates on the financial expenditures of different SOEs depend mainly on the level and composition of their balance sheets. The largest debtors among the SOEs are three financial enterprises (COFIDE, Fondo MiVivienda, and Agrobanco), SEDAPAL, and in recent years PETROPERU. The bulk of their indebtedness is in U.S. dollars (see Figure 6 above); less than one quarter of their debt is in domestic currency. Therefore, changes in exchange rates could be expected to have a substantial impact on these enterprises' profitability, unless adequately hedged. This is supported by the econometric estimates detailed in Annex II.

The impact of changes in interest rates on the SOEs' finances would depend on various factors: differential developments in interest rates, such as between domestic and external and active or passive; whether individual SOEs are net debtors or net financial assets holders; and how much of their debt is at floating rates, a fact on which there is no easily available published information. The econometric estimates detailed in Annex II suggest that the electric companies and SEDAPAL are relatively more vulnerable than other SOEs to increases in domestic interest rates.

Other exogenous shocks, such as natural disasters, can also affect SOEs' finances. The electric companies and SEDAPAL are likely to be the most vulnerable to prolonged droughts. Econometric estimates of the impact of the El Niño phenomenon on operating expenditures of selected SOEs point to elasticities around 0.7 on average for the electric companies, but much smaller ones for SEDAPAL.

The assessment of risks to SOEs' finances from macroeconomic shocks is currently very limited in Peru. Risk assessment through sensitivity and scenario analysis in the MMM only refers to GG finances; the published budgets of FONAFE and its enterprises do not include any systematic risk analysis. According to FONAFE's staff, SOEs' risk mitigation strategies include the purchase of insurance against the types of natural disasters most relevant to their respective lines of business, and as a hedge against exchange-rate fluctuations. It is unclear, however, how systematic and comprehensive these strategies are. The fact that macroeconomic and other shocks are frequently identified in FONAFE's annual reports as reasons for deviations of outturns from the initial budgets of its SOEs suggests that there is scope for improvement in both risk assessments and mitigation strategies.

4.2. Potential Sources of Soft Budget Constraint

4.2.1. *Uncompensated Quasi-fiscal Activities*

As indicated in Section 2, an important source of soft budget constraint for SOEs can be the CG's imposition of requirements, in terms of price, wages, employment, procurement, or investment policies, that impact adversely their profitability and are not adequately compensated through budgetary transfers. The analysis in Section 3 suggests that in Peru:

- Tariff policies are set based on transparent formulas that take into account demand and cost factors, including the amortization of past investments. These formulas include cross-subsidization mechanisms among different groups of users that reflect social objectives, although questions have been raised about the effectiveness of their targeting in some instances. Calendars for periodic revisions of the tariffs are clearly specified. However, as indicated above, in between revisions, tariff adjustments for exogenous shocks are only allowed if the shocks exceed given thresholds. These limitations, as well as delays in such adjustments, may create risks for the enterprises' finances.
- In principle, employment policies in the SOEs are subject to the same constraints as in private enterprises, under existing labor legislation. In practice, however, it has proven politically difficult in some instances (e.g., in the case of ENAPU) to use even the limited margins of flexibility afforded by such legislation to adjust the workforce to cyclical or structural declines in the SOEs' output. Judicial rulings on labor disputes have also been a source of risk for the finances of some SOEs in recent years. Moreover, there is evidence of strong union power in some of the SOEs (e.g., SEDAPAL), placing further constraints on the management of their workforce (e.g., requiring that preference be given to recruiting relatives of current employees). Although such constraints do not appear to result in substantial over-staffing of SOEs in the aggregate, and thus in systemic fiscal risks from this perspective, they are likely to have efficiency costs, especially in some of the enterprises.
- Peruvian SOEs are not subject to special requirements in terms of domestic content for their purchases of inputs. However, those within FONAFE's purview have to follow the same procedures in procurement as government entities. This requirement, responding to accountability concerns, has some efficiency costs, since these procedures tend to be lengthier and more bureaucratic than those of comparable private companies.
- Although the activities of some SOEs—such as remediation of environmental damage from mining for Activos Mineros, and the provision of electricity to remote rural areas for Adinelsa—clearly respond to public policy objectives, rather than commercial ones, these enterprises receive limited or no compensatory transfers from the budget. Instead, they are implicitly cross-subsidized by other SOEs in the FONAFE holding company by being allowed to run recurrent deficits, offset by surpluses of the other enterprises. This lack of clear separation of the quasi-fiscal component of their activities, and of corresponding budget compensation, makes it in turn difficult to assess their efficiency of operation.

4.2.2. Dividend and Investment Policies

The requirement for most SOEs in the FONAFE holding company to transfer all their profits to the holding company—for subsequent partial payout to the budget, and partial redistribution within the holding company to meet investment financing needs deemed of priority—can be both a source of soft budget constraint and a disincentive to the efficient operation of the enterprises. It can generate soft budget constraints to the extent that decisions about the payout and redistribution are made on the basis of discretion, rather than on the basis of clear and predictable rules, and are therefore susceptible to bargaining.

Moreover, the incentive for individual SOEs to increase profits through efficiency gains is likely to be undermined by uncertainty about what part, if any, of such profits can be reinvested into the enterprise. Such considerations explain why dividend policies of the type used by Peru are rare among advanced economies. Although dividend policies differ in the details in these countries, they generally involve a mixture of retention for reinvestment in the originating SOE and dividend payout, with the respective proportions predictable on the basis of clearly pre-specified criteria (OECD, 2015).

More generally, the Peruvian system of selection, financing, and implementation of SOEs' investments suffers from significant shortcomings:

- The previous system of approval of the SOEs' investments (the SNIP) was widely regarded as an excessively lengthy and bureaucratic process, and at the same time as a relatively ineffective input into the prioritization of investment proposals competing for scarce financing. Future experience will reveal the extent to which the new system (*Invierte.pe*) will succeed in simplifying the investment process and in improving the quality and timeliness of the investments.
- The system of financing of the investments that have passed through the approval process is a potential source of soft budget constraints because:
 - Nonfinancial SOEs are generally barred from medium- and long-term market borrowing, regardless of their capacity to service such debt, but the MEF can authorize exceptions to this rule on a discretionary basis;
 - They have to rely instead on support from FONAFE through the profit redistribution mechanism or through concessionary loans, or on support through the CG budget through capital transfers or *creditos transpasados*;
 - In contrast, non-guaranteed borrowing, including from abroad, by financial SOEs is not subject to any constraint, either administrative or rules-based. Yet, markets are likely to price an implicit government guarantee into decisions to lend to (or subscribe bonds issued by) such enterprises.

All these financing sources are largely dependent on discretionary decisions by FONAFE or by the CG, which opens up scope for bargaining, as well as creating uncertainty in the SOEs' investment planning and execution. Moreover, both SOEs and their creditors can understandably view debt contracted with the CG's authorization as being explicitly or implicitly guaranteed by the latter. This perception is quite evident in the recent and prospective large borrowing by PETROPERU for the Talara project.

Investment execution rates have been in general well short of desirable, reflecting the above-mentioned financing constraints and uncertainties, excessive red tape, and

weaknesses in capacity and managerial accountability. As a result, in authorizing and funding new investment plans, FONAFE has tended to give significant weight to each SOE's past record of implementation.

4.2.3. Governance Issues

Some aspects of the Peruvian approach to governance of SOEs can give rise to soft budget constraints, as well as weaken incentives for efficient management of the enterprises. In particular,

- Current regulations require only one board member in each SOE to be independent and recruited through competitive procedures. The other members are selected by the board of FONAFE on a largely discretionary basis, subject to relatively low qualification criteria. They serve on a part-time basis, and their remunerations are unrelated to the enterprise's performance. They do not have fixed-term mandates and can be dismissed by the FONAFE board without cause. Their high rate of turnover at the outset of a new presidential term suggests that political considerations frequently influence board and managers' tenures.
- Both the tenures and the remuneration of SOEs' managers are not transparently linked to the enterprises' performance. This weakens incentives for efficiency and managerial responsibility, as well as the competitiveness of SOEs vis-à-vis private enterprises in acquiring and retaining high-level managerial talent.

4.2.4. Information Asymmetries

Particularly in a system, like the Peruvian one, characterized by a rather centralized approach to decision-making and control of the SOEs' finances, it is essential that holding companies and the relevant CG ministries (especially the MEF) have timely and comprehensive access to operational and financial information on the enterprises. Also important are adequate human resources to process and analyze this information, identify risks, and discuss and agree with the SOEs' appropriate preventive or corrective actions.

As noted in Section 3 above, FONAFE has instituted monthly, quarterly, and annual reporting requirements, with rising degrees of detail, for its SOEs. However, information flows would be significantly improved by early completion of an ongoing project to ensure full interface of its financial information system with those of the SOEs, and to make the latter more uniform. The importance of real-time access to enterprise data is heightened by the fact that the holding company has a relatively small (less than 70) professional staff to monitor and evaluate this information and, more generally, to interface with the enterprises.

PETROPERU reports monthly and quarterly economic and financial information to the MEF and to the Central Bank. It also reports quarterly financial information to the Lima Stock Exchange. However, only summary information on the quarterly execution of its budget (with no commentary) is published on its website.

5. Conclusions and Recommendations

The system of management and control of the CG's SOEs in Peru has long historical roots. The centralization of controls and the inclusion of SOEs in the main fiscal targets reflect successive governments' objective of minimizing fiscal risks from SOEs, following decades in the 1970s and 1980s of lax financial management of the (then much larger number of) SOEs. This is certainly a laudable objective that should continue to inform government policies regarding SOEs.

However, as the analysis in the preceding sections suggests, the mostly discretionary nature of the controls and various aspects of SOEs' governance (in particular the system of recruitment and dismissal of SOEs' Board members and management) could give rise to a soft budget constraint and to significant fiscal risks, if future governments were less concerned than the current one with the sustainability of public finances. Moreover, as highlighted in Section 4, the current system of governance and controls has costs in terms of the SOEs' efficiency and their ability to plan, finance, and execute needed investments in both the maintenance and expansion of existing infrastructures.

Therefore, the challenge for the Peruvian authorities is to design and implement reforms in the framework governing the SOEs and their finances that, while safeguarding fiscal responsibility and sustainability, would strengthen the SOEs' incentives to operate efficiently, compete effectively with private enterprises in the same sector, and improve the access to, and the quality of, their services to the population, particularly in areas like electricity and water and sanitation, which still face significant deficits in this respect.

This concluding section advances some suggestions for reform in this perspective. It is important to stress from the outset that these (or other possible reforms) should be viewed as a package, whose components are consistent and mutually reinforcing. For instance, a liberalization of controls should go together with steps to increase accountability of SOEs' boards and managers, and with further improvements in transparency and risk analysis. Most importantly, a reduction of administrative controls should go hand-in-hand with the introduction and enforcement of clear rules, especially concerning new borrowing. Specifically, a package of such reforms could include the following:

- Redefining the main fiscal targets in terms of the GG's, instead of the NFPS,' debt and budget balance. This would allow enterprises that have borrowing capacity under the debt ceilings mentioned below to increase needed investment spending.
- Introducing well-designed and firmly enforced rules-based controls on all SOEs' borrowing, related to the enterprises' capacity to service the debt. Such rules could include limits (preferably rising gradually from a low initial level) on SOEs' debt (with a lower subceiling on its foreign currency-denominated component) and their debt service relative to the enterprises' current revenues. Borrowing should be allowed only to finance investments (golden rule). The debt should be broadly defined, including arrears to suppliers (beyond normal commercial payment terms), known future liabilities (e.g., those related to judicial rulings on labor, environmental damage-related, or other disputes), and provision for the expected value of the realization of explicit contingent liabilities (in particular, the calling of any guarantees provided by the SOEs).

- Requiring SOEs to include in their budget proposals detailed analyses of the impact of a range of macroeconomic and other exogenous shocks on their finances, as well as proposed strategies to mitigate such impact. These analyses could include sensitivity estimates and simulations (including stochastic ones¹⁵) of different adverse scenarios (stress tests).
- Allowing SOEs to retain a pre-specified proportion of their profits for reinvestment in the company. One possible approach, used in some advanced countries, would be to require each SOE to pay to the CG a dividend equivalent to a pre-specified rate of return on the government's equity in the company, leaving any remaining profits to the company for reinvestment.
- Quantifying as well as possible the cost of non-commercial requirements placed on the enterprises (e.g., in terms of expansion of access to their services, or of tariff and employment policies) and compensating the SOEs for such costs through budgetary transfers.
- Appointing SOE board members and managers on the basis of competitive procedures and for fixed terms, clearly specifying potential causes for dismissal before the end of the term.
- Linking the remuneration of SOE managers, and possibly board members, to their enterprise's performance; and over time, introducing performance-based contracts for managers, in line with best international practices.
- Reviewing and streamlining procedures for procurement.
- Facilitating real-time monitoring by FONAFE of the operational and financial performance of its enterprises.
- Further improving the transparency of SOEs' operations, in particular by fleshing out the narrative content of their quarterly and annual reports.

¹⁵ For discussions of the use of simulations of stochastic shocks to assess the probability of public debt staying below given ceilings, see Celasun, Debrun and Ostry (2007) and IMF (2016).

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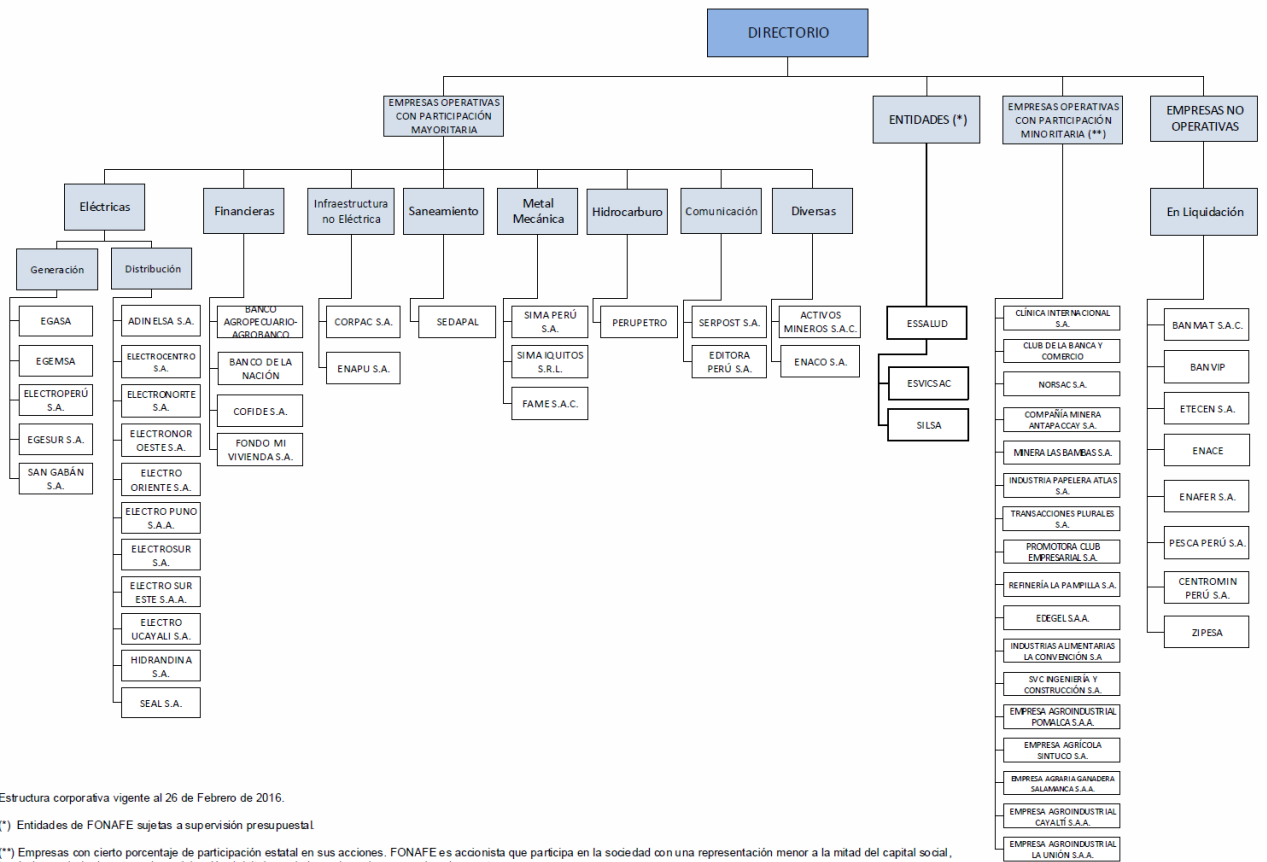
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ANNEX I: Corporate Structure of FONAFE



Estructura corporativa vigente al 26 de Febrero de 2016.

(*) Entidades de FONAFE sujetas a supervisión presupuestal.

(**) Empresas con cierto porcentaje de participación estatal en sus acciones. FONAFE es accionista que participa en la sociedad con una representación menor a la mitad del capital social, basándose principalmente en la participación del titular en la base de acciones con derecho a voto.

ANNEX II: Illustrative Econometric Analysis of Vulnerability of Peruvian SOEs to Macroeconomic Shocks

This Annex details the results, mentioned in Section 4.1, of econometric estimations of the elasticities of selected SOEs' revenues, operating expenditures, and financial expenditures to various macroeconomic variables, namely GDP or domestic demand, relevant price indices, the exchange rate vis-à-vis the U.S. dollar, and domestic interest rates (Tables A1–A3).¹⁶ The estimation is based on a quarterly sample from 2007 to 2015.

Table A1: Selected SOEs' Operating Revenues

Exogenous variables	FONAFE group	Electrical enterprises	Financial enterprises	PETROPERU	SEDAPAL	Transport enterprises
Price index		2.66	1.28	0.47	-1.89	1.21
		[1.34]	[7.53]	[2.21]	[-1.76]	[6.29]
		<i>CPI_Serv_R</i>	<i>RTIPMN</i>	<i>WTI_LCU_R</i>	<i>CPI_Serv_R</i>	<i>TT</i>
Demand variable	-3.83	-0.44	-3.53	-1.04	-1.80	-0.09
	[-10.37]	[-0.88]	[-5.52]	[-6.09]	[-4.47]	[-0.56]
	<i>PIB_SA</i>	<i>DemInt_SA</i>	<i>PIB_SA</i>	<i>DemInt_SA</i>	<i>DemInt_SA</i>	<i>PIB_SA</i>
Constant	10.35	-17.86	17.89	-0.04	16.34	-5.33
Log likelihood	151.06	314.82	192.53	168.60	284.75	245.68
Akaike information criterion	-8.33	-15.41	-9.32	-7.97	-15.27	-12.75

Table A2: Operating Expenditures

Exogenous variables	FONAFE group	Electrical enterprises	Financial enterprises	PETROPERU	SEDAPAL	Transport enterprises
Exchange rate	-0.67	-0.90	0.50	-2.46	-0.05	-1.05
	[-8.50]	[-1.58]	[0.79]	[-3.65]	[-0.80]	[-1.78]
WTI in US\$	-0.059	-0.80		-1.36		-0.21
	[-2.63]	[-5.23]		[-7.64]		[-1.11]
ENSO		-0.67			0.06	
		[-9.32]			[3.68]	
Interest rate gap			-0.32			
			[-1.52]			
Construction material index price					-1.71	
					[-10.94]	
Constant	-4.00	-1.76	-4.27	0.64	3.14	-3.11
Log likelihood	272.75	239.86	203.05	158.33	321.98	158.34
Akaike information criterion	-13.77	-10.31	-10.00	-7.12	-17.28	-6.92

¹⁶ All equations are specified in logarithmic terms. The estimated elasticities are the coefficients with inverted sign.

Table A-3: Financial Expenditures

Exogenous Variables	FONAFE group	Electrical enterprises	Financial enterprises	PETROPERU	SEDAPAL	Transport enterprises
Exchange rate	-2.52	-1.37	-5.23	-27.00	1.61	-7.11
	[-5.07]	[-2.68]	[-7.03]	[-8.46]	[2.38]	[-4.18]
Interest rate	-0.30	-1.29	1.18	-0.38	-1.28	1.98
	[-2.94]	[-11.55]	[8.05]	[-0.61]	[-6.36]	[6.95]
Constant	-0.66	0.14	0.04	26.53	-2.20	2.52
Log likelihood	119.81	92.54	159.53	133.35	155.33	114.75
Akaike information criterion	-4.83	-3.07	-7.97	-5.88	-6.92	-4.77

List of variables

The estimations cover the following enterprises, or groups thereof:

- Electricity: all electrical generation and distribution enterprises in FONAFE
- Water and Sanitation: only SEDAPAL
- Transport: ENAPU and CORPAC
- PETROPERU
- FONAFE's financial institutions: Banco Nación, Agrobanco, MiVivienda and COFIDE.

The dependent variables are:

- o Operating Revenues (**RevOper**)
- o Operating Expenditures (**ExpOper**)
- o Financial Expenditures (**ExpFn**)

All variables are first deflated by CPI (Consumer Price Index), and then seasonally adjusted using the Tramo/Seat method.

Accordingly, **elec_revoper_r_sa** stands for Operating Revenues for Electricity enterprises in real term (**_r**, deflated by CPI) seasonally adjusted (**_sa**).

The independent variables utilized are:

- Gross domestic product (**PIB**): Source: *Notal Semanal, Banco Central de la Republica del Peru* (BCRP)
- Fuels Consumer Price Index (**cpi_comb**): Source: *Notal Semanal*, BCRP
- Utilities Consumer Price Index (**cpi_serv**): Source: *Notal Semanal*, BCRP
- Construction Materials Price Index (**cmpi_serv**): Source: *Notal Semanal*, BCRP
- Domestic demand (**demint**): Source: *Notal Semanal*, BCRP
- Exchange rate (**tc**): Source: *Notal Semanal*, BCRP
- Real passive domestic interest rate in LCU (**rtipmn**): Source: *Notal Semanal*, BCRP. Deflated by CPI
- Real active domestic interest rate in LCU (**rtamn**): Source: *Notal Semanal*, BCRP. Deflated by CPI
- Gap of interest rates (**gap_interest**): $tamn - tipmn$
- WTI price in US dollars (**wti_us**): Source: *Notal Semanal*, BCRP.
- WTI price in real local currency (**wti_lcu_r**): Source: *Notal Semanal*, BCRP. Variable in local currency and deflated by CPI
- Terms of trade (**tt**): Source: *Notal Semanal*, BCRP.

- Water tariff (**tar_agua**): Source: *Notal Semanal*, BCRP. Available after 2010.
- Residential electricity tariff (**tar_elec**): Source: *Notal Semanal*, BCRP. Available after 2010
- El Niño–Southern Oscillation (**ENSO**): proxy variable for presence of El Niño Phenomenon. Source: NOAA