

# Fixing **State-Owned** Enterprises

New Policy Solutions to Old Problems



Aldo Musacchio  
Emilio I. Pineda Ayerbe





# Fixing State-Owned Enterprises

New Policy Solutions to Old Problems

Editors:

Aldo Musacchio and Emilio I. Pineda Ayerbe



**Cataloging-in-Publication data provided by the  
Inter-American Development Bank  
Felipe Herrera Library**

Fixing state-owned enterprises: new policy solutions to old problems / editors, Aldo Musacchio, Emilio I. Pineda Ayerbe.

p. cm.

Includes bibliographic references.

978-1-59782-370-8 (Paperback)

978-1-59782-371-5 (PDF)

1. Government business enterprises-Government policy-Latin America. 2. Government business enterprises-Government policy-Caribbean Area. 3. Government ownership-Latin America. 4. Government ownership-Caribbean Area. 5. Privatization-Latin America. 6. Privatization-Caribbean Area. I. Musacchio Farias, Aldo, editor. II. Pineda, Emilio, 1974-, editor. III. Inter-American Development Bank. Fiscal Management Division.  
HD4010.5 F59 2019  
IDB-BK-220

Copyright © 2019 Inter-American Development Bank. This work is licensed under a Creative Commons IGO 3.0 Attribution-NonCommercial-NoDerivatives (CC-IGO BY-NC-ND 3.0 IGO) license (<https://creativecommons.org/licenses/by-nc-nd/3.0/igo/legalcode>) and may be reproduced with attribution to the IDB and for any non-commercial purpose. No derivative work is allowed.

Any dispute related to the use of the works of the IDB that cannot be settled amicably shall be submitted to arbitration pursuant to the UNCITRAL rules. The use of the IDB's name for any purpose other than for attribution, and the use of the IDB's logo shall be subject to a separate written license agreement between the IDB and the user and is not authorized as part of this CC-IGO license.

Note that the link provided above includes additional terms and conditions of the license

The opinions expressed in this publication are those of the authors and do not necessarily reflect the views of the Inter-American Development Bank, its Board of Directors, or the countries they represent.



Inter-American Development Bank  
1300 New York Avenue, N.W.  
Washington, D.C. 20577  
[www.iadb.org](http://www.iadb.org)

**The Institutions for Development Sector was responsible for the production of this publication.**

**External vendors:**

**Production Editor:** Sarah Schineller (A&S Information Specialists, LLC)

**Editor:** Leslie Hunter

**Design:** Word Express, Inc.

# Table of Contents

About the Authors .....	ix
Introduction .....	xiii
<b>Chapter 1 The State of State-Owned Enterprises in Latin America and the Caribbean .....</b>	<b>1</b>
<b>PART I.</b>	
<b>Fiscal Governance: Reducing Soft-Budget Constraints and Fiscal Risks in SOEs.....</b>	<b>47</b>
<b>Chapter 2 Identifying and Mitigating Fiscal Risks from SOEs .....</b>	<b>49</b>
<b>Chapter 3 Do Bond Markets Discipline SOEs?.....</b>	<b>73</b>
<b>PART II.</b>	
<b>Improving the Monitoring of SOEs.....</b>	<b>91</b>
<b>Chapter 4 Improving Incentives for SOE Managers Without Privatization .....</b>	<b>93</b>
<b>Chapter 5 The Centralized SOE Monitoring Model in Latin America and the Caribbean.....</b>	<b>111</b>
<b>Chapter 6 The Experience of State-Owned Holding Companies in East Asia.....</b>	<b>141</b>
<b>Chapter 7 Bureaucratic Quality and Reform of SOEs .....</b>	<b>167</b>
<b>Chapter 8 Conclusion and Policy Recommendations .....</b>	<b>195</b>
References .....	203

## List of Boxes

Box 1.1	Ex ante Controls at the Department of Coordination and Control of SOEs in Brazil: Timely Reporting and Financial Transparency . . . . .	26
Box 1.2	Ex ante Administrative Controls in Mexico's National Oil Company, Pemex, before 2013. . . . .	28
Box 1.3	Ex post Monitoring of Quality of Service: The Korean Case	29
Box 2.1	Selected Country Practices on SOEs' Capital Structure and Dividend Policies. . . . .	55
Box 2.2	An Illustrative Sensitivity Analysis of the Impact of Macroeconomic Shocks on Selected SOEs in Peru . . . . .	69

## List of Figures

Figure 1	Percent of SOEs with Losses by Country, Average for 2010–2016 . . . . .	xxiii
Figure 2	Aggregate Adjusted Net Income for all SOEs Relative to GDP, Average for 2010–2016 . . . . .	xxiv
Figure 3	Aggregate SOE Liabilities to GDP, Average for 2010–2016	xxvi
Figure 4	SOE Liabilities to Government Budget, Average for 2010–2016. . . . .	xxviii
Figure 1.1	Average Number of Commercial SOEs by Country, 2010–2016. . . . .	9
Figure 1.2	Share of SOE Revenue by Sector, 2010–2016 . . . . .	10
Figure 1.3	Revenues to GDP for Large and Small SOEs by Country, Average 2010–2016 . . . . .	11
Figure 1.4	Revenues as a Percent of Government Expenses, Average 2010–2016 . . . . .	12
Figure 1.5	Average ROA for Large and Small SOEs, 2010–2016 . . . . .	13
Figure 1.6	SOE Adjusted Net Income to GDP, Average 2010–2016 . . . . .	14
Figure 1.7	Percent of Large and Small SOEs with Losses, Average 2010–2016 . . . . .	14
Figure 1.8	Payroll to Revenues in SOEs for Selected Countries, Average 2010–2016 . . . . .	16
Figure 1.9	Fiscal Transfers to GDP in Selected Countries, Average 2010–2016 . . . . .	17
Figure 1.10	Return on Assets in SOEs and Private Firms in Selected Sectors, 2010–2016 . . . . .	19

Figure 1.11	Liabilities to GDP of SOEs and Private Firms in Selected Sectors in Latin America and the Caribbean, 2010–2016 . . .	20
Figure 3.1	Mean Yield to Maturity in Each Industry for Both SOE and Non-SOE after Nearest-Neighbor Matching . . . . .	82
Figure 3.2	Kernel Density Estimate for YTM Differential between SOE and Comparable Firms, and Cumulative Distribution Function for YTM after Nearest-Neighbor Matching. . . . .	83
Figure 3.3	Kernel Density Estimates of Credit Rating Scores for SOE and Non-SOEs in Banking and Industrials . . . . .	85
Figure 3.4	Marginal Effect of $\partial\text{YTM}/\partial\text{SOE}$ for Different Levels of Government Creditworthiness Measured as Ex Ante Country Default Probability . . . . .	88
Figure 4.1	Main Steps to Launch the Valuation Method. . . . .	104
Figure 4.2	Example of a Specific Case. . . . .	105
Figure 4.3	Example of the Payments and Liquidation in Each Payment Period. . . . .	106
Figure 4.4	Analyst Coverage and Market Cap Adjusted by Free Float for a Group of Publicly Traded Copper Mines Comparable to Codelco . . . . .	107
Figure 5.1	Volatility of Return on Assets in Countries with Bureaucratic Monitoring vs. Central Monitoring Agencies (average 2010–2016) . . . . .	123
Figure 5.2	Average Return on Assets in Countries with Bureaucratic Monitoring vs. Centralized Monitoring Agencies (average 2010–2016) . . . . .	124
Figure 5.3	Liabilities of SOEs to GDP in Countries with Bureaucratic Monitoring vs. Centralized Monitoring Agencies (average 2010–2016) . . . . .	125
Figure 5.4	Percent of SOEs with Losses in Countries with Bureaucratic Monitoring vs. Centralized Monitoring Agencies (average 2010–2016) . . . . .	126
Figure 5.5	Adjusted Net Income of the Chilean Public Enterprise System’s SOEs 2010–2016 (with and without data from the Santiago Metro) . . . . .	131
Figure 5.6	Performance and Fiscal Risk in Fonafe’s SOEs (ratios of adjusted income and liabilities to GDP), 2010–2016. . . . .	134
Figure 6.1	Performance of SOEs Under Temasek Holdings . . . . .	154
Figure 6.2	Performance of Some SOEs under the Khazanah Nasional Berhad . . . . .	157

Figure 6.3	Performance of SOEs under the SCIC . . . . .	159
Figure 6.4	Performance of Some SOEs under SASAC . . . . .	163
Figure 7.1	Good Governance in Latin American and Caribbean Countries . . . . .	175
Figure 7.2	The Quality of Bureaucratic Structures in Latin American and Caribbean Countries. . . . .	182

## List of Tables

Table 1	SOEs in Latin America and the Caribbean, 2010–2016 . . . . .	xxii
Table 1.1	Corporate and Fiscal Governance Problems in SOEs . . . . .	8
Table 1.2	Descriptive Statistics for the Sample of SOEs and Private Firms in the Common Area of Support . . . . .	22
Table 1.3	Average Treatment Effects (ATT) of Being an SOE on a Variety of Firm Outcomes. . . . .	23
Table 1.4	Scorecard to Evaluate SOE Performance in the Republic of Korea . . . . .	29
Table 1.5	SOE Problems and Possible Solutions Using Centralized Monitoring and Partial Privatization . . . . .	35
Table 1.6	Centralized Agency Personnel per SOE in Selected Countries . . . . .	41
Table A.1	Main Sources Used to Build the Database. . . . .	43
Table A.2	Countries and Years Used for the Regional Comparison . . . . .	46
Table 2.1	Main Sources of Fiscal Risks in Selected Latin American and Caribbean Countries. . . . .	51
Table 2.2	Illustrative Ratings by Range of Indicators . . . . .	66
Table 3.1	Variable Definitions . . . . .	77
Table 3.2	Descriptive Statistics of Firms and Bonds (at issuance). . . . .	78
Table 3.3	Baseline Regression of SOE Effect on Yield to Maturity at Issuance for the Banking and Industrial Sectors . . . . .	81
Table 3.4	SOE Effect on Yield Including Dummies for Guarantee and Bond Credit Rating. . . . .	86
Table 4.1	Descriptive Statistics on SOEs that Issue Bonds in International Markets . . . . .	98
Table 4.2	SOEs of Selected Industries that Issue Bonds in Global Markets, by Region. . . . .	99
Table 5.1	Models of Centralized Control and Monitoring of SOEs in Selected Countries (as of 2016) . . . . .	117



Table 5.2	Effects on Performance and Fiscal Risk of Having a Centralized SOE Monitoring Agency, 2010–2016 . . . . .	127
Table 5.3	SOEs Monitored by the Public Enterprise System in Chile.	130
Table 5.4	SOEs Monitored by Peru’s Fonafe (2017) . . . . .	133
Table 5.5	SOEs Controlled by National Council of Public Enterprises, Paraguay. . . . .	137
Table 6.1	Types and Features of Stated-Owned Holding Companies	150
Table 7.1	Measures of Good Governance by Country in Latin America and the Caribbean . . . . .	173
Table 7.2	Ordinary Least Squares (OLS) Models of Good Governance	174
Table 7.3	Bureaucratic Structure and Good Governance. . . . .	179
Table 7.4	Ordinary Least Squares Models of the Quality of Bureaucratic Structures. . . . .	180
Table 7.5	Hiring Variables and Corruption . . . . .	184
Table 8.1	Simplified Summary of SOE Problems and the Solutions Proposed . . . . .	197

For Luca, Valentina, and Ximena

For Juliana, Victoria, and Emilio

*This Government has rolled back the frontiers of the State, and will roll them back still further. So popular is our policy that it's being taken up all over the world. From France to the Philippines, from Jamaica to Japan, from Malaysia to Mexico, from Sri Lanka to Singapore, privatisation is on the move.*

—Margaret Thatcher, Conservative Party Conference,  
October 10, 1986

*Negative views about privatization have increased over time... Public protests have led to cancellations of projects to privatize infrastructure in Argentina, Brazil, Costa Rica, Panama and Peru, among others...For sector reform to have a future in Latin America, reformers will need to understand the sources of dissatisfaction and how—even whether—they can be dealt with.*

—Mary Shirley, *Why is Sector Reform so Unpopular in Latin America?* (2005: 195–198).

*The reports of my death are greatly exaggerated.*

—Mark Twain, *New York Journal*, June 2, 1897

## About the Authors

**Aldo Musacchio** holds a Ph.D. from Stanford University and is a professor of management and economics at Brandeis University and a Faculty Research Fellow at the National Bureau of Economic Research. Prior to joining Brandeis, Professor Musacchio was an associate professor at Harvard Business School, where he wrote over a dozen case studies on state-owned enterprises and banks in Asia, Latin America, and the Middle East. Together with Professor Sergio G. Lazzarini, he has written a series of academic papers and the book *Reinventing State Capitalism: Leviathan in Business, Brazil and Beyond* (Musacchio and Lazzarini, 2014), which examine the performance implications of different governance arrangements in state-owned enterprises and the effects of investments and loans from development banks on the performance of private and state-owned firms. Professor Musacchio is a consultant for the Inter-American Development Bank (IDB), the Organisation for Economic Co-operation and Development (OECD), and the World Bank on issues related to state-owned enterprise reform in Latin America.

**Emilio I. Pineda Ayerbe** holds a Ph.D. in political economy from Columbia University. After finalizing his studies, he joined the International Monetary Fund in 2003, where he worked as an economist in the Western Hemisphere Department. In 2008, Emilio joined the Mexican Ministry of Finance, where he was responsible for the fiscal regime and pricing scheme of the two most important Mexican state-owned enterprises, the oil company (Petróleos Mexicanos, or Pemex) and the Federal Electricity Commission (Comisión Federal de Electricidad, or CFE). In July 2012, he joined the Fiscal and Municipal Division at the IDB, where he is a principal lead specialist. Emilio has authored publications in the areas of international economics, subnational debt, and fiscal policy.

**John Huber** teaches and conducts research with a focus on the comparative study of democratic processes. His book, *Exclusion by Elections: Inequality, Ethnic Identity and Democracy*, (Huber, 2017), develops a theory about how inequality can foster identity politics, which can then reduce the propensity of a democracy to respond to inequality. In addition to numerous articles, John is the author of *Rationalizing Parliament: Legislative Institutions and Party Politics in France* (Huber, 1996), and the co-author, with Charles Shipan, of *Deliberate Discretion? Institutional Foundations of Bureaucratic Autonomy* (Huber and Shipan, 2002). His current projects focus on bureaucracy, civil war, and inter-generational solidarity. Huber was elected to the American Academy of Arts and Sciences in 2013.

**Mauricio Jara** is an assistant professor of finance at the University of Chile's Business School. His research interests focus on corporate finance, corporate governance, family firms, and earnings management. He is also an advisor for private banks and health insurance institutions in Chile. Mauricio won an award for the best Ph.D. thesis in accounting from the government of Spain (2011). He holds an undergraduate degree from Universidad del Bío-Bío and a Ph.D. from the University of Valladolid.

**Hyungon Kim** is an Alternate Executive Director in the IDB Invest Constituency of Korea, Israel, Japan, Portugal, and Spain. Between 2014 and 2017, he was lead specialist at the IDB, mostly affiliated with the public financial management area. Hyungon has more than 20 years of public service in the Ministry of Economy and Finance, Korea. He served as special assistant to the president for state affairs, monitoring, and coordination in the Executive Office of the President under three presidents in the Republic of Korea. He also worked as a public policy analyst at the U.S.-Korea Institute at the Johns Hopkins School of Advanced International Studies. Hyungon earned a Ph.D. degree in public administration and public affairs from Virginia Polytech Institute and State University as a Fulbright Graduate Study Awardee. He has several publications in professional journals, including *The Journal of Asian Public Policy*, *New Political Economy*, and *The International Review of Public Administration*.

**Teresa Ter-Minassian** holds degrees in law and economics from Harvard University and the University of Rome. She has held a number of senior positions at the International Monetary Fund, including Deputy Director of the Western Hemisphere Department, where she was in charge of negotiations with Argentina and Brazil, and Director of the Fiscal Affairs Department. Since her retirement from the International Monetary Fund (IMF) in 2009, Teresa has been a senior

consultant to a number of international institutions and governments. She is the author and co-author of many publications in macroeconomics and public finance.

**Rodrigo Wagner** is an economist at the University of Chile's Business School. He is also an affiliated researcher at the Center for International Development's Growth Lab at Harvard University. Previously, he was assistant professor at Tufts University. His research interest is the constraints to growth in countries and firms. He has published articles on international economics, international finance, entrepreneurial finance, and growth. Professor Wagner has worked on growth challenges in Africa, the Caribbean, Europe, and Latin America. He was an advisor for the National Productivity Commission in Chile and the Caribbean Competitiveness Program. His research has been funded by Department for International Development (DFID), the IDB, the OECD, and the World Bank, among others. Part of his research focuses on the challenges of funding and monitoring state-owned enterprises as well as commodity-producing corporations. A native of Chile, he holds an undergraduate degree from the Universidad Católica and a Ph.D. from Harvard University.





# Introduction

*by Aldo Musacchio and Emilio I. Pineda Ayerbe*

**A**t the time of this writing, the state-owned enterprise (SOE) sector in Latin America and the Caribbean (LAC) was struggling financially and suffering the negative consequences of political intervention. The governments of Argentina and Ecuador signed agreements with the International Monetary Fund (IMF) to support their fiscal stabilization programs (for problems partly caused by malfunctioning SOEs). Venezuela was on the brink of collapse and after years of quasi-military rule had hundreds of SOEs (i.e., nationalized companies) that had no government monitoring and/or control and were probably underperforming. In Mexico, the investment rating of the state-owned petroleum company, *Petróleos Mexicanos* (Pemex), was downgraded for excessive debt and for its lack of a clear plan for its recapitalization, all while President Andres Manuel Lopez Obrador was pushing to build a new oil refinery in his home state of Tabasco. In Brazil, as the Brazilian Petroleum Corporation, *Petróleo Brasileiro S.A.* (Petrobras), was starting to come back from the brink of collapse after the worst corruption scandal in its history, President Jair Bolsonaro ordered the company to cancel the increase in the price of diesel to avoid a strike by truck drivers. Furthermore, even in Chile, known for its privatizations and economic reforms, the Santiago Metro continued to produce significant year-on-year losses. In smaller countries in the Americas, the situation was also dire, with governments having no strict control over their SOEs and facing the uncertainty of whether these companies would contribute to or drain money from the budget.

For many, these examples could be a throwback to the 1980s, when the region was in crisis and its SOEs were facing losses on a massive scale. Yet, after more than three decades of SOE and fiscal reform

in the region, the situation continues to be dire, and SOEs continue to be a source of unexpected fiscal risk for governments. About one-third of SOEs in the region report losses every year, and for some countries, this can be up to 70 percent of SOEs. In any given year, SOEs could require between one-third to one percentage point of gross domestic product (GDP) in fiscal transfers to cover their losses. Moreover, every few years the largest SOEs require even bigger transfers to recapitalize their balance sheets. Finally, the liabilities that SOEs accumulate in many countries are 10 to 20 percent of GDP, making them too big to fail and too big to be bailed out.

These problems are not new. The solutions proposed in this book, however, are new, and politically feasible. The book documents the problems of SOEs in LAC and shows how countries that have adopted centralized agency monitoring have managed to reduce the fiscal burden of SOEs, shown consistently better financial returns, and accumulated fewer liabilities to GDP, generating less fiscal risk. Financial markets have a role to play in the monitoring of large SOEs, if accompanied by strict administrative controls to contain the growth of SOE liabilities and monitor their capital expenditures.

The key to ensuring the effectiveness of these SOE reforms is political will. Politicians in the executive branch and in congress need to drive these changes. Training and creating a technocratic apparatus that is capable of doing the monitoring proposed in this book is feasible. However, to create these monitoring agencies and to empower them to do their job, there has to be political will. What do politicians stand to gain from enacting these reforms? The fiscal risks generated by SOEs are too high to continue with systems of decentralized monitoring in which different line ministries do their own monitoring, with no overall control of the size of contingent liabilities. Creating a centralized monitoring agency is like taking preventive measures to prevent fires even when having fire insurance. That is, by not installing these agencies governments are more vulnerable to fiscal crises of incendiary proportions, either in the short or in the long run, making government bailouts the ultimate solution—potentially endangering the balance sheet and credit rating of the sovereign at any moment.

Our proposed solution is about preventing those crises and installing prophylactic measures for the timely monitoring of SOEs. Both the executive branch and congress will benefit from following these recommendations. The executive branch will have more fiscal certainty, which will enable it to pursue its own priorities, and congress (and its oversight bodies) will have an easier time preventing problems and receiving standardized reports of the fiscal and financial standing of SOEs. Better and timelier information will not only



prevent unexpected bailouts; it can also prevent catastrophic financial results that are the product of managerial hubris and corruption.

In many countries, the SOE departments at the ministry of finance (MoF) or the SOE monitoring agency have the technical capacity and technological readiness to undertake centralized monitoring of SOEs in the way that this book recommends (see Chapters 1 and 5). Yet, they do not have the political backing to do so. Line ministers, unions, and other stakeholders prefer less oversight by the executive branch and congress and to continue using SOEs for their own agendas. Undoubtedly, some of those agendas may be well intended. The problem is that without standardized, centralized oversight, the executive branch (and congress) delegates monitoring to a variety of actors, but centralizes all of the downside risk from their monitoring failures. Without careful oversight, SOEs are likely to continue to make ad hoc requests for fiscal transfers to cover losses, complete key capital projects, or cover pension payments. Without strict rules and central oversight, those ad hoc requests can be sizable and can affect other projects that may have a higher priority for the country.

The trade-off is ultimately political. SOEs are still a source of patronage in most LAC countries. Governments use SOEs to provide jobs and hefty salaries to members of their coalition. A large number of executive directors of the region's SOEs have no background in management or any subject matter expertise in the industry of their company. Instead, they are often close allies of government officials and, in a few instances, were keen to participate in corruption schemes that benefited those in power (e.g., executives at the power company in Guatemala, executives of Petrobras in Brazil, etc.).

This book was written for the politicians that must drive the reforms and the technocrats that need to execute the monitoring. The book provides the most accurate picture of the SOE sector in LAC, using examples of successful reforms from within the region. It is intended to open up a conversation that transcends the binary debate of privatizing vs. not privatizing. The most successful countries in the region with respect to the performance and control of their SOEs are those that have taken a nuanced approach from the beginning. They undertook reforms, privatized some of their inefficient firms, partially privatized firms that needed capital and monitoring from the market, and created technocratic units to monitor all of them. The worst-performing SOEs are in countries that have been reluctant to reform SOEs or that privatized inefficient firms but kept large SOEs under full state control. The book draws on the experiences of the most successful countries to provide lessons for other countries interested in finding politically feasible solutions to the fiscal risks generated by SOEs.

## Existing Models of Monitoring and Control of SOEs Are Incomplete

For several decades, ministries of finance in LAC have been reforming their SOEs to improve both control over them and their financial performance. Depending on the assessments of the performance problems of SOEs conducted by the region's governments, the solutions have ranged from giving these firms more autonomy to taking away agency and controlling more of their financial decisions. In cases where monitoring of SOEs by bureaucrats is too complex or when political intervention to steer firms to pursue specific projects is one of the main financial problems facing the firm, governments often choose to give SOEs more autonomy by privatizing part of their equity and listing them in the local stock exchange or the New York Stock Exchange. Some examples are Petrobras in Brazil, Ecopetrol in Colombia, and the North Lima Electrical Distribution Company (Empresa de Distribución Eléctrica de Lima Norte S.A.). For these firms, their governments allowed them to be listed to improve corporate governance and monitoring and to isolate them from political interference to a certain extent, allowing them to make most of their financial decisions independently. The ultimate goal was to achieve better financial performance and reduce the firms' dependence on fiscal transfers to finance their operations. In principle, this model has improved the monitoring of managers by introducing independent directors on the board, encouraging the SOEs to follow the financial reporting standards of local or international stock exchanges, and adding an array of rating agencies, equity analysts, and investors as the firms' monitors.

On the other hand, governments that determined that the performance issues in their SOEs were the result of either complex monitoring or abuses of the discretionary fiscal relationship with the government—that is, the soft budget constraint (Kornai, Maskin, and Roland, 2003) ended up introducing strict controls on procurement and investment decisions and limits on how much debt these SOEs could issue. Mexico's Pemex, one of the largest SOEs in the world, must receive approval of every major procurement procedure by the Secretariat of the Civil Service, the anticorruption ministry, and every investment and financial decision by the Ministry of Finance. In principle, this approach has drastically reduced the financial risk that governments face when SOEs issue their own debt; it has also reduced corruption by adding close monitoring of procurement contracts; and, it has reduced information asymmetries between SOE managers and their principals (i.e., the MoF or the government in general). In Chile, the government has also chosen to have a close and discretionary fiscal relationship with the state-owned copper mining company, Corporación Nacional del Cobre de Chile (Codelco). This discretionary fiscal relationship allows the governments of Chile and Mexico to extract resources from their

largest SOEs to invest in the renovation of other assets. In both cases, the governments chose to delegate some of the monitoring to the market, allowing firms to issue bonds in international markets based on the belief that markets would be able to reduce the agency problems in these firms. Additionally, issuing bonds would force these SOEs to follow the reporting standards of listed firms—thus reducing information asymmetries between the government and the firm, and ensuring the monitoring of the day-to-day operations of these firms by an army of analysts, investment bankers and bondholders—at least that was the expectation.

In both cases, the results have not been optimal. The model in which governments grant greater autonomy to their SOEs has seemed like a good idea in principle, but it has perpetuated other problems. While monitoring of managers and transparency have greatly improved, two other problems have persisted. Due to the importance of these large SOEs, the problem of too-big-to-fail—that is, the soft budget constraint—has persisted. In 2010, Petrobras needed a capital injection of nearly US\$50 billion to pursue all of the exploration projects that the Brazilian government requested in the pre-salt fields off the coast of Sao Paulo. The company issued a mix of debt and equity (to keep debt/equity ratios from increasing too much). However, the government negotiated directly with Petrobras without including minority shareholders. They exchanged exploration rights for new equity. The price at which exploration rights were negotiated was convenient for the government (but not the minority shareholders), along with the fact that the voting power of minority shareholders was diluted with the deal. Thus, having access to the government as an investor of last resort creates an implicit contract in which governments also take for granted their ability to extract resources from SOEs at their discretion (i.e., governments can force SOEs to undertake quasi-fiscal operations). Other examples involving extraction of resources include the government of Brazil's control of gasoline or diesel prices or its inducing Petrobras to partner with Venezuela's oil company PDVSA to build a refinery, which suited the government's, but not necessarily Petrobras', objectives. The partnership ultimately cost Petrobras US\$15 billion above the planned price. Thus, even if partially privatizing Petrobras reduced information asymmetries, it perpetuated the discretionary nature of the fiscal relationship between the government and the firm.

Furthermore, the Petrobras model did not allow it to remain isolated from political intervention. The company was burdened with excessive exploration commitments on the coasts of Sao Paulo and Rio de Janeiro. This increased the amount of investment that the company required to fulfill these commitments, taxed the finances of the oil giant, and opened up more opportunities for corruption and political intervention. As the Brazilian justice system has

now exposed, Petrobras officials, construction companies, and politicians from all parties colluded in a scheme to rig the bidding for some of the construction contracts to favor specific Brazilian firms. In exchange, these companies provided kickbacks to the Petrobras officials involved (e.g., the head of engineering, the head of procurement, and others) and to members of congress, the government, and political parties directly (Moro, 2018).

The Petrobras corruption scandal, the abuses of minority shareholder rights, and the discretionary nature of the fiscal relationship between the firm and the government highlight a key fact. The reform model in which governments grant SOEs more autonomy requires countries to have sophisticated systems of checks and balances, sectoral agencies, and securities and exchange regulatory agencies to monitor and punish corporate governance abuses by politicians. Unfortunately, few LAC countries have such agencies. In many of them, it will take years to develop them, especially because their stock markets are not large enough to allow these agencies to enjoy economies of scale. Thus, the model, so far, is incomplete.

The model in which governments have a tight grip on their SOEs also perpetuates the discretionary nature of the fiscal governance of these firms. It allows governments not only to burden firms with quasi-fiscal operations (e.g., oil refineries in Mexico provide employment to members of the Pemex Union, a key political group) but also to extract resources from the firm. For example, the fiscal regime of Pemex is so burdensome that it continually shows losses even if the government extracts 8 percent of GDP from it). Furthermore, bond markets are not the best channel to try to reduce the soft budget constraint that these SOEs enjoy. In Chapter 3, Rodrigo Wagner, Mauricio Jara, and Aldo Musacchio show that investors in SOE bond issues tend to price in implicit bailouts, leading them to charge a lower interest rate than what the fundamentals of the firm can sustain. That is, even if bond markets improve transparency (reducing information asymmetries), they perpetuate the fiscal governance problems in SOEs, rather than alleviating them.

In short, the model of monitoring and control of SOEs that LAC governments should use falls between the two extremes of autonomy and tight control. This book provides a model of monitoring and control of SOEs that aims to complement existing schemes with tighter administrative controls and closer monitoring, tighter timetables, and stricter reporting standards. The model comes out of a synthesis of the literature on principal-agent problems, bureaucratic control, fiscal governance of decentralized entities (i.e., fiscal federalism), and centralized monitoring of SOEs (Huber and McCarty, 2004; Moe, 2012; OECD, 2018; Rodden, 2002; Shleifer and Vishny, 1998). It uses an original database of SOE financials in the region to highlight their performance

problems, the lack of transparency about SOE performance in many countries, and the sizable fiscal transfers that SOEs receive to cover losses and to cover up ostensibly bankrupt firms. Using a simple agency framework to think about SOEs, the book provides empirical evidence to show that SOEs in countries currently using this model perform better with fewer liabilities to GDP, a source of contingency risks for governments.

Rather than emphasizing the traditional agency problems of SOEs, especially information asymmetries, this book argues that reducing discretion in the fiscal relationship between governments and SOEs is key. Information asymmetries must also be reduced. Governments can use a variety of centralized reporting mechanisms and incentives to increase information about SOEs. Without clear rules and timelines governing the fiscal relation between governments and their firms, the problems will simply continue.

The OECD and the World Bank are proponents of the idea that centralized monitoring agencies or holding companies are the best way to monitor and control SOEs. The advice has been mostly based on case studies from OECD countries (OECD, 2005; 2011; 2012; 2015; World Bank, 2014a; 2014b). By contrast, this book provides systematic evidence that in LAC countries that rely on centralized monitoring agencies (with full-time technocratic staff), SOEs perform better than in countries that follow the decentralized model (with line ministries monitoring SOEs by sector). It also makes recommendations on how to use controls to limit fiscal risk. Rather than focusing on corporate governance reforms, it provides a broad set of policies designed to reduce the fiscal risk of SOEs and to improve their performance.

The final product is useful for policymakers in the region and beyond, academics concerned with the operation of SOEs, and managers of SOEs. The hope is that it will contribute to the debate on the best ways to reform the SOE sector around the world, begun by multilateral organizations and academics, in ways that are sensitive to political realities in each country (Estrin and Pelletier, forthcoming; Megginson, 2005; Musacchio and Lazzarini, 2014; OECD, 2018; World Bank, 2014a).

Providing politically feasible solutions is key in LAC because, without buy-in from politicians, the kinds of agencies that need to be created and the authority they need to monitor SOEs will simply not materialize. Politicians are concerned about pursuing pure privatization because, despite weak performance of SOEs, in most countries there is little public support for this approach (Shirley, 2005). In 2017, a survey of 500 to 600 residents across Argentina, Brazil, Chile, Colombia, Ecuador, Mexico, Peru, and Venezuela found that, although 35 percent of those interviewed believe that SOEs are inefficient and 42 percent think they are a source of corruption, almost 30 percent of them also believe that they

are important for the economy, and 14 percent think that SOEs defend the country's natural resources. Only 7 percent of those interviewed believe that SOEs should be privatized.

## The Problems of SOEs in Latin America and the Caribbean

The new database of financial performance of SOEs in LAC and meetings with practitioners in the region revealed three overarching problems of the region's SOEs: (1) the SOE sector is still large, (2) SOEs are inefficient, and (3) SOEs pose two types of fiscal risks to their governments.

### *The SOE Sector Is Large*

SOEs in LAC are large relative to the size of their economies, which makes them important and also difficult to reform because of the political clout that they wield. For example, the ratio of SOE assets to GDP averages 16 percent across the region, with significant variance (in Chile, Colombia, Costa Rica, Ecuador, Jamaica, Mexico, Panama, and Uruguay they are 20 percent of GDP or above). Estimates of aggregate SOE expenditures to GDP show that in Chile, Costa Rica, Ecuador, Jamaica, and Uruguay, SOEs spend more than 10 percent of GDP to cover their costs. In comparison, a large, politically powerful private conglomerate such as Mexico's America Movil spends 4 percent of GDP to cover its operational and financial costs, including its foreign operations. America Movil's assets represent 6.5 percent of Mexico's GDP (including subsidiaries abroad).

SOEs provide key inputs and subsidies to the private sector (such as energy, water and sewage, postal services, and telecommunications), and can therefore also be critical providers of subsidies when governments intervene in their operations. These quasi-fiscal operations can take many forms, ranging from price ceilings on specific goods and services to credit on favorable terms, ultimately aiding the development of poor or remote regions for political or social purposes. Therefore, reforming the way that these quasi-fiscal operations are performed and making them more transparent are major political challenges, since they introduce distortions into the economy that are difficult to correct.

To illustrate the legacy of SOEs in LAC, Table 1 shows the number of central, financial, and non-financial SOEs by country—that is SOEs owned or controlled by the central (federal) government that are not in banking, insurance, or other financial activities. Many governments still hold a significant number of these SOEs, even after the waves of privatization in the last three decades. This book focuses on non-financial commercial firms that provide goods and services for which there is or could be a market price (Ahroni, 1986). Although SOEs in

which the government has minority ownership are mentioned in the book, they are not included in the analyses or in Table 1, because they frequently operate as private firms.

To compare the size of the SOE sector across countries in Table 1, the number of SOEs has been normalized by population. This enables an analysis of the prevalence of SOEs given the size of the country. In Bolivia, Jamaica, and Uruguay, the number of SOEs per million people is large relative to the size of the country. In Venezuela, the number of SOEs grew significantly in the last two decades, largely due to nationalizations. In some of the largest countries, such as Brazil, Mexico, and Peru, privatization programs in the 1990s and 2000s reduced the size of the SOE sector relative to the population to some of the lowest levels in the region.

As shown in more detail in Chapter 1, the largest two SOEs in each country in the LAC region tend to account for the majority of sales and assets. The chapter discusses how a large number of small SOEs are contributing to the problems of SOEs in the region. That is, there is a significant number of small SOEs, which regulators tend not to notice, that also create a burden on the public budget.

### ***SOE Performance Continues to Be Inefficient and Volatile***

The most obvious problem of SOEs in the region is their negative and uneven performance. Not only do some 40 percent of SOEs lose money but they are also inefficient compared to private firms of similar size. It is difficult to determine how widespread the problem is. As the last columns of Table 1 show, there is wide heterogeneity in the financial performance of SOEs in the region, with many countries having SOEs operating at huge losses relative to GDP. The average net income generated by SOEs, net of fiscal transfers, is close to 0.3 percent of GDP in most countries analyzed, with countries such as Jamaica, El Salvador, Mexico, and Nicaragua showing losses every year. Yet, the column that shows the worst performance by country (adjusted minimum net income to GDP) indicates that many countries often face losses of 0.5 to 1 percent of GDP (even more in the case of Ecuador).

More troublesome is the fact that 43 percent of the region's SOEs show losses (net of fiscal transfers) every year (see Figure 1). The figure is lower for South American countries (28 percent), and it is almost 57 percent for Mexico, Central America, and Jamaica. Some 50 percent of SOEs face losses in most countries in the region in any given year. Thus, SOEs in LAC have made little progress in the area of fiscal performance (Chong and López de Silanes, 2005; La Porta and López de Silanes, 1999; Sheshinski and López Calva, 2003).

**Table 1. SOEs in Latin America and the Caribbean, 2010–2016**

	Number of non-financial SOEs	Number of financial SOEs	Non-financial central SOEs per million people	Adjusted net income to GDP (mean)	Adjusted net income to GDP (standard deviation)	Adjusted net income to GDP (minimum)	Adjusted net income to GDP (maximum)
Argentina	56	6	1.35	NA	-3.8 <sup>a</sup>	NA	NA
Bolivia	26	NA	2.47	NA	NA	NA	NA
Brazil	17	19	0.08	0.02	0.17	-0.59	0.96
Chile	24	1	1.43	0.01	0.17	-1.05	1.50
Colombia	22	15	0.47	0.16	0.53	-0.73	2.37
Costa Rica	6	19	2.14	0.04	0.15	-0.31	0.72
Ecuador	24	8	0.95	0.29	1.49	-1.30	7.90
El Salvador	4	3	0.63	-0.09	0.30	-1.04	0.37
Guatemala	8	2	0.99	0.00	0.02	-0.06	0.09
Honduras	6	2	0.40	-0.22	0.50	-1.83	0.05
Jamaica	14	3	4.91	-0.06	0.26	-1.14	0.36
Mexico	54	19	0.49	-0.05	0.30	-3.93	0.24
Nicaragua	10	1	1.64	-0.06	0.15	-0.19	0.50
Panama	5	2	1.39	0.68	1.23	-0.07	3.55
Paraguay	10	3	1.46	0.05	0.13	-0.10	0.51
Peru	27	4	0.89	0.01	0.02	-0.09	0.11
Uruguay	15	2	4.55	0.08	0.27	-0.59	0.67
Venezuela	552	30	18.55	NA	NA	NA	NA

Source: Estimated by the authors using data from Musacchio, Pineda Ayerbe, and Garcia (2015) and the IDB Database of State-Owned Enterprises in Latin America (see Appendix 1.1 for sources). Data for Argentina are from reports from the Argentina Office of the Cabinet of Ministers (Argentina, 2017). Data for Venezuela are from vendata.org and the website of PDVSA, both accessed in February 2019.

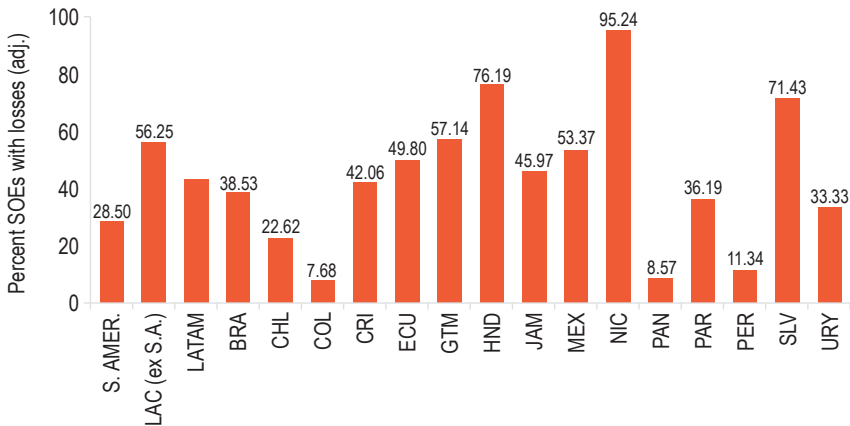
Notes: All fiscal figures are averages of the data for 2010–2015 (and 2016 when available). Adjusted net income is net income minus fiscal transfers. NA = data not available.

<sup>a</sup> Most accurately reflects 2016 according to the reports from the Argentina Office of the Cabinet of Ministers (Argentina, 2017).

Table 1 also shows that the volatility in the aggregate performance of SOEs in the region. In one year, SOEs can contribute one or two percentage points of GDP to the economy, while in the next year they may subtract half, one, or two points from GDP. The variation is higher in countries that depend on single commodities (e.g., Ecuador and Mexico), but overall, the variation affects the government budget, reallocating money for the government's priorities to bail out SOEs.

SOEs are also inefficient relative to the performance of their private sector peers. In industries in which private firms can be compared to SOEs using



**Figure 1. Percent of SOEs with Losses by Country, Average for 2010–2016**

Source: Calculated using the IDB Database of State-Owned Enterprises in Latin America and the Caribbean (for sources, see Appendix 1.1 on page 43).

matching techniques, such as telecommunications, ports, electricity generation, oil and gas, and airports, SOEs tend to perform worse than their private counterparts significantly. SOEs also tend to accumulate large liabilities relative to the size of their home economy (see Chapter 1).

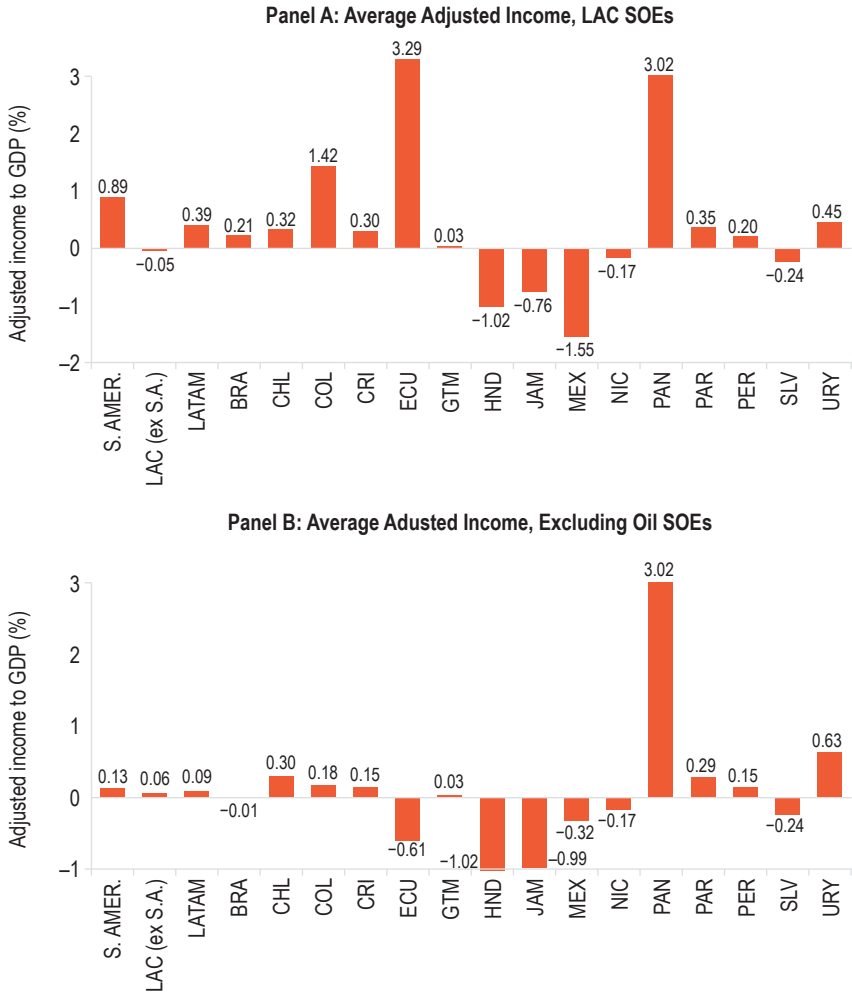
Not only do governments have a large number of SOEs with accounting losses but there is also a volatility around those figures. That is, in most countries, the actual percentage of firms with losses can vary by 10 to 20 percent around the mean every year. Countries such as Chile, Colombia, and Peru have less variation and lower means; others, such as Jamaica and Nicaragua, have low variation but high means, implying that most SOEs have losses all the time. These findings do not change even when oil companies are excluded from the sample.

### *Fiscal Risks Posed by SOEs*

SOEs pose at least two types of fiscal risks for their governments. First, they generate cash flow risk, as the volatility in their net income requires fiscal transfers to cover losses or to recapitalize the enterprise (see Figure 2). Second, there is a contingent liability risk that stems from the size of the stock of liabilities of SOEs, either relative to GDP or to the size of the government budget (see Figure 3).

Figure 2 depicts two ways of looking at cash flow risk. The first is adjusted income to GDP—in Panel A for all firms and in Panel B excluding oil firms—and the second is the variation in those cash flows using box plots—in Panels C and D—,

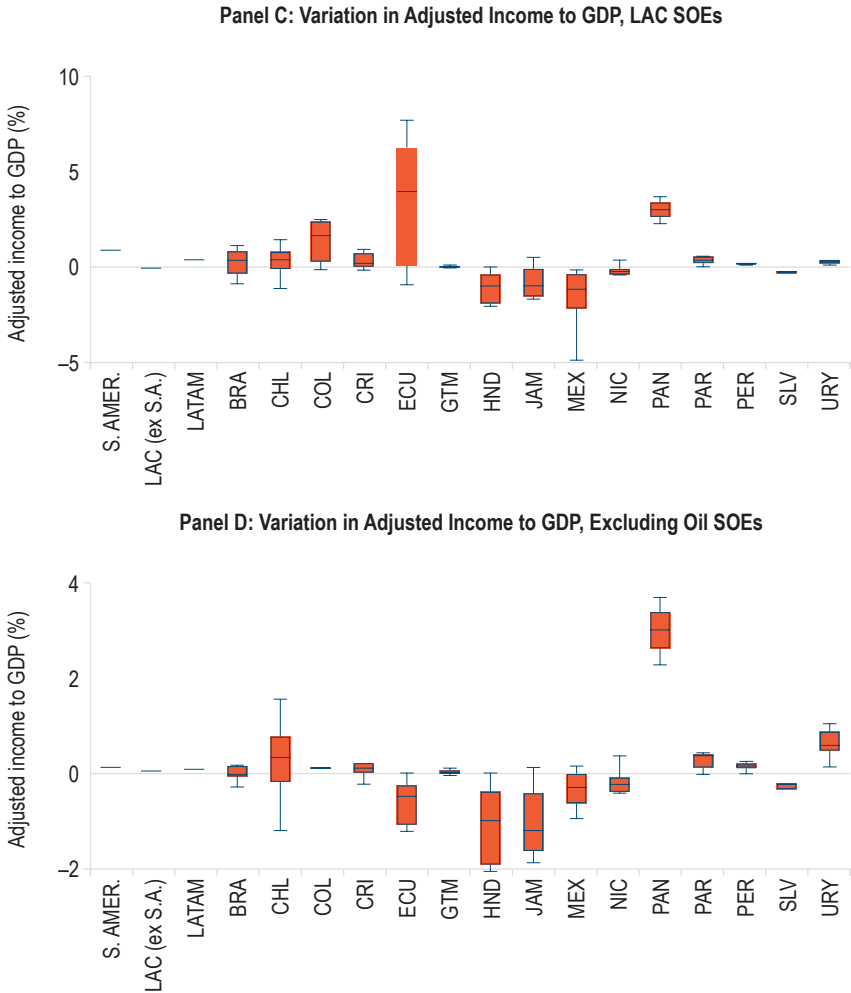
**Figure 2. Aggregate Adjusted Net Income for all SOEs Relative to GDP, Average for 2010–2016**



(continued on next page)

which show the variation year-to-year in the adjusted net income that governments receive (i.e., net of fiscal transfers, both for all SOEs and for non-oil SOEs). In Panel A, it is easy to see that in many countries, the average cash flow accruing to governments from SOEs is negative, costing them over one percent of GDP. Panel B shows that when oil SOEs are excluded, the cash flow is worse for Colombia and Ecuador, but better for Mexico. Thus, in countries in which oil revenue is important, much of the variation in cash flow stems from variations in oil income.

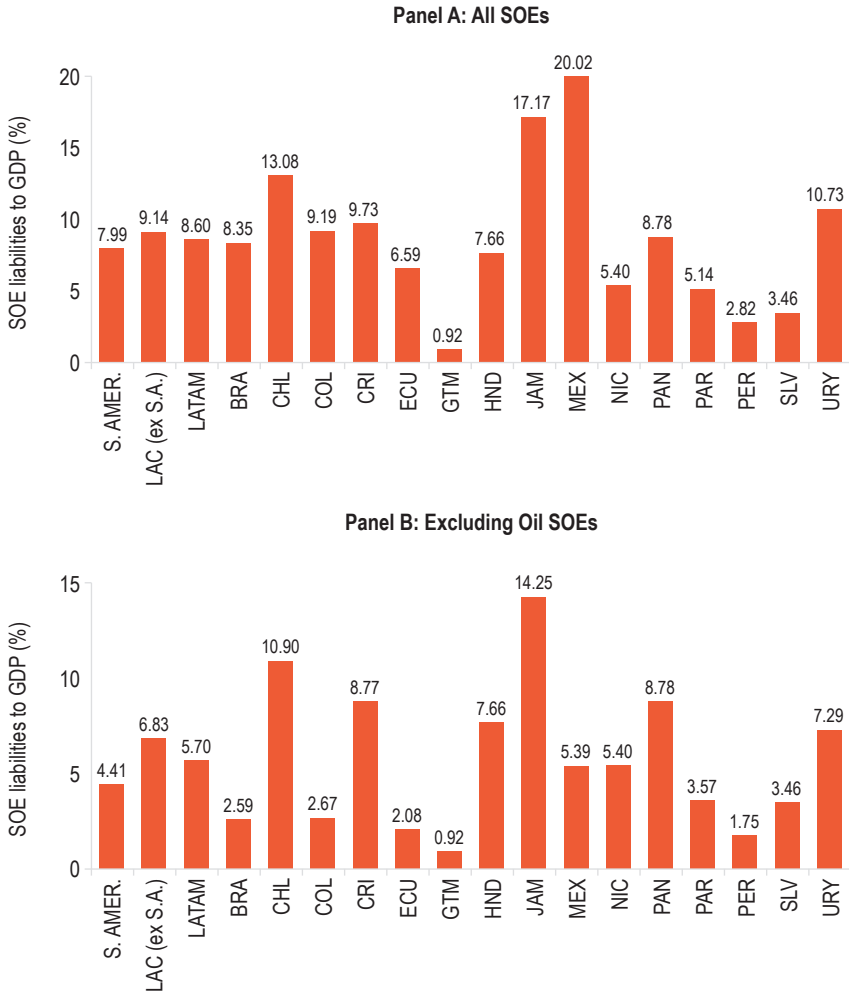
**Figure 2. Aggregate Adjusted Net Income for all SOEs Relative to GDP, Average for 2010–2016** (continued)



Source: Calculated using the IDB Database of State-Owned Enterprises in Latin America and the Caribbean (for sources, see Appendix 1.1 on page 43).

Notes: Adjusted net income is net income minus fiscal transfers for each firm, every year (see Appendix 1.1 for more detail). Panels C and D have a different scale in the Y axis.

Yet, the most important takeaway from Figure 2 is that the variation in the total cash flow that governments receive or lose with SOEs is high and the net cash flow is often negative. Panel C shows that the total variation (including oil companies) is high, especially for countries in which oil SOEs are large relative to GDP (Colombia, Ecuador, and Mexico). Moreover, as Panel D illustrates, once oil companies are excluded, cash flows are less

**Figure 3. Aggregate SOE Liabilities to GDP, Average for 2010–2016**

Source: Calculated using the IDB Database of State-Owned Enterprises in Latin America and the Caribbean (for sources, see Appendix 1.1 on page 43).

volatile. Still, for many countries, with or without oil SOEs, it is difficult to predict cash flows.

Cash flow risk is largely a consequence of the discretion in the way governments extract income from SOEs and SOEs extract fiscal resources from the government. Government extraction of resources from SOEs erodes their financial solvency and pushes them to require fiscal transfers from the government. In many instances, governments use SOEs as vehicles for social policy or to benefit specific groups. Consequently, SOEs face losses and require fiscal

transfers to cover the financial gaps. Not only is this a way to hide subsidies and transfers to specific groups of voters or businesses but it is also highly distortionary, since the resources used to cover SOE losses are often not part of the budget.

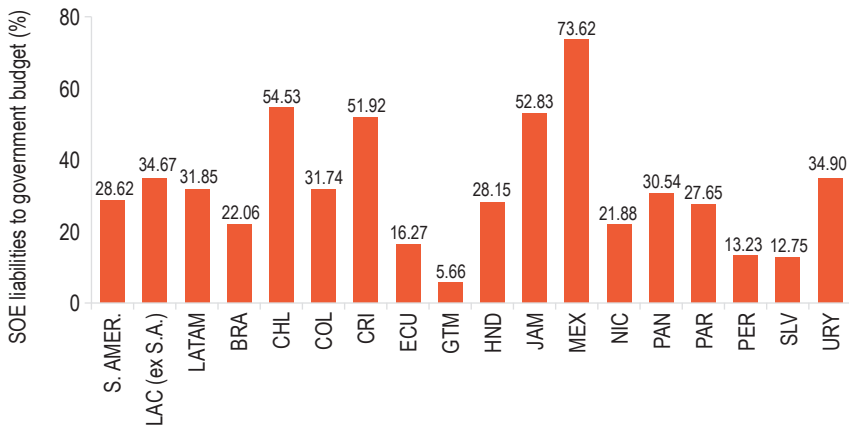
These costs, which can be significant, are not created only by large strategic SOEs in oil and gas or utilities, but also by the large group of smaller SOEs that usually go unnoticed by governments and international agencies. For the countries for which data on direct transfers to SOEs are available, the figures range from a quarter of a percent of GDP in Central America, Mexico, and Uruguay to 2 percent of GDP in Ecuador. These large fiscal transfers often mask the continuous bailouts the governments must provide to keep SOEs operational, either through loans, letting them pay their suppliers late, or in other ways.

With respect to the contingent liability risk, the stock of liabilities of SOEs as a whole is often not monitored, nor is the fact that SOEs accumulate large debts with suppliers and/or government banks, which often are not monitored by the government until it is too late. SOEs thus end up accumulating large liabilities (as a percent of GDP), which translate into fiscal risk.

Figure 3 shows the size of total liabilities to GDP across countries. Panel A shows the size of SOE liabilities to GDP for all firms. It is clear that these contingent liabilities should be a cause for serious concern. Even excluding oil companies, SOE liabilities are close to 10 percent of GDP in many countries. This makes them too big to fail, but more importantly, too big to be bailed out. The average stock of liabilities to GDP in the region is nearly 8 percent (4 percent for non-oil SOEs), but many countries have significant variation in the size of the SOE liabilities and many have liabilities close to 20 percent of GDP (with oil companies). While SOEs in Mexico, Jamaica and Uruguay, on average, have SOE liabilities representing 20.02, 17.17, and 10.73 percent of GDP, respectively, countries such as Peru and Guatemala have had more modest liabilities, of 2.82 percent and 0.92 percent, respectively.

This problem arises because, in many countries, there is no centralized system to collect and publish the financials of SOEs, and these firms either report late or sporadically. Thus, governments cannot correct the course *ex ante*; by the time the governments realize that the balance sheets of these SOEs are too large, it is too late to intervene.

The figures for liabilities to GDP are economically large, considering their size relative not only to GDP but also to total public debt. Many of the countries in the region have lowered the public debt-to-GDP ratios to near or below 50 percent in the last two decades. Then, a shock to SOEs that can turn SOE liabilities into government liabilities could increase the size of the public debt significantly, and could complicate the efforts necessary to bail out these firms.

**Figure 4. SOE Liabilities to Government Budget, Average for 2010–2016**

Source: Calculated using the IDB Database of State-Owned Enterprises in Latin America and the Caribbean (for sources, see Appendix 1.1 on page 43).

Another way to gauge the fact that SOEs are too big to fail and too big to be bailed out is to look at the size of SOE liabilities as a share of the size of the government's actual budget. Figure 4 shows that SOE liabilities are, on average, 36 percent of the government's budget in the region and can be over 50 percent in Chile, Costa Rica, Jamaica, and Mexico (this figure includes oil companies). This means that a large shock to these SOEs could translate into the need for a hefty injection of fiscal resources for a bailout. Very few countries, including Mexico and Peru, tightly control the leverage of their SOEs.

### Assessment of the State of SOEs in Latin America and the Caribbean

A database of SOE financials for the LAC region compiled for this publication shows a sector that is less efficient than what is portrayed in aggregate macroeconomic figures and that, in many cases, is accumulating dangerous liabilities that create fiscal risk. Using a variety of state-of-the-art statistical and econometric techniques, the analysis herein shows that, in most countries, a large percentage of SOEs have weak performance and/or losses. Using matching techniques, the data show that state ownership is associated with 2 to 4 percent lower return on assets (ROA) (i.e., for an average ROA of around 0.26 percent) and lower liabilities to GDP of about a third of a percentage point per firm (in a sample that has average liabilities to GDP of 0.7 per firm).

The problems that persist in SOEs in the region can be divided broadly into two categories. The first is an information asymmetry problem. Most SOEs do not provide all of the information that governments need to monitor them.

In many countries, there is no centralized agency that compiles the financials, strategic plans, and annual reports of SOEs. A variety of government agencies are charged with monitoring, but they devote little staff time to the task or are too busy to oversee the total number of SOEs within their purview. In Mexico, for example, some ministries have to monitor over 100 SOEs and send high-ranking officers to their board meetings every year. Furthermore, very few SOEs are listed on stock exchanges or have private investors monitoring their activities. To make matters worse, most SOEs have no incentive-compatible contracts to encourage managers to exert efforts to meet the goals imposed by the government (Bai and Xu, 2005; Firth, Fung, and Rui, 2006). Thus, the bureaucracies in charge of monitoring SOEs in LAC must do most of the work. They often struggle to impose a set of administrative procedures to improve incentives of managers, the timeliness and quality of financial reporting, and the quality of the boards of directors and internal auditing bodies of SOEs (World Bank, 2014a).

In most countries, information asymmetry generates a multiple principals problem. That is, multiple agencies monitor one SOE. It is unclear which agencies are responsible for monitoring, collecting information, and taking actions to accomplish pre-specified goals. Therefore, ministries and agencies end up free riding on each other and performing weak monitoring. This decentralized model creates inadequate monitoring and can prevent the governments from having a holistic view of the performance of their SOEs.

Second, across the board, there is a problem of fiscal governance. Most SOEs in LAC are funded directly from the government's budget, with few or no rules to control such transfers. Therefore, the financial relationship between SOEs and the government has enough discretion to operate as a *de facto* soft budget constraint, with significant cash flow and contingent liability risks.

The discretion in the fiscal relationship between SOEs and the government allows governments to extract surpluses from SOEs on an *ad hoc* basis, leaving the SOEs either with losses or with little capital to fund their own projects. The shortfalls are usually covered by expected and emergency fiscal transfers, which contributes to the unpredictability of SOE aggregate results. For example, in most LAC countries, the government, rather than the markets or independent regulators, determine the prices at which the main SOEs can sell their goods or services. By setting fees for public services (or prices for goods) at below-market levels, governments are implicitly subsidizing specific sectors and extracting rents from SOEs (Ahroni, 1986; Bai and Xu, 2005; Shapiro and Willig, 1990; Shirley, 1989).

Thus, there is a critical need to create formulas to determine prices that can reduce the use of SOEs for nontransparent transfers that benefit specific

industrial groups or specific groups of voters at the expense of the financial sustainability of the SOEs and of the governments themselves. It is also important to create clear mechanisms so that the government pays for such quasi-fiscal operations (or social operations) of SOEs. In Chile and Peru, the MoF compensates SOEs for such operations. That way, governments are able to monitor and evaluate the performance of SOEs without distorting prices, and SOE managers are prevented from using these quasi-fiscal operations as excuses for poor financial results.

Although most LAC governments have enacted a variety of reforms using capital markets to improve the monitoring and performance of their SOEs, the results have been mixed and need refinement. Governments have experimented with privatizing a minority share of equity or letting SOEs issue debt in financial markets, with the idea that by allowing SOEs to sell equity and issue bonds, stock markets would improve financial reporting in these firms and would increase the level of scrutiny over their operations—by inviting credit rating agencies, investors, and analysts to perform the monitoring of these firms.

### **Contribution to the Literature on SOE Reform and Privatization**

The topic of SOE reform is not new to academics or policymakers. Most of the academic literature has focused on the increases in efficiency that accompany full and partial privatization (La Porta and López de Silanes, 1999; Megginson and Netter, 2001; Vickers and Yarrow, 1988). Although the literature tends to support the view that privatization improves the performance of SOEs, improvements depend on a variety of external conditions (Bortolotti, Fantini, and Siniscalco, 2004; Kole and Mulherin, 1997), such as the quality of management (Frydman et al., 1999; Musacchio and Lazzarini 2014) and the competitive environment (Bartel and Harrison, 2005; Boardman and Vining, 1989; Poczter, 2012), as well as the quality of political institutions (Lazzarini et al., 2016) and the nature of the budget constraint they face (Bertero and Rondi, 2000).

Since 2000, countries around the world, and in the LAC region in particular, have had fewer privatization programs, along with modifications in the ownership, management, and regulation of SOEs. Faccio and Lang (2002) and Musacchio and Lazzarini (2014) have shown that even after the waves of privatization in the 1990s and 2000s, governments retained control of a variety of corporations and have a large portfolio of companies in which they hold minority ownership. In LAC, only a few of the largest firms have undertaken significant corporate governance reforms and partial privatizations (Musacchio, Pineda Ayerbe, and Garcia, 2015). Yet a large number of



them rely on financial markets, especially bond markets, to obtain wholesale financing.

In many countries, there have been mixed results from the significant privatizations and reforms to the regulatory framework in electricity (Andres, Guasch, and Azumendi, 2008; Estache and Rossi, 2005; Ochoa, 2018), telecommunications (Estache et al., 2002; Ros and Banerjee, 2000), oil and gas (Hults, Thurber, and Victor, 2012; Tordo, Tracy, and Arfaa, 2011), infrastructure (Engel et al., 2003; Estache and Serebrisky, 2004; Perelman and Serebrisky, 2010), banking (Haber, 2005; Haber and Musacchio, 2014), and other sectors (Chong and Lopez de Silanes, 2005; Lora 2006). Research by the Inter-American Development Bank (IDB) has documented some of the failures of regulation and monitoring of privatized firms in the water industry (Barrera-Osorio et al., 2008). Still, the remaining SOEs, even if partially privatized, underperform their private peers and in many countries show large losses due to corruption or price controls to subsidize voters and companies.

As a consequence of these and other agency problems, both the OECD and the World Bank have been advising countries to reform the way in which they own and control SOEs (Christiansen, 2011; OECD, 2005, 2011; World Bank, 2014a). The recommendations have focused mostly on improving the corporate governance of SOEs in the following ways:

- SOE boards of directors need to have clearer mandates (i.e., fiduciary duties).
- The boards should include a large proportion of independent or external members who can bring outside expertise, and above all, who can use their veto power to control the actions of managers and to hinder government intervention and extraction of financial resources. Ideally, external members should make up between one-third and one-half of the board or enough to serve as a check to managers and also as a balance to ad hoc financial interventions by the government.
- Someone other than the chief executive officer of the SOE should serve as chairman of the board and the number of board positions occupied by executives of the company should be kept to a minimum.
- Governments must create centralized systems of control and monitoring of SOEs, preferably in the form of state-owned holding companies (SOHCs) overseeing a variety of state firms. In this model of SOE control, the government centralizes the monitoring of its SOEs under one agency or holding company, which in turn is monitored by one ministry, usually the MoF. Governments create a central SOE agency or a department of SOEs to

undertake the monitoring, evaluation, and even the privatization of SOEs. These departments request financials from SOEs to monitor their performance on a regular basis. They work with the SOEs to design and update annual strategic plans, to approve the annual budget and submit it to the MoF or congress for approval, and, finally, to monitor the execution of such plans (OECD, 2015; 2018).

Regrettably, the excessive focus of the literature on corporate governance reforms in SOEs has created a set of solutions that are often ineffective. Specifically, too much focus on reforming corporate governance in SOEs or on delegating the monitoring to boards of directors can reduce many of the principal-agent problems, information asymmetry problems, but may not necessarily fix the fiscal governance problems. These require changes in the government itself, as well as the implementation of strict timelines to disburse resources to SOEs, administrative controls to restrict the liabilities of SOEs and monitor their capital projects, and training programs for professional technocrats to monitor SOEs.

Moreover, there is limited evidence that corporate governance reforms in SOEs, such as the introduction of independent directors, have a positive impact on performance. The evidence is mixed at best (Chang and Jin, 2016; Dongzhi, 2003; Menozzi, Gutiérrez Urtiaga, and Vannoni, 2011; Peng, 2004). Having SOEs listed in stock markets, at least in LAC, affects performance (and reduces SOE liabilities), but it is irrelevant when there are centralized agencies monitoring SOEs—that is, these agencies seem to be the drivers of improvements in performance and reductions in liabilities in SOEs. In other words, the positive effect of having publicly traded SOEs goes away or becomes smaller in countries that have centralized SOE monitoring systems. Countries with central agencies that monitor SOEs have firms with ROA 10 percentage points higher than the average firm in the LAC region, which has an ROA of -6 percent. They also have lower liabilities to GDP (e.g., while the average SOE has liabilities to GDP of 0.68 percent, in countries with centralized agencies the mean is 0.05 percent). This is a big improvement over the average SOE in the region, which has liabilities to GDP of close to 0.7 percent per firm. Thus, rather than being standalone solutions, corporate governance solutions are good complements to improvements in government monitoring of SOEs using centralized agencies.

Beyond corporate governance reforms, the literature has highlighted the introduction of holding companies as another key piece of SOE reform. There is now a large literature on best practices in terms of governance of SOEs with guides on how SOE holdings should be introduced and operated. Yet, this literature has been missing systematic empirical evidence. Most of

it has been based on scattered case evidence from the European or New Zealand experiences. There is, however, no systematic research showing the role of SOE holdings. In fact, in Asia, where these holdings have existed for decades now, there is limited empirical evidence showing whether SOHCs lead to better performance in SOEs. SOHCs seem to be more effective when there is a clear separation between the state and the SOE (Chang and Jin, 2016; Fan, Wong, and Zhang, 2013) and when the SOHC is the owner, but not the regulator (Ng, 2010; Sam, 2007). As the evidence in Chapter 6 shows, in Asia the experience of SOHCs has to be carefully reviewed to draw the right policy applications.

This book attempts to fill this vacuum by providing the first econometric evidence to show that countries that use centralized SOE monitoring have better performance and less fiscal risk (measured as SOE liabilities to GDP). Chapter 5 presents empirical evidence that, at least in the LAC region, in the countries with centralized agencies, SOEs perform better and have lower liabilities to GDP. Even if this is not causal inference, finding significant correlations validates the argument that centralized monitoring of SOEs can help governments achieve economies of scale to manage and control a portfolio of SOEs and can improve governments' capacity to monitor, coordinate, and facilitate collaboration among SOEs.

Chapter 5 complements this econometric evidence with case studies of Chile, Peru, and Paraguay, where centralizing the monitoring of SOEs has helped improve control and performance as well as reduce fiscal risk. Centralized agency structure can also help reduce the fiscal governance problem not only by reducing the soft budget constraint problem (by monitoring SOEs and limiting their debt issue), but also by reducing the government's capacity to extract public benefits of control because these holdings introduce a degree of separation between the government and SOEs. Simply having a centralized agency monitoring a large portion of a country's SOEs introduces a degree of standardization in reporting that contrasts starkly with the reporting standards in countries with decentralized monitoring systems, wherein different ministries monitor the SOEs and require different types of reports. In the aforementioned countries with centralized SOE agencies, not only is there a central repository of financial information on SOEs, but the financial reports of SOEs are more thorough, more compliant with international standards, and easier to find either on the companies' web pages or in the centralized agency webpage and annual reports.

Centralized agencies and holdings are not a one-size-fits-all solution. They may be practical to simplify the monitoring and control of smaller firms, but they are not ideal to control large SOEs. For the large, complex, and strategic

SOEs—such as Codelco in Chile, Pemex in Mexico, and Petr leos del Per  S.A. (Petroperu) in Peru—governments need to find a combination of administrative controls and market monitoring to improve their functioning. The technical complexity needed to effectively monitor in these cases and the politically sensitive nature of the industries may require governments to use markets to help monitor and discipline these firms, together with administrative controls on the size of their liabilities and regular monitoring of their large capital projects to avoid surprises. In Peru, for example, all large capital projects of SOEs are monitored quarterly. Having timely reports is also key. In Brazil, for example, the Department of State-Owned Enterprises (DEST) is supposed to monitor cash flows in SOEs monthly.

One question is why private shareholders would be effective monitors of SOEs, especially when SOEs are presumed to be too big to fail. Having the government as an investor of last resort bailing out SOEs with capital injections reduces the downside risk of an SOE, but at a cost for private shareholders. This is because capital injections by the government dilute the cash flow and voting rights of current private shareholders. Private shareholders are incentivized to monitor SOEs to avoid dilution of their claims. These incentives stand in stark contrast to those of private bondholders, who have nothing to lose from capital injections by the government and who face downside risk only if the SOE decides to renegotiate its debt (as occurred in Dubai in late 2009). This occurs infrequently, however, as governments prefer to inject capital into their enterprises rather than having renegotiations with creditors that can ultimately affect their credit rating.

Moreover, large SOEs may need teams of experts to monitor operations, their projects, and their subsidiaries, which would stretch the resources of a centralized SOE monitoring agency. Thus, in such cases governments are better served by using a combination of monitoring from the government (or its centralized agency) and private shareholders. This is similar to the model of Ecopetrol in Colombia, Petroperu in Peru, and Petrobras in Brazil. As will be seen in Chapter 3, relying on bond holders for monitoring does not have the same effect, as these investors understand that their downside risk is limited—because of the too-big-to-fail condition of SOEs—and thus have no incentive to exert strict monitoring on these companies.

In sum, the large gap in the literature is in the area of fiscal governance of SOEs and mechanisms that can reduce the dependence of SOEs on fiscal transfers and the frequency with which governments use SOEs for quasi-fiscal operations. Other than a study of the impact of hardening the budget constraint of SOEs (Bertero and Rondi, 2000), there is scant literature on the impact of debt ceilings, debt controls, and the introduction of stricter

investment plans for SOEs. It is hoped that this book will contribute to filling this gap.

Many of the solutions proposed in this book will help alleviate both the information asymmetry and the fiscal governance problems. Improving transparency and disclosure is important for facilitating performance monitoring and tracking the behavior of firms and the fiscal risks caused by that behavior. The new quasi-equity instrument presented in Chapter 4 requires SOEs to follow transparent standards of financial reporting and to have an effective way to measure pre-tax and pre-contributions performance. Furthermore, many of the ex ante controls designed to minimize fiscal risk, such as presenting timely and accurate strategic and investment plans, also require improvement in the standards of disclosure.

There is wide variation in performance and fiscal risks across countries. Some LAC governments have developed exemplary ways to monitor and control their SOEs. This book provides policy lessons based on experiences in the region. The tools provided can be tailored to the situations in each country. It is important to assess the situation carefully before employing any of the solutions recommended. The policies are hybrid solutions—that is, they combine more intensive use of administrative controls for SOEs and the introduction of centralized monitoring agencies, combined with market monitoring for large SOEs.

## Chapter Organization

The book is organized into eight chapters after this introduction. Chapter 1 describes the state of SOEs in LAC. It provides a simple theoretical framework to divide problems of SOEs into information asymmetry problems and fiscal governance problems. Information asymmetry problems are related to governments' inability to get SOEs to report timely and accurate financial and operational information to facilitate monitoring and the challenges governments face in monitoring SOEs caused by the multiple agents problem. Fiscal governance problems are related to governments' inability to impose hard-budget constraints on their SOEs. This is primarily related to the discretionary nature of the fiscal relationship between the government and its enterprises and banks. There are usually no restrictions on SOEs to request additional funds throughout the year or when there are shortfalls to complete a project. Moreover, because governments also extract dividends and special taxes from SOEs in an ad hoc way, the discretionary nature of the fiscal relationship between the government and its enterprises is perpetuated. This book argues that that when governments view SOEs in this way, they can separate agency

issues into categories that are easier to tackle with new bureaucratic rules, new monitoring agencies, and improved transparency rules. Chapter 1 rolls out the new IDB Database of State-Owned Enterprises in Latin America, which shows the problematic performance of SOEs and the kinds of fiscal risks they generate, specifically, cash flow risk and contingent liability risk. Using descriptive statistics, the chapter illustrates the heterogeneity in financial and fiscal performance across countries. Econometric analysis shows that SOEs underperform private firms in the region.

In Chapter 2, Teresa Ter-Minassian details the kinds of fiscal risks and contingent liabilities that SOEs create for governments and proposes a set of controls to limit those risks. She argues that the main source of fiscal risks from SOEs is the widespread inability of national governments to impose a credible hard-budget constraint on these firms. This inability comes from flaws in the corporate and fiscal governance of SOEs. The chapter lays out the main source of soft budget constraints in SOEs, such as quasi-fiscal operations, excessive extraction of SOEs resources by their owner governments, preferential access of SOEs to financing, and information asymmetries between the SOEs and their owners, highlighting the fiscal risks associated with these transactions. There is no one-size-fits-all approach to mitigating these risks; instead, a set of policies is proposed that be tailor-made to reduce these problems in each country. The solutions include measures to reduce quasi-fiscal operations, improve dividend policies, impose borrowing controls effectively, strengthen the financial management systems in SOEs, improve annual reporting and strategic plan monitoring of such firms, and improve their transparency.

Chapter 3 examines whether bond markets actually harden the budget constraint of SOEs. In this chapter, Mauricio Jara, Rodrigo Wagner, and Aldo Musacchio argue that governments have allowed large SOEs and state-owned banks to issue bonds to accomplish two objectives: (i) to harden the soft budget constraint of the firm by charging higher or lower yields depending on the state of the firm's financials and (ii) to have market actors, such as rating agencies, bond analysts, and investors, monitor their actions and discipline the SOEs. They use a new database of bond issues that allows them to use a variety of matching techniques to compare SOE bond issues with similar issues by private firms at time of issuance and to analyze whether the disciplining mechanisms that governments expect to get from investors are actually working. The main idea is that investors should price in the inefficiencies implicit in the performance of SOEs and, thus, the market disciplining mechanism should be manifested in the form of higher interest rates for SOEs that are underperforming or are riskier than similar private firms. Yet, they find the opposite result. That is, when SOEs issue bonds, investors actually implicitly price a bailout and

end up allowing these firms to issue debt at a discount relative to similar private companies. That means that rather than hardening the soft budget constraint of SOEs, bond markets may be further softening the existing soft budget constraints of these firms. The chapter concludes by suggesting that the projects for SOEs should be evaluated with an adjusted cost of capital that takes into account the implicit subsidy from being associated with the government.

Chapter 4 provides new financial instruments to mitigate and remedy the agency and monitoring problems of SOEs. A variety of solutions have been devised to improve the monitoring of SOEs, but without privatization, it is extremely difficult to create a contract to incentivize managers to improve the performance of their firms because incentive contracts and stock options require at least partial privatization of the firm, so that the stock market can assign a valuation to the company according to performance. In this chapter, Rodrigo Wagner proposes a new mechanism to create a market valuation for SOEs that cannot have publicly traded equity because of political or administrative restrictions. The innovation is based on the idea that parties, potentially independently from the SOE, can trade contingent financial claims for the future cash flows from the SOE to the government. Technically this is a well-known idea, applied to many setting and known as Arrow-Debreu state-contingent securities. The innovation is to create one synthetic asset that can mimic the SOE's residual cash flows. Unlike privatization, which gives up both residual cash flow rights and residual control rights to equity holders, this pseudo-equity instrument would only give exposure to the cash flows, without giving away any control or voting right. The chapter discusses various ways to implement these ideas and lays out some of the potential implementation challenges and their solutions. Preliminary calculations show that putting the equivalent of 5 to 10 percent of salient SOEs in the LAC region could be enough to get analyst coverage for these securities and to have them traded with sufficient liquidity.

One of the key reform proposals that has emerged from the OECD (2015) and the World Bank (2014b) for SOEs is the creation of holding companies to manage a variety of SOEs in a semi-autonomous way. Yet, evidence of the effectiveness of such holding companies or agencies is still scant. Chapter 5 provides empirical evidence of the effectiveness of centralized SOE monitoring agencies to both reduce uncertainty in SOE performance and improve performance (i.e., reduce cash flow risk), and also to reduce the total liabilities of SOEs relative to GDP (i.e., the contingent liability risk). It also explains how centralized monitoring systems work in LAC and the types of improvements they have introduced. The chapter provides empirical evidence to show that centralized monitoring yields important results and highlights the best practices

of centralized agencies in South America, specifically the Nacional de Financiamiento de la Actividad Empresarial del Estado (Fonafe), a national fund for financing public sector companies, in Peru; Sistema de Empresas (SEP), which represent the interests of the State in companies in which it is a partner, shareholder, or owner in Chile; and Consejo Nacional de Empresas Públicas (CNEP), charged with establishing and coordinating the national policy of integral management of public companies, in Paraguay.

In Chapter 6, Hyungon Kim examines the experience of East Asian countries with holding companies and discusses the conditions under which holding companies are a better vehicle to own and manage SOEs. In his view, SOHCs serve both as agent and principal in a two-tiered relationship: government-SOHC and SOHC-SOE. The author argues that the effectiveness of the SOHC to control and improve SOE performance will depend on the dynamics among the three parties involved.

Bureaucrats may not have incentives to change the existing monitoring and control systems for SOEs because of political pressure. All of the reforms proposed here will succeed in their implementation given the right quality and incentives. In Chapter 7, John Huber examines ways to improve incentives for politicians and controls over bureaucrats to improve the efficiency with which SOEs provide their goods and services. In his view, SOEs are a form of state bureaucracy, subject to many of the same political forces that influence ordinary bureaucracies. Thus, SOE reforms must consider the same political markets that influence politicians and bureaucrats. This quantitative analysis finds that LAC bureaucracies are under-producing good government given the level of development of the region. That is, if SOEs in LAC behave like their governments, then they are likely to be operating in a way that is less neutral (biasing the provision of services to benefit specific groups), more corrupt, less efficient, and less honest than is the case in comparable countries. What is puzzling is that the structures within bureaucracies that are associated with good government are not uniformly absent in LAC. Pay is not subpar, and transparency is relatively high. However, LAC countries perform markedly worse than similar countries with respect to the politicization of their personnel policies and their ability to punish bureaucracies for poor performance. That is why, Huber argues, it is unlikely that performance will improve by reforming institutional rules and procedures within the bureaucracy or the SOE, because such institutions can be circumvented unless there is political will to achieve the goals set forth by the government. Accordingly, reforms need to change political incentives outside SOEs to the same extent as within SOEs. Some of the solutions proposed in this chapter include a centralized personnel agency to oversee SOE personnel reporting directly to the MoF; linking SOE surplus to specific



public services such as education, so that the public would have incentives to reward politicians for good performance; and requiring SOEs that provide public services to publish information to users about how the cost and quality of service in their area compares to those of other areas, so that users can punish or reward politicians for the quality of service provision.

Chapter 8 summarizes the main policy lessons of the book from a practical standpoint. It is aimed at policymakers who are charged with monitoring SOEs or designing better mechanisms to oversee and control them. It describes a model of monitoring that addresses the key SOE issues and separates the design into two parts. First, it argues that for smaller firms, the optimal design includes a centralized agency to do the monitoring and control, with additional administrative controls and checks on the fiscal risks of SOEs. Second, it proposes that, for large SOEs, the ideal reforms are a combination of partial privatizations and administrative controls over the liabilities of the companies. Finally, it provides a roadmap for starting the reform of SOE monitoring and outlines the steps required to improve them.



# The State of SOEs in Latin America and the Caribbean

*by Aldo Musacchio and Emilio I. Pineda Ayerbe*

State-owned enterprises (SOEs) face two types of problems: information asymmetry and poor fiscal governance related to the discretion of SOEs and the government to extract resources from each other. This chapter analyzes the problems of SOEs in Latin America and the Caribbean (LAC), using basic theoretical constructs and comparing performance among SOEs in the region. It describes the implications of these problems and their consequences. The authors use an original database of SOE financials to demonstrate the performance problems and gaps vis-à-vis similar private firms, and also describe the significant fiscal risks posed by very large SOEs to LAC governments.

One of the main problems when studying SOEs in the LAC region is the lack of data that would enable a systematic analysis of the issues. There is already a large literature examining the reasons for the relative inefficiency of SOEs compared to their private counterparts (Estrin et al., 2009; Megginson and Netter, 2001). Most of it attributes the efficiency to a combination of different agency problems. This book simplifies those arguments and augments them with the fiscal dimension.

Most of the literature on SOE reform in the region has not taken up the empirical angle, focusing instead on providing best practices based on qualitative evidence from other parts of the world (OECD, 2018; OECD and CAF, 2014; World Bank, 2014a). The database used for the present analysis, compiled between 2016 and 2017, contains financials for all the commercial SOEs for which information was publicly available between 2010 and 2016. The countries tracked for their SOE financial performance are Brazil, Chile, Colombia, Costa Rica, Ecuador, El Salvador, Guatemala, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, and

Uruguay. For Argentina, Bolivia, Venezuela, and other small LAC economies, there was scant information about state activity, but no systematic publication of the names and financial results of SOEs.

The data reveal at least three problems prevalent among SOEs in the region. First, SOEs continue to perform poorly, with frequent losses that require capital injections by the government. Second, in some countries there are weak controls on operations and investment plans of SOEs and poor oversight, which creates significant fiscal risk for governments. Some risks stem from the fact that the fiscal governance of SOEs (and the fiscal relations between SOEs and the government) has been managed in an ad hoc fashion in most countries, allowing SOEs to enjoy a soft budget constraint. Others are related to the decentralization of monitoring and the splitting of monitoring functions among multiple ministries. This has resulted in the dispersal of data and performance indicators among different parts of the government, rather than maintaining them in a centralized database that would permit a more holistic approach to monitoring.

Another problem is that the region's SOEs are too big to either fail or be bailed out. That is, they are too large relative to the national economies, the size of government budgets, and compared to private firms. Governments have kept large SOEs in key sectors. With weak fiscal and corporate governance, these SOEs impose fiscal risks on governments and endanger macroeconomic stability.

This first chapter compares the region's SOEs with private firms and finds them to be inefficient compared to similar firms in the private sector. Even if underperformance relative to private firms may be expected, the problem in the LAC region (as in other parts of the world) is that the inefficiency of SOEs contributes to a significant misallocation of capital that could be used more productively.

## **Understanding SOE Inefficiency**

### ***Information Asymmetry in SOEs***

The information asymmetry problem of SOEs is caused by the lack of published information, the lack of high-powered incentives for managers, and weak monitoring by the government. First, SOE managers know more than their monitors about the enterprises, their actual costs, and the benefits derived by different social groups from their products and services. Obtaining this information may be too costly for the entities responsible for monitoring the SOEs. SOE managers can take advantage of their private information in various ways. For example, they can undersupply the goods

and services they produce, they can extract personal benefits from the firms for themselves or their cronies, or they can simply shirk their responsibilities. Therefore, one of the challenges for regulators is reducing the agency problem in a cost-effective way (including the cost of their own time) (Moe, 1984; Shapiro and Willig, 1990).

Second, SOE managers have weaker and more diverse incentives than managers of private companies. For example, they are commonly not encouraged to maximize profits—that is, they lack the high-powered incentives of pay-for-performance contracts (Shleifer, 1998). Furthermore, SOE managers do not reap benefits from increasing revenues, but “they will bear many of the costs (i.e., angry workers, disgruntled suppliers). Thus, managers of SOEs have no incentive to improve efficiency or develop innovative new products” (Megginson, 2005: 39). In fact, some of those objectives may conflict, as the objective function of SOE managers includes a variety of social, political, and financial objectives (not necessarily profitability, but minimizing the fiscal cost of achieving the other objectives) (Shirley and Walsh, 2000).

Third, agents in SOEs may be poorly monitored because there is a multiple-principals or collective action problem. In other words, SOEs have too many principals—which could include boards of directors, ministries, congress, the executive branch, and others—none of whom wants to bear the full cost of monitoring because none of them benefits from it (Dixit, 1997). Normal oversight of an SOE consumes bureaucratic time, and thus a ministry may delegate the task to another agency or to the MoF—that is, it will shift the cost of monitoring (McCubbins, Noll, and Weingast, 1987). In many LAC countries, the sectoral ministry monitors SOEs while the MoF or a central agency or department monitors the finances. This model of dual monitoring and control exacerbates the multiple-principals problem, leading to free riding among ministries and weak monitoring of SOE managers overall. The multiple-principals problem leaves the managers of SOEs with considerable discretion to pursue their own agendas (Vickers and Yarrow, 1991). Therefore, they often end up running inefficient enterprises, shirking their responsibilities, and focusing on their private benefit (Boardman and Vining, 1989; La Porta and López de Silanes, 1999; Shirley and Nellis, 1991; Shleifer, 1998; Vickers and Yarrow, 1988).

The boards of directors of SOEs should help control the multiple-principals problem by consolidating the demands of the multiple principals rather than making the problems worse. In private firms, boards have the power and tools to monitor managers and act as a single principal, intermediating between shareholders and managers. They also have instruments to

monitor the actions of managers, and can design and approve the compensation of top executives, including the pay-for-performance component. To carry out this function, boards usually have auditing and compensation committees that include experienced members. SOEs, however, have boards that represent multiple principals (e.g., multiple ministries) and lack the power or the capacity to monitor and—if necessary—punish managers. In SOEs, the shareholder (i.e., the government) packs the board with representatives from multiple ministries, exacerbating rather than alleviating the multiple-principals problem. Moreover, in many countries, especially in the LAC region, SOE boards lack committees or executives capable of monitoring managers, and they have neither the authority nor the capacity to design mechanisms to align the incentives of managers with those of the government.

### *The Fiscal Governance Problem*

The fiscal governance problem is related to the discretionary and opportunistic nature of the financial relationship between SOEs and the government. The fact that SOEs enjoy wide discretion to request resources from the government and that the government can use SOEs to do quasi-fiscal operations, such as sell inputs at below-market price or extract SOE resources to finance the budget, creates a problem in the relationship between the government and SOEs.

This book divides the discretion problem into three types of risks. The first is the cash flow risk. SOEs can request funding to finish an important project, pay salaries and pensions, or recapitalize themselves at any time during the year. This creates a cash flow risk for the government. The uncertainty about how much SOEs will need and when puts the amounts that governments had budgeted for other items at risk.

The second is the fiscal risk that stems from SOEs' discretion to issue debt, leave pension funds unfunded, and undertake large investment projects with limited control by the government, creating liabilities or contingent liabilities. This risk binds the government to bail out SOEs, but sometimes the size of these liabilities is too large even for the government to conceal them.

The final risk emanates from governments' discretion to extract resources from SOEs by making them pursue quasi-fiscal operations. Governments can ask SOEs to sell their output at below-market prices, generating a potential loss, or to undertake projects that have high net present social value because they benefit the government or a group of voters, but not the SOE. The associated risk in this case is that SOEs that engage in these operations then have

an excuse to request funds from the government in an ad hoc fashion to cover losses that stem from the quasi-fiscal operations. Moreover, if the government does not compensate the SOE, these quasi-fiscal operations may end up eroding its capacity to invest in capital upgrading or to pursue its own investment projects.

### Cash Flow Risk

The problem of cash flow risk (part of the soft budget constraint) is generated because at any point during a fiscal year SOEs can exceed their budget, request emergency funding to complete a capital project, request funds for cost overruns, or declare an emergency to avoid default on pension liabilities. The risk stems from the difficulty governments have in credibly denying such funding requests. The existence of discretion to request funds can provide managers of SOEs with little incentive to perform financially for at least two reasons: (i) it creates incentives for excessive risk-taking and (ii) it leads managers to take a complacent approach when running their firms (Kornai, 1979; Shleifer and Vishny, 1998). These incentives only accentuate the cash flow risk for the government, because complacency and discretion lead SOE managers to request funds from the government at any point in time.

The government can impose ex ante controls over some SOE expenditures. After the fact, however, there is no way for the government to commit to not bail out its SOEs, especially those that are too big or too politically sensitive to fail. This is particularly problematic when SOEs do not produce adequate and timely financial information that facilitates ex ante monitoring of issues, to prevent the requests for additional funding ex post.

The problem is compounded by the fact that SOEs are usually in the business of providing crucial inputs to domestic industries or basic services to society. Thus, when facing an unexpected shock, they may not have the flexibility to raise additional revenues (especially because their fees are highly regulated), and their managers may be in the uncomfortable position of (i) having to reduce their output; (ii) having to suspend payments to suppliers, employees, or pensioners; or (iii) having to request additional funding from the central government. Under such circumstances, it is hard for the government to commit not to bail out its SOEs.

Rodden (2002) describes this mutual dependence between the government and the SOE as resembling the one between subnational units and the central government in countries that have decentralized federal systems with highly transfer-dependent local governments. As Rodden (2002: 672) explains, “when a highly transfer-dependent local government faces an unexpected adverse fiscal shock, it may not have the flexibility to raise additional revenue,

forcing it either to cut services, run deficits, or rely on arrears to employees and contractors (...) eventually pressure from voters and creditors will likely be directed at the central government, which quite likely *can* resolve the crisis.”

### Contingent Liability Risk (Stock of Liabilities Risk)

The second type of problem associated with SOEs' discretion to obtain funding from the government is contingent liability risk—that is, SOEs' liabilities can turn, ultimately, into government liabilities. Therefore, if SOEs have discretion to issue debt, to execute large construction projects with significant financial commitments, or leave their pension funds unfunded, the government faces a major risk of having to bail out its SOEs because the stock of liabilities will ultimately become its liabilities. If governments do not monitor the size of these contingent liabilities, they may have financially strapped SOEs that are too big to fail and, eventually, too big to be bailed out.

The problem is worse in countries where the government either allows or promotes the issuance of SOE debt with no controls. For example, in countries where the government sets the fees or prices of SOEs at a rate that generates losses, governments often allow SOEs to issue debt to cover these shortfalls. Alternatively, governments may allow SOEs to issue debt as a way of delegating firm monitoring to the market. However, since the government implicitly or explicitly guarantees the debt issues, the market may end up not following through and making the budget constraint of SOEs even softer.

### Quasi-fiscal Operations as Cash Flow Risk

The fiscal governance problem of discretion also includes a form of extraction from SOEs by the government to pursue quasi-fiscal operations (or simply to extract additional resources from the SOE in an ad hoc way). These quasi-fiscal operations generate public benefits of controlling SOEs, which are similar to private benefits of control. Private benefits of control are the pecuniary and non-pecuniary benefits that owners or controllers of private corporations get from having a majority of votes or full control of a company (Barclay and Holderness, 1989; Claessens, Djankov, and Lang, 2000; Dyck and Zingales, 2004; Nenova, 2005). In private firms it is easier to understand what the “private benefits of control” entail, as there can be pecuniary benefits, such as the advantage that controlling shareholders derive from steering the firm to tunnel or transfer resources to a related firm at below-market value (Johnson et al., 2000) or even nonpecuniary benefits that controlling shareholders derive from running a firm (Barclay and Holderness, 1989). Yet, in the case of SOEs, “public benefits of control” are the fiscal benefits that governments derive from controlling these firms, beyond the taxes and dividends they obtain. They are “benefits” of control



because they are oftentimes the product of firm policies that benefit the government at the expense of the stability and survival of the SOE as a going concern in the long run. That is, public benefits of control entail having the government tunneling away resources from the public enterprise; for example, by steering these firms to sell output such as gasoline, electricity, or gas at a below-market price to related firms, such as national champions, that the government wants to support or to benefit voters with the aim of gaining political support (Musacchio, Pineda Ayerbe, and Garcia, 2015). Additionally, as controlling shareholders of SOEs, governments can tunnel resources away from the firms to finance their own budget deficits or to pay for public projects, thus leaving such firms without enough resources to pursue their own capital expenditures. In other words, because having SOEs pursue quasi-fiscal operations or social policy yields political benefits and fiscal revenues, there is a commitment problem that makes it difficult or impossible for the government to resist intervening in SOEs whenever it wants to use them for policy purposes.

The problem is compounded because SOEs can be very effective tools for redistributive politics. They can be structured deliberately to implicitly transfer benefits from groups in society without their knowledge to provide subsidies to the supporters of specific politicians (Megginson, 2005). Precisely because of the opacity of their finances or the fact that most SOE accounts are kept off the government's balance sheet, SOEs can be particularly attractive vehicles to transfer wealth between groups, to provide costly subsidies to specific political groups without revealing the opportunity cost of such subsidies, or to issue debt in local or foreign currency without affecting the government's credit rating. In fact, using SOEs to perform such transactions is also easier because it involves less convoluted procedures than trying to accomplish the same things through the more transparent budgetary process (Boyko, Shleifer, and Vishny, 1996; Jones, 1980; Kikeri and Nellis, 2004; Shirley and Walsh, 2000).

These quasi-fiscal operations are an important source of cash flow risk. This is because SOEs that pursue these quasi-fiscal operations for governments can easily end up undercapitalized, facing losses, or simply running out of funds for key capital projects. Those SOEs can claim to have been affected by the quasi-fiscal operations and can become more prone to request funds in an ad hoc way to cover financial shortfalls. In other words, if the government extracts resources from the SOE in an ad hoc way, it induces SOEs to do the same.

Table 1.1 summarizes the information asymmetry and fiscal governance problems and their consequences for the performance of SOEs. The main messages are: (i) the agency problems are complex; (ii) opportunistic extraction can take place in both directions—from the government to the

**Table 1.1. Corporate and Fiscal Governance Problems in SOEs**

Typology of problems	Main issues	How does the problem manifest and how does it affect SOE performance?
Information asymmetry (corporate governance) problem in SOEs	Misinformation and weak incentives—generating cash flow and contingent liability risk Weak monitoring (multiple-principals problem), generating cash flow and contingent liability risk	<ul style="list-style-type: none"> <li>• Managers have more information than their monitors and do not report transparent figures.</li> <li>• Managers do not maximize the return for the owner.</li> <li>• Managers do not have high-powered incentives or pay-for-performance contracts.</li> <li>• Managers are selected poorly.</li> <li>• There is no clear principal/monitor.</li> <li>• There is generally weak monitoring by ministries, departments, and boards because they all want to shift the cost of monitoring to each other (free riding).</li> </ul>
Fiscal governance problem in SOEs	Soft-budget constraint (cash flow and contingent liability risk) and SOEs extracting resources from the government in an ad hoc fashion and unexpectedly Quasi-fiscal operations (government extraction of resources from SOEs in an ad hoc way—taking advantage of the public benefits of control)	<ul style="list-style-type: none"> <li>• There is a lack of formulas or specific timelines, restricting when SOEs can request funding.</li> <li>• Governments cannot commit ex post not to bail out SOEs.</li> <li>• SOEs can have continuous losses that require transfers to cover them.</li> <li>• Governments guarantee SOE debt.</li> <li>• Governments extract resources from SOEs in an ad hoc fashion. There are no formulas to specify timing and amount of such transfers.</li> <li>• Governments obtain political rents from such extraction because they benefit other firms (e.g., by selling inputs cheaply) or voters.</li> <li>• Governments extract resources from SOEs to finance deficit, leaving them without resources to finance capital and operating expenditures.</li> </ul>

Source: Authors' elaboration.

SOE (the soft budget constraint problem) or from the SOE to the government (through quasi-fiscal operations); and (iii) as long as these transfers are discretionary, there will be mutual dependence and no commitment to stop the extraction.

## SOEs in Latin America and the Caribbean: Information Asymmetry and Fiscal Governance Problems and their Risks

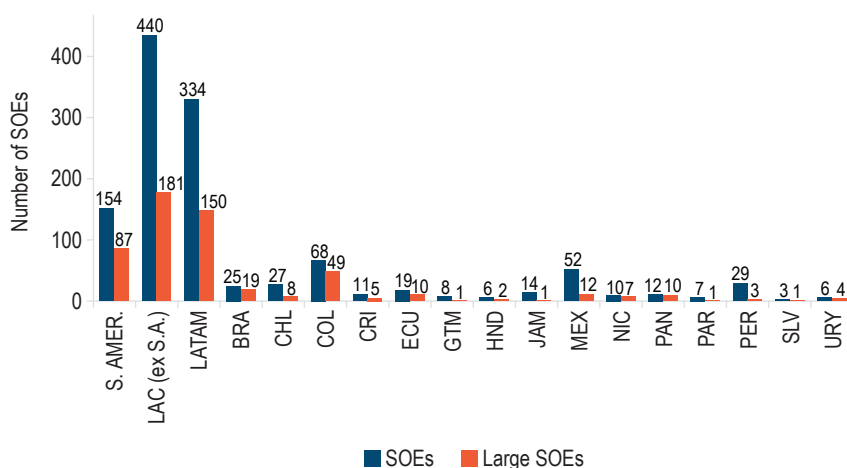
This section explains the extent to which the problems of SOEs in general highlighted in the previous sections prevail in the LAC region. The findings are based on a newly compiled dataset on SOEs and their financials for the region. The data illustrate the cash flow risk problem and the contingency risk problem, as well as the inefficiency of SOEs compared to similar private firms in the region. The section presents a series of solutions designed to tackle the sources of fiscal risks. A complete description of the sources, the dataset, and the methodology used can be found in Appendix 1.1.

## SOEs Are Big and Important in Latin America and the Caribbean

Overall, SOEs in the LAC region play an important role in the economy, but their volatility and large liabilities generate significant fiscal risks for governments in the region. The regional database reveals that SOEs are still very large in most countries, and they operate in key sectors. Figure 1.1 shows the average number of SOEs and the average number of SOEs with assets over US\$1 billion in the database (averaged over 2010–2016). On average, there are almost 20 SOEs per country per year. Yet, the distribution of SOE size is significantly skewed. In Brazil, out of the 20 commercial SOEs covered in the database, there are 9 with assets over US\$1 billion. Brazil's SOEs are some of the largest companies (SOE and private) in the region. Chile also has a large proportion of SOEs that are large. On the other extreme of the distribution, there are no large SOEs in Jamaica or Nicaragua.

The database includes only non-financial SOEs that have commercial activities. That is, they sell goods and services for which there is a market price (as opposed to public services such as policing, tourism, or the arts). Therefore, the sample of SOEs for the present analyses has 20 non-financial companies in Brazil and 45 in Mexico. In Central America and Uruguay, there are less than 10 SOEs with consistent information over the period studied. Argentina, Bolivia, and Venezuela were excluded because they do not have centralized repositories of SOE data. In Argentina, although the government is making great strides in reforming the way in which SOEs report information, during the decade prior

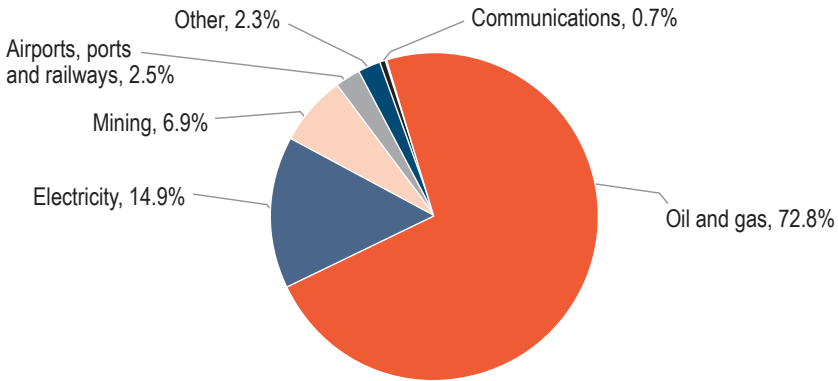
**Figure 1.1. Average Number of Commercial SOEs by Country, 2010–2016**



*Source:* Calculated using the IDB Database of State-Owned Enterprises in Latin America and the Caribbean (for sources, see Appendix 1.1 on page 43).

*Note:* Large SOEs are defined as those with assets over US\$1 billion.

**Figure 1.2. Share of SOE Revenue by Sector, 2010–2016**



*Source:* Calculated using the IDB Database of State-Owned Enterprises in Latin America and the Caribbean (for sources, see Appendix 1.1 on page 43).

to the administration of President Macri, there was no systematic reporting of financials (Argentina, 2017).

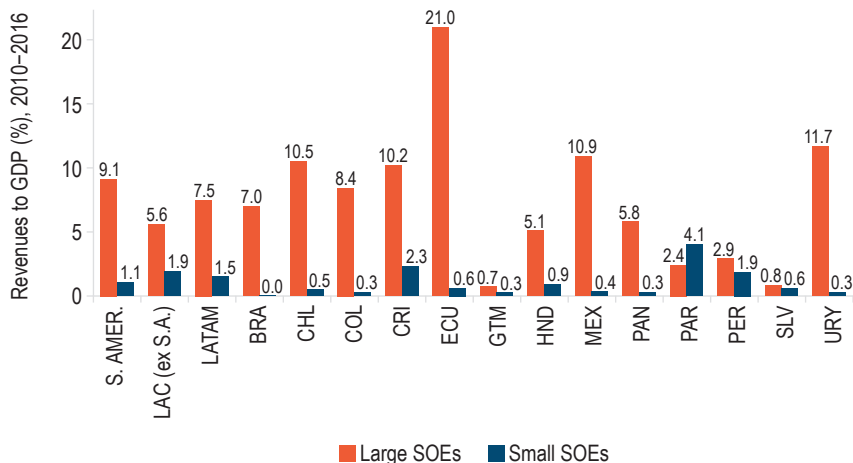
Figure 1.2 illustrates that the most important sector for SOEs in the LAC region is oil and gas. This sector generates almost three-quarters of all SOE revenues. Electricity companies concentrate 14.9 percent of the revenue, while the mining sector accounts for 6.9 percent. The remaining revenues are distributed among the remaining sectors.

There are important sectoral variations across countries. In five countries, including Argentina, Brazil, and Mexico, the revenue from SOEs in the oil and gas sector represents 75 percent of total SOE revenue. At the other extreme, in Nicaragua the share of revenue from the Nicaragua's Empresa Nicaragüense del Petróleo is a mere 2.3 percent, and El Salvador, Guatemala, Honduras, and Panama have no SOEs operating in this sector.

SOEs in the electricity sector are extremely large and important for the governments of Central America. In Honduras, 82.9 percent of SOE revenues comes from the Empresa Nacional de Energía Eléctrica, while in Nicaragua both Empresa Nicaragüense de Electricidad and Empresa Nacional de Transmisión Eléctrica have revenues that jointly represent 28.7 percent of total SOE revenue.

SOEs that manage the ports and airports in Central America are also large and important sources of revenue. In Panama, 90 percent of SOE revenue comes from the Panama Canal Authority (which manages railroads, airports, and ports). Guatemala (Empresa Portuaria Nacional Santo Tomás de Castilla and Empresa Portuaria Quetzal) and Nicaragua (Empresa Administradora de Aeropuertos Internacionales and Empresa Portuaria Nacional) have revenue shares higher than 20 percent. In Chile, 60 percent of SOE revenue comes from Codelco.

**Figure 1.3. Revenues to GDP for Large and Small SOEs by Country, Average 2010–2016**



*Source:* Calculated using the IDB Database of State-Owned Enterprises in Latin America and the Caribbean (for sources, see Appendix 1.1 on page 43).

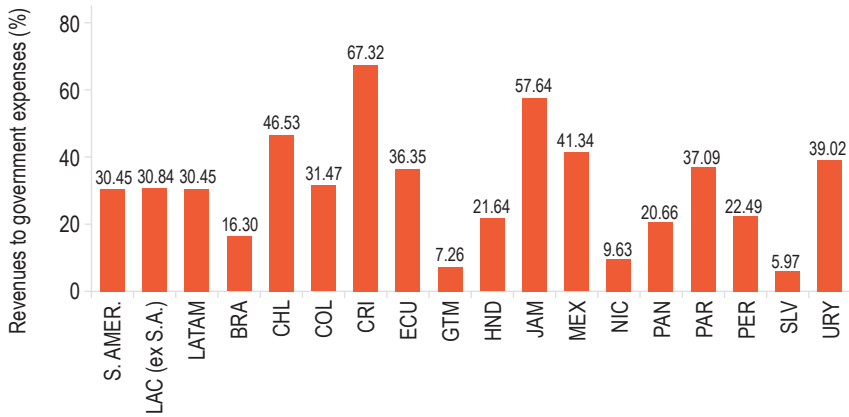
*Notes:* The revenues for all the SOEs are added per country every year and the total is divided by GDP. Then the estimates are averaged over the six-year period. Large SOEs are those with assets over US\$1 billion.

The average SOE in the database sells US\$1.81 billion per year, while the median is close to US\$50 million per year. The data are skewed because Mexico and Brazil have large economies. SOEs in these two countries generate 71.6 percent of total SOE revenues in the region. At the other extreme of the distribution, all SOEs in El Salvador, Guatemala, and Nicaragua have less than US\$1 billion in revenue.

It is concerning that large SOEs in the region have revenues that represent a large share of government revenues. If governments are closely monitoring the actions of SOEs, this could generate contingent liabilities that might skew government finances. For example, SOEs in Ecuador and Jamaica have the highest ratio of revenues to gross domestic product (GDP), at over 15 percent each. In Central American countries, by contrast, SOE revenues to GDP represent between 1 and 8 percent of GDP, on average.

The largest firms drive these results. Figure 1.3 separates the revenues to GDP for large firms (i.e., the top two in each country) and small ones. Clearly, the largest firms generate the bulk of the revenues in most countries.

Figure 1.4 compares SOE revenues as a percentage of government revenue among countries and regions as a measure of both the importance of these enterprises to the public finances and possible fiscal risks. Average SOE revenue to GDP is actually only 8 percent. SOE income to government revenue in LAC is

**Figure 1.4. Revenues as a Percent of Government Expenses, Average 2010–2016**

Source: Calculated using the IDB Database of State-Owned Enterprises in Latin America and the Caribbean (for sources, see Appendix 1.1 on page 43).

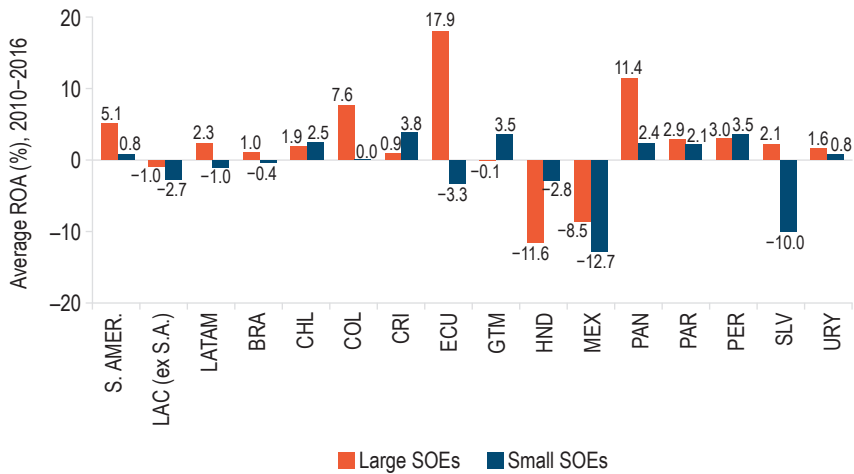
Notes: The revenues for all the SOEs are added per country every year and the total is divided by government expenses. Then the estimates are averaged over the six-year period. Large SOEs are those with assets over US\$1 billion.

30 percent on average. These averages hide the heterogeneity in the region. In five countries, revenues of SOEs represent 45 percent of overall public revenue. In Jamaica, SOE revenues represent 57.64 percent of public revenues, and in Ecuador the figure is 36.35 percent.

These figures show that there is not only a too-big-to-fail problem but also a too-big-to-be-rescued one. In many countries, SOEs are very large relative to the size of the government, a risk that governments in the region severely underestimate. The largest companies are extremely large relative to GDP. In most countries, the top three firms generate over 90 percent of the revenues of SOEs. Only in Brazil, Jamaica, Nicaragua, and Peru are the revenues of the largest three firms lower than 90 percent of total SOE revenues.

The data uncovers a second source of fiscal risk, namely, cash flow risk. SOEs in many countries in the region operate either with net income losses or with margins so small that any negative shock leads them to require a fiscal transfer to cover losses. Figure 1.5 shows the average adjusted return on assets (ROA) for SOEs in the region. In many countries, margins (net of fiscal transfers) are very small (close to 1 percent ROA), while in others they are negative.

Figure 1.6 plots the average aggregate adjusted income of SOEs relative to GDP. This is the easiest way to understand cash flow risk. In some countries, SOEs have losses of over 1 percent of GDP per year. This means that governments in countries such as Honduras and Mexico must continuously

**Figure 1.5. Average ROA for Large and Small SOEs, 2010–2016**

Source: Calculated using the IDB Database of State-Owned Enterprises in Latin America and the Caribbean (for sources, see Appendix 1.1 on page 43).

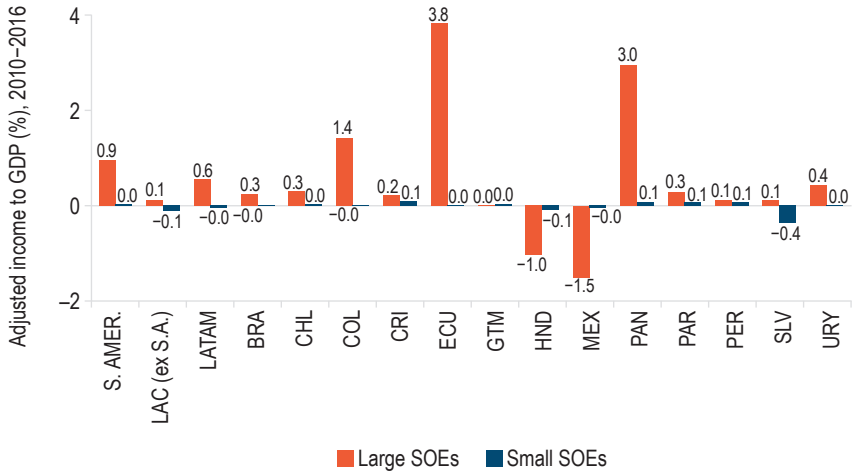
Notes: ROA is estimated as adjusted net income over assets. Adjusted net income is added for all SOEs per country every year and the total is divided by the sum of all SOE assets. Then the estimates are averaged over the six-year period. Adjusted net income is net of fiscal transfers, which is a better reflection of how returns affect government cash flows. Large SOEs are those with assets over US\$1 billion.

inject capital into SOEs to fill in the gaps generated by these losses. While the losses are mostly driven by large firms in Mexico (close to 1.5 percent of GDP), in El Salvador, the bulk of the losses come from small firms.

Another way to gauge the magnitude and frequency of SOE losses is to look at the frequency with which they report losses. Figure 1.7 tracks the frequency with which a company has negative adjusted net income. On average, in most countries, nearly half of the firms have losses in any given year. In El Salvador and Honduras, more than 70 percent of the SOEs report losses, most of which are large enough to require fiscal transfers to prevent negative net worth.

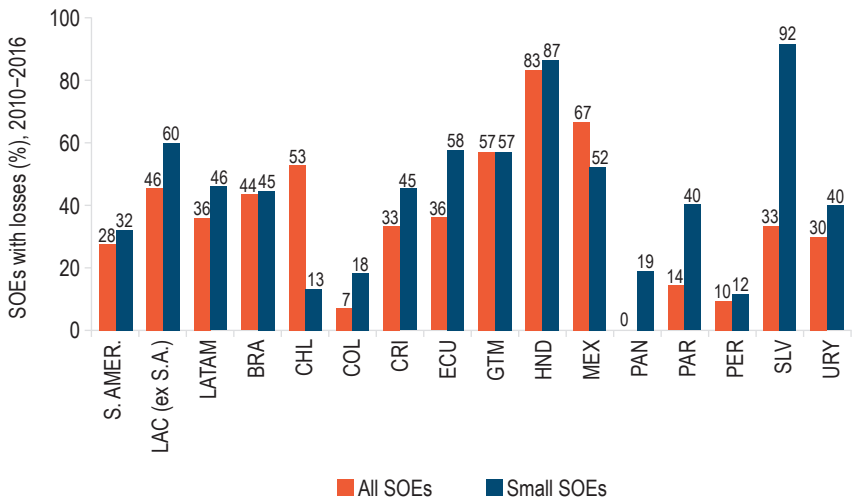
Figure 1.7 shows that losses are especially common among small firms in most countries. In Ecuador, El Salvador, Guatemala, and Honduras, over half of all small firms incur losses in any given year. In many of those countries those losses generate requests for fiscal transfers that fluctuate around a quarter of a point of GDP, or more in bad times (e.g., in Ecuador the average is 2 percentage points).

The cash flow risk stems from the significant amount of discretion in the fiscal interaction between national governments and SOEs in the LAC region. This discretion can be observed, for example, in the way governments set energy prices. In most countries in the region, the government has the final say on

**Figure 1.6. SOE Adjusted Net Income to GDP, Average 2010–2016**

Source: Musacchio and Pineda Ayerbe (2018).

Notes: The adjusted net income for all SOEs per country are added up by country every year and divided by GDP. Then the estimates are averaged over the six-year period. Adjusted net income is net of fiscal transfers, so this is a better reflection of how returns affect the cash flow of the government.

**Figure 1.7. Large and Small SOEs with Losses, Average 2010–2016**

Source: Musacchio and Pineda Ayerbe (2018).

Notes: The graph shows the percentage of company-year observations that show losses (using adjusted net income). This figure is calculated for every year and then averaged over the years.



gasoline and electricity prices, which have a significant impact on the finances of the SOEs that provide energy.

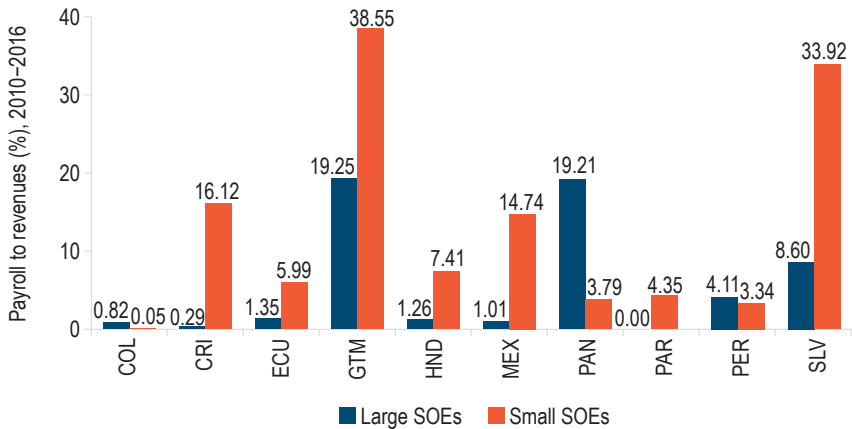
By subsidizing prices without establishing a transparent, formula-based methodology to estimate the cost of this subsidy, governments are creating two interrelated problems. First, they are de facto extracting resources from SOEs in unpredictable amounts, depending on the difference between the costs of production and the controlled prices. These are the quasi-fiscal operations that stem from the public benefits of control. Second, by extracting resources through price controls, governments are creating a bargaining space for SOE managers to constantly ask for transfers from the government to cover the losses generated by such price controls, rather than focusing on improving the efficiency or quality of the goods or services their firms provide.

Examples of such discretionary extraction of resources abound. For instance, the Brazilian Petroleum Corporation, *Petróleo Brasileiro S.A.* (Petrobras) and its shareholders face losses stemming in part from the incomplete pass-through of international oil prices to domestic prices. Since the government controls gasoline prices in Brazil, Petrobras, including its minority shareholders, are de facto subsidizing gasoline consumers. In Mexico, retail electricity tariffs are subsidized on average around 40 percent, but there is no explicit mechanism to record and finance the cost of the subsidy. The Federal Electricity Commission (*Comisión Federal de Electricidad*, or CFE), the SOE that generates and distributes electricity in Mexico, therefore either faces losses or makes use of inefficient cross-subsidies between retail and industrial tariffs. Both of these come at the expense of the capital and operational outlays necessary to maintain the firm as a going concern.

In sum, the data show that cash flow risk is a frequent and widespread problem for both large and small firms. Therefore, governments cannot focus merely on finding solutions that work for large firms (e.g., corporate governance reforms). The reforms must be broad, and the solutions need to encompass small firms.

In some cases, other sources of information reveal the origin of the losses. For countries with financials specifying disaggregated payroll expenses, it is possible to calculate the percentage of operating profit that these expenses represent (Figure 1.8), and how much is left to amortize debt, reinvest in the firm, or pay dividends and taxes to the government. This is also a proxy for how much these firms are used to create jobs (for either social or political purposes). Furthermore, large ratios of payroll to operating profits mean that these firms operate with very thin margins or with losses, which means that they must be constantly rescued with capital injections.

**Figure 1.8. Payroll to Revenues in SOEs for Selected Countries, Average 2010–2016**



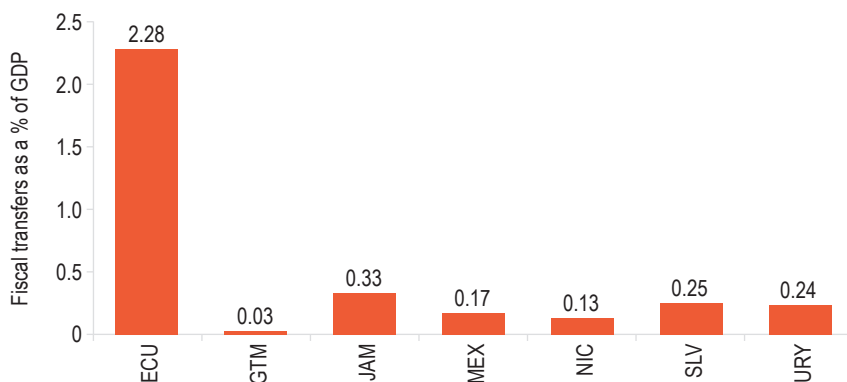
Source: Musacchio and Pineda Ayerbe (2018).

Notes: The graph shows payroll as a percentage of revenues in countries for which data are available. Payroll expenses are added up by country every year and divided by total SOE revenues. Then the estimates are averaged over the six-year period.

High payroll to operating profit ratios create a different type of fiscal risk. Not only do they increase the risk of a catastrophic shock that may require a major bailout, but they also expose governments to small-drip fiscal risk. This means that governments have many firms that need frequent capital injections, creating a significant fiscal cost on an ongoing basis and often under the radar of the MoF or the congress.

Figure 1.8 shows payroll to revenues for the firms in countries where systematic information is available. For El Salvador and Guatemala, the ratio of payroll to revenues was over 30 percent for small firms. Payroll expenses for the Panama Canal Authority averaged nearly 20 percent of revenues. Additionally, Figure 1.8 points out that in most countries payroll to revenues is two or three times higher for small firms than for large firms. This is consistent with weak monitoring of SOEs—especially small SOEs. With weak monitoring, small SOEs will be either more easily used for patronage or will simply fall under the radar of monitors and will add jobs to meet political objectives, such as reducing unemployment, or to benefit cronies of the politicians who ultimately control these firms.

Systematic data are available on fiscal transfers to SOEs for seven countries. Figure 1.9 shows the average size of these transfers as a percentage of GDP. For most of the countries, fiscal transfers are about one-quarter of a point of GDP, but for Ecuador the transfers average over two percentage points of

**Figure 1.9. Fiscal Transfers to GDP in Selected Countries, Average 2010–2016**

*Source:* Calculated using the IDB Database of State-Owned Enterprises in Latin America and the Caribbean (for sources, see Appendix 1.1 on page 43).

*Notes:* For this graph all fiscal transfers at the SOE level are added up and aggregated by country for every year and then divided it over GDP for the year. Then the estimates are averaged out over the six-year period. Countries for which there are some transfers but no systematic data are excluded.

GDP. Aside from the figure for Ecuador, one-quarter of a point of GDP is still a significant amount and can be the difference between having a primary budget surplus or a deficit in some of these countries. In the LAC region, most countries make major fiscal efforts to end the year with a primary fiscal surplus of 1 percent of GDP. Thus, weak monitoring of SOEs or the volatility of SOE-adjusted incomes can easily erode the primary fiscal surplus, especially in countries that do not smooth their oil revenues (e.g., Ecuador).

The fiscal transfers documented here underestimate the size of fiscal transfers to inject capital or to undertake large bailouts. The data presented here represent merely the average of current transfers to cover the deficit of SOEs. Large capital injections and bailouts are significantly larger and take place more sporadically to be able to capture in year-to-year transactions. Other types of transfers noted during the compilation of the data were the use of loans from one SOE to another or from state-owned banks to SOEs, rollover of debts to other SOEs, and the aforementioned capital injections. Yet, the lack of transparency in those transactions makes it impossible to track them and incorporate them systematically into the database.

Overall, the evidence so far confirms that there are both cash flow risks and risks that stem from the size of the liabilities as a share of GDP. Having SOEs with significant liabilities creates at least three problems. First, the response of the public firms to large macroeconomic shocks (especially changes in the

interest rate of their liabilities) may be slow because these companies have rigid labor contracts that prevent them from adjusting their expenses to preserve a healthy financial position in the short run. Second, many SOEs have generous pension plans and labor benefits that generate financial pressures in the medium and long term, especially during recessions or periods of adverse external prices. Thus, the measure of liabilities, which does not include off-balance-sheet liabilities, is a lower-bound estimate of the actual contingent liabilities governments can face for failing to monitor their SOEs. Third, some SOEs have recently increased their level of liabilities, partly as a way to withstand negative shocks to commodities in international markets. A consequence of higher debt is that enterprises must pay higher interest rates, which puts pressure on their expenditures. Moreover, in cycles of interest rate tightening in the United States, SOEs face an additional source of vulnerability, as SOEs often finance themselves in foreign currency.

### ***The Efficiency of Latin American and Caribbean SOEs Relative to Comparable Private Firms***

Large SOEs are relatively inefficient compared to private firms of similar size operating in the same industry in the LAC region. To facilitate the comparison with private firms, a comparison group of LAC private firms of the same industry and size was created (assets +/- 20 percent of comparable SOEs). These comparisons can be made for sectors in which there are comparable private firms operating in the LAC region. These sectors are airports, electricity, oil and gas, ports, and telecommunications.

Some SOEs are compared to private firms in different countries. For example, SOEs that operate airports in Mexico or Panama were compared with similar airports (e.g., by revenues) that are fully private or that have been privatized in Chile or Brazil. Electricity companies in Central America were compared with oil and gas SOEs throughout the region. This methodology also means that for extremely large firms such as Petrobras, the Mexican oil company *Petróleos Mexicanos* (Pemex), or CFE, there may be no comparable private firm of that size in the region. This creates an obvious bias, because some of these large firms, such as Pemex, have the biggest performance issues and some of the greatest fiscal risks. However, this matching methodology is now common in the literature (Bortolotti and Faccio, 2009; Lazzarini and Musacchio, 2018).

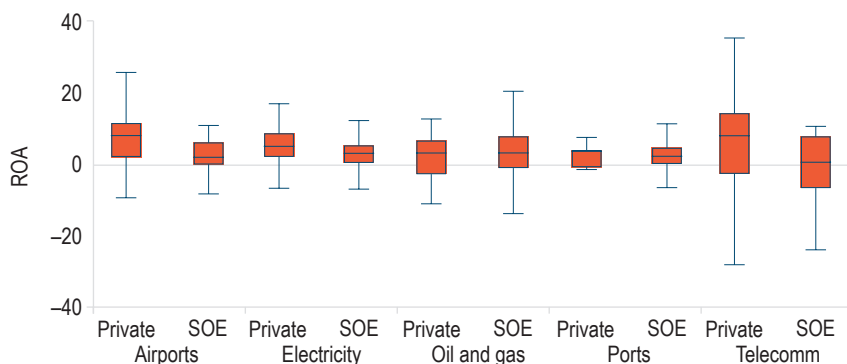
Initially, the performance and leverage of SOEs can be compared to those of private firms without using matching techniques, but rather by comparing the two groups as a whole. Figure 1.10 shows the average performance and variation of ROA for the five comparable sectors. Except for oil and gas and ports, all SOE sectors seem to have

worse ROA. However, the comparison is more complex because private firms have high variation in some sectors. The story is similar with other performance indicators, such as return on equity (ROE) or net margins. ROE is not actually a good indicator to use to compare SOEs to similar private firms. SOEs are usually undercapitalized and, as such, should have larger ROE than what is normal for a firm in any industry. Second, for firms that rely heavily on debt to finance their operations, ROE is a poor proxy for the efficiency of usage of the resources that are invested in the business. Thus, ROA is a more reliable performance measure.

Another reason to use ROA is that, with the exception of productivity, no other performance indicator is a fair comparison between SOEs and private firms. Using gross or net margins hides the fact that SOEs rely heavily on leverage. Thus, any margin would have to be adjusted by leverage. Additionally, because SOEs are usually the largest firms in any country, comparisons across countries and across firms are better if normalized by the total size of the firm.

Figure 1.11 shows the variation in the liabilities to GDP of SOEs and similar private firms using box plots. The sample of firms included here are SOEs and private firms that, given their characteristics (i.e., size, industry, and year), could potentially be SOEs. It therefore includes only private firms that are in the common area of support as SOEs, using a logit regression to generate this area of support, following the first step of propensity score matching used in the literature (Abadie et al., 2004; Abadie and Imbens, 2016). It shows that private firms

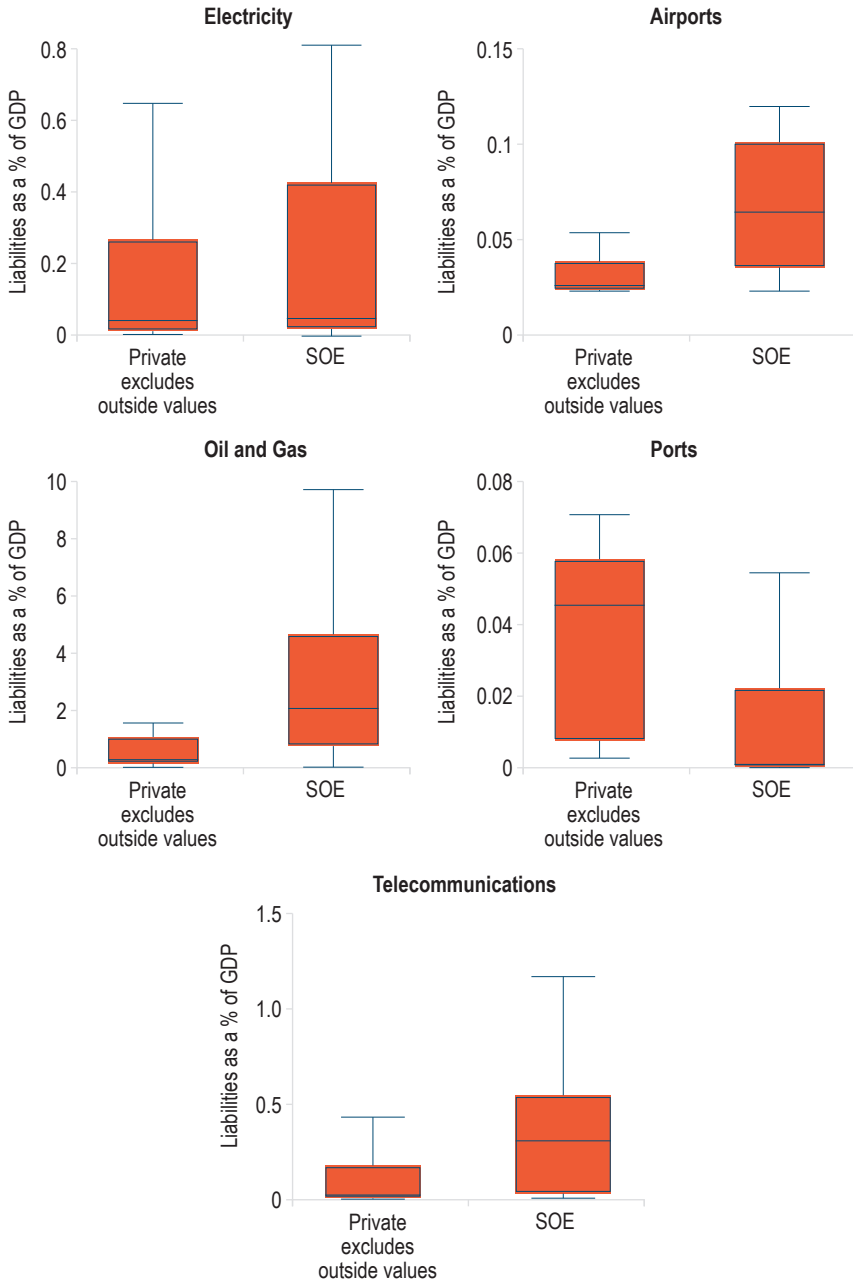
**Figure 1.10. Return on Assets in SOEs and Private Firms in Selected Sectors, 2010–2016**



*Source:* Calculated using the IDB Database of State-Owned Enterprises in Latin America and the Caribbean (for sources, see Appendix 1.1 on page 43).

*Notes:* This sample includes a variety of private firms that according to their characteristics (i.e., size, industry, and year) are similar to the SOEs in our sample. The sample matches private firms and SOEs (according to the estimated propensity scores—or firms predicted as SOEs when a logit regression is run in which the dependent variable is a dummy for SOE).

**Figure 1.11. Liabilities to GDP of SOEs and Private Firms in Selected Sectors in Latin America and the Caribbean, 2010–2016**



Source: Calculated using the IDB Database of State-Owned Enterprises in Latin America and the Caribbean (for sources, see Appendix 1.1 on page 43).

Notes: This sample includes a variety of private firms that according to their characteristics (i.e., size, industry, and year) are more like the SOEs in our sample. The sample matches private firms and SOEs (according to the estimated propensity scores—or firms predicted as SOEs when a logit regression is run in which the dependent variable is a dummy for SOE).

have, on average, lower liabilities to GDP than SOEs. Moreover, except for ports, SOEs have wider variation in liabilities to GDP than private firms. Although this evidence is not conclusive and the comparison is not a proper study of average treatment effects (Abadie et al., 2004), it implies that SOEs may create more fiscal risks in the form of higher contingent liabilities.

Next, SOEs and similar private firms are compared using matching regressions to determine whether the differences are significant, taking into account the variation observed in the previous figures. This will show whether the financial performance of SOEs is close to that of comparable private firms and if not, will determine the size of the gap as a way to gauge the financial cost of operating these firms with social objectives. It is important to consider that the performance gap can be driven by differences in the competitive, regulatory, and institutional characteristics of the different markets across countries.

### Matching Regressions

To analyze a matched sample of firms, a logit regression is run using assets and the 4-digit Standard Industrial Classification (SIC) code as independent variables and the dummy for SOEs as the dependent variable. The predicted values of this logit are then used to define the sample. Only those firms predicted as possible SOEs enter the matching sample. Using this sample, it is possible to estimate the average treatment effect (i.e., the average effect of being state-owned) using both propensity score matching and nearest-neighbor matching methodologies. Nearest-neighbor matching compares each SOE with one private firm that has the most similar characteristics.

It is important to note three caveats of this approach. First, the sample of private firms used to match with SOEs comes from a two-step process. Using Bloomberg, the peer group of each of our SOEs is found, by industry and in LAC only. From that group firms are selected that have revenues within  $\pm 25$  percent of the revenues of the SOE in question. Second, the same private firm may act as a match of multiple SOEs if necessary (what the literature calls “replacement”), as long as they meet the matching criteria described above. Since matches are limited to private firms in the LAC region, there are no matches for some of the largest firms (e.g., Pemex and Petrobras). Third, because of the methodology followed, SOEs are not necessarily matched with similar private firms in the same country. This is because some SOEs are extremely large (sometimes acting as monopolies in their home countries), which makes it impossible to find suitable private firms to match within the same country. Thus, SOEs are matched with private firms of similar size, even if they are operated in more contested markets in the LAC region.

The descriptive statistics are presented in Table 1.2. This table shows how different the SOEs and private firms are in the sample. The descriptive statistics show that the samples are relatively similar. Private firms have higher ROE, albeit with higher variation, while SOEs have much higher liabilities to GDP but less variance.

With the sample of matched firms, the average treatment effect of being an SOE can be calculated using two different matching techniques. First, propensity score matching forces the matches to occur only among firms that are in the common area of support (i.e., matches of SOE with private firms that are predicted as SOEs in the logistic regression given their characteristics). Second, the same sample of firms can be used to conduct nearest-neighbor matching. The closest match for each SOE and private firms are analyzed in the sample using assets, year, and the 4-digit SIC code.

The drawback of matching SOEs with private firms in airports, electricity, ports, oil and gas, and telecommunications is that those are heavily regulated and/or taxed sectors. Thus, most of the indicators are showing the difference between the performance of SOEs and highly regulated private firms in the same sector. This may be a good exercise in the sense that if SOEs were privatized they would operate in a highly regulated and taxed sector. In fact, if the regulation and taxation of those private firms were properly done and if SOEs operated as efficiently as possible within their mandates and objectives, the results would be similar (Laffont and Tirole, 1993).

Table 1.3 shows the average treatment effect of being an SOE using propensity score matching and nearest-neighbor matching. The matched SOEs have worse ROA than comparable private firms, but not necessarily ROE and net margins (ROE is significant at 10 percent in the nearest-neighbor matching exercise). That is, there is some evidence that SOEs compared to

**Table 1.2. Descriptive Statistics for the Sample of SOEs and Private Firms in the Common Area of Support**

	Private firms			SOEs			Difference of means
	Obs.	Mean	Std. dev.	Obs.	Mean	Std. dev.	
ROA	519	0.053	0.278	645	0.036	0.120	0.017
ROE	504	0.127	1.015	599	0.023	0.732	0.103**
Net margin	519	-0.094	3.351	663	-1.603	25.92	1.508
Liab. to GDP	521	0.538	2.66	692	0.984	2.241	-0.446***

*Source:* Authors' calculations using the IDB Database of State-Owned Enterprises in Latin America and the Caribbean (for sources, see Appendix 1.1 on page 43) matched with private firms.

*Notes:* The sample of SOEs and private firms are observations matched by assets and 4-digit SIC codes using a simple logit regression and including in the sample only firms in the common area of support (i.e., those predicted to be SOEs given their characteristics). Statistical significance at 1, 5, and 10 percent denoted with \*\*\*, \*\*, and \*, respectively.



similar, highly regulated private firms are worse at using all the capital they invest. ROA is preferable to ROE because most SOEs are undercapitalized and highly leveraged. This makes the study of ROEs somewhat misleading as SOEs will, by design, have inflated ROEs (adjusted net income over equity will be high if equity is low). Also, it is important to analyze how SOEs use the resources they have and if they finance a significant portion of their operations with debt.

Comparing net income margins between SOEs and private firms is difficult. SOEs could have large margins since they have greater markups, a result of having more market power in their markets. Alternatively, SOEs could have larger net income margins because they have lower financial costs associated with receiving subsidized loans, or because they can issue cheaper debt. Thus, it is not surprising to find that the net income margins of LAC SOEs are not significantly different from those of private firms in the region. However, this raises the issue of why they show worse ROA if their margins are not statistically different. They need more units of capital (equity plus debt) to generate the same profits as private firms.

Finally, Table 1.3 shows that there are significant differences in the level of liabilities to GDP between SOEs and private firms. This is due to two important characteristics of SOEs in the LAC region. First, SOEs tend to be too large relative to the size of their home market. Since the comparison of SOEs and private

**Table 1.3. Average Treatment Effects (ATT) of Being an SOE on a Variety of Firm Outcomes**

Variable	Obs.	ATT (SOE)	Robust SE	p-value
<b>Propensity score matching</b>				
ROA	1,142	-3.90	1.50	0.009***
ROE	1,142	-10.86	6.72	0.108
Net margin	1,140	-2.83	1.73	0.103
Liab. To GDP	1,179	0.361	0.13	0.007***
<b>Nearest-neighbor matching (one match)</b>				
ROA	1,184	-2.38	1.44	0.098*
ROE	1,147	-10.5	6.32	0.096*
Net margin	1,145	-2.31	1.59	0.148
Liab. to GDP	1,213	0.41	0.11	0.001***

Source: Authors' calculations using the IDB Database of State-Owned Enterprises in Latin America and the Caribbean (for sources, see Appendix 1.1 on page 43).

Notes: The sample of SOEs and private firms are observations matched by assets and 4-digit SIC codes using a simple logit regression. The regressions in this table include a sample of firms that are in the common area of support in the initial logit regression (i.e., those predicted to be SOEs given their characteristics). Statistical significance at 1, 5, and 10 percent denoted with \*\*\*, \*\*, and \*, respectively.

firms is not necessarily within the same country, the private firms with similar assets in dollars as those of an SOE in the present sample tend to be in places where they are smaller relative to the size of the economy. Second, the finding that liabilities to GDP are larger in SOEs rather than private firms may also be related to the fact that SOEs are undercapitalized and more highly leveraged than similar private firms. That is, for the same level of assets, SOEs tend to have more debt than private firms.

### ***Attacking Information Asymmetries and Fiscal Governance Problems***

One of the most important challenges governments face in managing and monitoring their SOEs is insufficient information about these enterprises; they find out too late whether SOE managers have met their targets or if they had financial difficulties. This information asymmetry provides SOE managers with considerable autonomy and complicates the government's task of monitoring and managing its SOEs. This problem is mostly created by the lack of transparency in the financial reporting of SOEs, and can be addressed using a combination of (i) improvements in financial and operational reporting and (ii) ex ante administrative controls.

Traditionally, the mechanisms available to governments to effect a behavioral change in SOEs and their managers are ex post budget reviews, investigations, sanctions, and even judicial prosecutions of managers for corruption or embezzlement. Yet, these mechanisms of ex post reward and punishment may be costly and ineffective. If SOE managers deviate from their mandates, the punishments available to governments are inadequate to correct the SOEs' course and achieve their initial objectives. More often than not, ex post monitoring will punish managers rather than correct the course of the SOE (McCubbins, Noll, and Weingast, 1987).

Thus, the problem of information asymmetry requires ex ante solutions. The literature on delegation and control in public bureaucracies suggests a solution that relies on regulating, ex ante, what SOEs and their managers can do; that is, imposing administrative procedures that control the actions of agents (Moe, 2012). These include requiring more detailed and frequent reporting of activities, imposing timelines for the reporting of goals and outcomes, and others. Governments can use corporatization or partial privatization of SOEs to alter the managers' incentives and to delegate the monitoring of management to the market.

### **Improving Reporting**

No administrative control or market monitoring mechanism will work to prevent information asymmetry and fiscal governance problems in SOEs if it is

not accompanied by an overhaul in the reporting tools the governments have to monitor their SOEs' activities. Financial reporting should be (i) compliant with international accounting standards, (ii) regular, and (iii) as detailed as possible. As explained in Box 1.1, the Brazilian government requires detailed strategic plans, balance sheets, profit and loss statements, and monthly cash flow statements from its SOEs. These reports, however, are not enough. It is important to also have different measures of the quality of the operational performance. The Ministry of Finance and Strategy in Korea, for example, asks SOEs to track operational performance, benchmarking it against the performance of similar SOEs in other countries (e.g., to measure if Korail, the Korean state-owned railway company, has its trains running on time, they track the percentage of trains running on time and compare that number with the rail systems of Japan, Singapore, and others). Customer satisfaction is an important element to track improvements in the quality of the public services beyond simple measures of operational performance. For example, the state-owned Tucuman Airport in Panama has had major operational improvements in recent years thanks to management's focus on customer satisfaction as a desired outcome. Yet, customer satisfaction is not measured systematically across SOEs in the LAC region or used to award incentives to SOE managers and employees. There is much room for improvement in this regard. The experience of SOEs in Asia can serve as a guide in terms of how to incorporate quality of service in the balanced scorecard used to evaluate managers. Box 1.3 explains how the Korean government incorporates such indicators into a scorecard used to award bonuses to SOE managers.

### **Ex ante Administrative Procedures to Reduce Information Asymmetries in SOEs**

Governments can reduce the informational disadvantage faced by the ministries overseeing an SOE by instituting administrative procedures that regulate information collection and dissemination, limit the choices available to SOE managers, and direct SOE managers to make the decisions that the government would want made. The central idea is that governments can institute administrative measures to monitor SOEs better; for example, procedures that force SOEs to reveal information, open their internal processes, or follow formal timetables and formulas determining when and in what quantity financial resources will flow to and from them (Moe, 2012).

Governments can use at least three levels of controls. The first is instituting timely and detailed financial reporting of SOE activities, from cash flow statements to detailed accounting of debt and contingent liabilities, including profit and loss statements and balance sheets (see Box 1.1 and Box 1.2).

**Box 1.1 Ex ante Controls at the Department of Coordination and Control of SOEs in Brazil: Timely Reporting and Financial Transparency**

In 1979, as a consequence of the second oil shock and as a way to control the expenses and indebtedness of SOEs, the federal government of Brazil created the Secretariat for Control of State-Owned Enterprises (SEST) under the Ministry of Planning. Initially, SEST forced the over 100 federal SOEs to comply with the timely reporting of balance sheets, profit and loss statements, and detailed cash flow statements. After the debt crisis of 1982, SEST and the Ministry of Planning further tightened controls and began setting limits for expenditures and debt issues for all SOEs. SEST restricted and closely monitored foreign debt issues, which were common before 1982, and continued to collect financial information. After 1990, SEST aided the government in its National Privatization Plan. In the 1990s, SEST was transferred to the MoF and disappeared for a few years. Yet, between 1999 and 2000, the administration of Fernando Henrique Cardoso revived it and renamed it Department of Coordination and Control of SOEs (DEST). The administration also reinstated the National Privatization Program's role as the central agency in charge of promoting financial transparency in SOEs, providing them with guidance in publishing annual detailed financials (including extremely detailed cash flow statements).

Since 1979, DEST has required that all federal SOEs in Brazil report monthly cash flow statements as well as annual balance sheets and profit and loss statements. Thus, since 1979, Brazil has had the most comprehensive system of financial indicators for federal SOEs in the LAC region. These financials are not only published in a timely fashion but are also publicly available and audited.

Additionally, DEST supervises and approves strategic and investment plans and reviews all major expenses that SOEs have to make. When an SOE is deviating from its strategic plan or its financials look weaker than expected, DEST procedures take force. The SOE must then follow specific cost and expenditure controls. DEST has also been active in designing pay-for-performance contracts for the managers of SOEs, setting goals and bonuses for complying with such targets (and penalties for missing the state goals).

In 2009, President Lula transformed DEST again (Decree 6,929 of August 2009), charging it with setting corporate governance standards in SOEs and monitoring the performance of these firms according to a variety of governance indicators.

---

*Source:* Secretaria de Coordenação e Governança das Empresas Estatais website, available at <http://www.planejamento.gov.br/aceso-a-informacao/institucional/idades/dest>; Musacchio and Lazzarini (2014).

Second, governments can introduce ex ante approval of SOEs' strategic and investment plans, including medium- and long-term debt plans. These plans should be strategic in the sense that they consider future market conditions (for example, three to five years ahead). These plans should also include

a detailed plan for capital expenditures and should include calculations of the expected debt levels and the potential liabilities this debt could generate for the government's balance sheet. Furthermore, SOEs should include complete reports of contingent liabilities to the government, especially to the MoF and congress (such as potential pension liabilities and potential risks that may trigger a bailout). Finally, governments can impose limits to payroll and can control salary increases as a way to control possible abuses by managers.

The MoF should be involved in the monitoring of financials and the approval of SOE budgets because ultimately it bears the risk of having to bail them out. The financial reports that SOEs produce should be timely and frequent, and there should be penalties for noncompliance (e.g., compliance with reporting can be one of the objectives evaluated in the balanced scorecard used to design the pay-for-performance compensation of SOE managers). For an example of tight administrative controls, see Box 1.2. For an example of penalties for non-compliance, see Box 1.1 (DEST in Brazil) and Box 1.3 (ex-post monitoring in S. Korea).

Finally, governments can implement tighter controls, such as line-by-line budget approvals and control over all procurement decisions and all hiring and firing at the SOE. However, while such controls may be necessary during turnover episodes, they may hinder the firm's capacity to make investment decisions under normal circumstances.

A key insight from the bureaucratic control literature is that ministries regulating SOEs face a trade-off between expertise and political control. All else being equal, the regulating ministries benefit when they impose the above-mentioned ex ante controls to force the SOE to target the "right" goals. But these very restrictions render it difficult for the SOE to adapt to changing circumstances—such as new technologies and new problems—and thus to use its expertise effectively (Moe, 2012).

Even when governments rely on markets to monitor their SOEs (e.g., when they partially privatize a firm or have them issue bonds), it is necessary to have strong tools of ex ante monitoring to prevent sudden increases in the government's liabilities. Thus, introducing capable auditing teams in SOEs and forcing them to conduct audits in a timely fashion, following standardized procedures and methodologies, is a necessary step to improve the control of SOEs.

Governments in LAC have improved the auditing procedures and standards of SOEs in the last two decades, and there is usually a congressional office auditing SOE financials on a regular basis. Unfortunately, in many countries in the region, SOEs publish financials only annually and usually with little detail of profit and loss, contingent liabilities, and potential fiscal risks. It is widely known

### **Box 1.2 Ex ante Administrative Controls in Mexico's National Oil Company, Pemex, before 2013**

Pemex is a state-owned monopoly with around 150,000 employees. It plays a crucial role in Mexico's public finances and the economy as a whole. Given the acute presence of agency problems and soft budget constraints along with the political constraints to use market mechanisms, by 2012 the Mexican government had built a comprehensive and complex oversight system based mostly on ex ante controls. Mexico's Ministry of Finance and Public Credit and the Sectoral Ministry of Energy presided over a series of ex ante controls that regulated and monitored Pemex's daily operations. These controls included:

- i. Budget management process. As part of the federal budget, Pemex's budget envelope was set annually, subject to a ceiling on investment and debt and an agreement with SHCP outlining its operating expenditures. Throughout the year, congress could approve changes to expenditures within a certain range (unless such expenditures were funded by windfall revenues or covered by lower outlays elsewhere in the public sector).
- ii. Project approval. Projects at Pemex had to be approved by the committees of its board of directors and registered with and approved by the Investment Unit (IU) at the SHCP. The IU was required to approve all public sector investment projects above a certain size; it evaluated only the profitability of projects, and not their technical feasibility.
- iii. Pricing policy. To avoid cross-subsidization among Pemex's subsidiaries, there was a committee in charge of setting up internal and external prices based on international formula-based references.

These ex ante controls helped the Mexican government to mitigate some of the information asymmetry problems. They were effective in maintaining fiscal and macro-stability in the face of shocks. However, by 2013 they had become ineffective in addressing Pemex's costs, which remained above industry benchmarks, with significant losses particularly in the downstream operations. Although political factors such as the inability to fire any employees in the loss-making units and overstuffed operations were at the core of these inefficiencies, the case of Pemex shows some of the limitations of ex ante controls in improving the operational efficiency of large and complex enterprises.

In 2013, the Mexican government approved a transformational reform to open up the oil sector to private and international investors, forcing Pemex to compete in all of its operations. Under this new competitive environment, the Mexican government has scratched most ex ante controls, eliminated Pemex's link to the federal budget (i.e., it gave Pemex financial autonomy), and reduced its supervision of the company, limiting the controls except with respect to establishing debt limits. At the same time, Pemex has had to comply with all the transparency and financial disclosure standards of publicly traded corporations.

---

*Source:* Based on the experience of Emilio I. Pineda and interviews with officials at the MoF between November 2015 and May 2018.

### Box 1.3 Ex post Monitoring of Quality of Service: The Korean Case

The performance of SOEs in the Republic of Korea relies on a pay-for-performance contract for SOE managers, using a variety of quantitative and qualitative measures. Goals are determined by Korea's Ministry of Strategy and Finance with support from the Research Center for State-owned Enterprises (a think tank). Medium- and long-term goals are set using historical trends and allowing for a margin of variation. Goals are usually set in accordance with the trends of the last five years, and the upper and lower bounds for such goals are set using the standard deviation of the past five years.

Every year, a management committee, composed of independent experts such as professors and certified accountants, evaluates the performance of SOEs and whether they met their targets for the year. The government then uses the results of this evaluation to pay a bonus to managers, depending on whether their department or SOE met the goals the government had set. About one percent of managers get a bonus between 200 and 500 percent, while the majority gets between 0 and 200 percent. The evaluation not only includes positive incentives, but it also penalizes underperforming firms by paying zero or a minimum bonus and by either firing CEOs and directors or requiring them to submit a turnaround plan.

The scorecard used to evaluate SOEs and their managers has a quantitative component (weighted 60 percent of the total), judged on the basis of objective performance measures, and a qualitative component (weighted 40 percent of the total), which depends on survey evaluations by customers, workers, and other stakeholders. Table 1.4 provides an example.

**Table 1.4. Scorecard to Evaluate SOE Performance in the Republic of Korea**

Quantitative component (60% weight)	Qualitative component (40% weight)
Labor and asset productivity indicators	Accountable management
Customer satisfaction index	Corporate social responsibility
Growth rate in total personnel remuneration	Labor-management control

One peculiarity of the Korean evaluation system is its focus on ex post evaluation of the quality of SOE services and their social impact. In this system, independent companies run surveys of the SOE's customers, who evaluate both the quality of the service and their overall satisfaction. The evaluation committee also looks at corporate social responsibility surveys for their evaluation.

Still, despite the focus the Koreans put on management autonomy and ex post rewards, they mix such evaluation mechanisms with ex ante controls on transparency and timeliness of information disclosure, the size of the workforce, debt levels, budgets, and expansion plans. (For example, all expansion plans are accompanied by feasibility studies.) In sum, despite the powerful ex post incentives for SOE managers, the Korean government uses a variety of hybrid solutions to manage and control its SOEs.

Source: Park (2012).

that auditing teams are among the hardest to staff, especially when each SOE has hire on its own. Furthermore, auditing procedures are not usually standardized among SOEs, complicating the transmission of knowledge and best practices across such firms.

Some SOHCs, such as Peru's National Fund for the Financing of the Public Sector Companies (Fondo Nacional de Financiamiento de la Actividad Empresarial del Estado, or Fonafe), have standardized procedures and focus their energy and time on developing capable auditing teams. In other countries, auditing teams follow standardized procedures and these teams are rotated among SOEs to disseminate best practices and train new members.

In many countries, SOE financials are audited externally as well, usually by a global auditing firm with a strong reputation. However this should not override the importance of a thorough internal auditing process, and should serve only as an additional check to guarantee that the financials have no red flags and meet international accounting standards.

### **Managerial Incentives and Performance Contracts**

Another way to impose controls that lead SOEs to achieve goals set forth by the government is to alter managerial incentives and introduce performance contracts. Given the information asymmetries prevalent in some SOEs and their weak monitoring, governments have two options for aligning the incentives of managers so that they steer their SOEs to follow the strategic plans set forth by the government and its ministries. One option, discussed above, is to have strict ex ante administrative procedures that SOE managers must follow. This avoids allowing the managers excessive discretion, which could lead them to stray from the firm's objectives.

Another option, currently being implemented in some of the larger LAC economies, is to have ex post controls in the form of management contracts that align the incentives of SOE executives with those of the principal by including pay-for-performance clauses. In these contracts, performance is evaluated according to whether managers meet the targets outlined in their strategic plans. The literature on principal-agent problems has long discussed mechanisms to create contracts that align the incentives of agents with those of the principal (Jensen and Meckling, 1976; Tirole, 1988). The remedies for principal-agent misalignment normally involve performance-contingent incentive contracts for managers, direct monitoring by principals, or a combination of both. These remedies, however, are difficult to implement when there are no clear objectives—that is, readily observable performance metrics such as profits or share prices—available (Holmstrom and Milgrom, 1991; Shirley, 1989). Since SOEs have noncommercial objectives and are not publicly traded, it has traditionally



been difficult to use qualitative measures in performance contracts to align the incentives of managers. In fact, the World Bank and some developing countries experimented with performance contracts for managers in the 1980s and early 1990s. The goals were hard to evaluate, however, and within a few years, the SOEs went off plan (Bai and Xu, 2005; Shirley, 1996; Shirley and Xu, 1998).

Incentive-compatible contracts for SOEs may be easier to design and evaluate today, given the advances and new techniques used by private businesses to design and evaluate balanced scorecards that include both quantitative and qualitative indicators (Kaplan and Norton, 2001). In fact, managers of SOEs in the Republic of Korea have been evaluated since the 1980s on a combination of performance metrics and social goals. Today, the evaluation uses a balanced scorecard, 40 percent of which is quantitative metrics (based on historical trends) and 60 percent of which is based on qualitative metrics, such as improvements in service and soundness of the plan (Box 1.3). The managers then have either a bonus for outstanding performance—200 to 500 percent of their monthly salary—or a penalty if their SOE's performance is among the worst three (Korea, 2013).

Countries with the largest economies in the LAC region (i.e., Brazil, Chile, Paraguay, Peru, and Uruguay) are now also using performance contracts that include bonuses for managers to align their incentives with those of the government. In most Brazilian publicly traded SOEs, the CEO has a contract linked to financial performance and also to some social goals outlined in the company's strategic plan. Because pay is linked to financial performance, CEOs have more incentive to undertake policies that are value-enhancing for the SOE and its minority shareholders (Musacchio and Lazzarini, 2014).

The challenge for many LAC governments is how to put in place a set of performance contracts in firms that are not privatized. A synthetic equity-like instrument can help governments track performance by using markets to buy options that track the performance of the firm. Such solutions could be effective for large SOEs that are politically too costly to privatize.

### **Reducing Information Asymmetries by Delegating Monitoring to the Market**

Beyond administrative controls, governments can also delegate the monitoring of SOEs and their managers to the market. They traditionally do so by corporatizing or privatizing the SOE and forcing it to comply with the financial disclosure standards of publicly traded corporations. In Mexico, for example, rather than privatizing Pemex, the government allowed the firm to issue corporate bonds in Mexico and New York, thus forcing it to report its financials annually following generally accepted accounting principles (GAAP) and putting it under the purview of financial analysts and credit rating agencies.

However, this mechanism alone has been ineffective in reducing the fiscal governance problem, although it has increased the transparency of the reporting for large SOEs.

Another option is to partly privatize SOEs in order to introduce a new set of monitors for the firm. Governments privatize part of their SOEs' capital to invite private capital to participate in the ownership and monitoring of the firm. Governments can accomplish this by privatizing the majority or minority of an SOE's equity. In this market monitoring model, the government can be a majority or minority shareholder.

In the government minority shareholder model, on the other hand, the government privatizes control of an SOE while retaining a minority shareholder position. As can be seen in Table 1.5, with this option the information asymmetry problems should be reduced significantly because management is professionalized and incentivized with pay-for-performance contracts; private investors have more incentive to closely monitor the firm and they can sanction managers for poor performance by pushing down the stock price. That is, under this model, the government outsources the management and monitoring to the private sector and retains minority equity to keep receiving dividends. Under this solution, governments usually keep a golden share, which gives them veto power over major decisions such as the location of the headquarters or mergers and acquisitions.<sup>1</sup>

When the government is a majority or minority shareholder in a company, private investors can require boards of directors to select managers from a pool of professionals with experience in the industry rather than having politicians appoint them. These managers can also have pay-for-performance contracts that align their incentives with those of the shareholders. These contracts should reduce the problem of information asymmetry by aligning the actions of managers with the targets set forth by the shareholders (Megginson and Netter, 2001).

An important element of the model that relies on market monitoring to reduce information asymmetry is that listing SOEs on stock markets requires these firms to comply with the strict financial disclosure requirements that publicly traded firms face. Thus, under this model, SOEs should, in theory, improve

---

<sup>1</sup> The golden share limits how much the market can discipline executives for mismanagement because it is designed to avoid hostile takeover bids. By allowing the government to veto any takeover or merger offer, the golden share prevents investors from disciplining managers as much as they could in a purely private firm. The threat of renationalization is the best tool that governments have in partially privatized firms to ensure that managers meet their targets and create value for the government and the private shareholders.

their financial reporting standards, disclose their financials more often, and improve corporate governance to standards closer to those prevalent in private companies. For example, stock exchanges usually require that listed firms comply with GAAP or International Financial Reporting Standards or with a variant of these two, thus improving the SOEs' level of transparency (Boubakri, Cosset, and Guedhami, 2005; Boubakri et al., 2018).

For the market monitoring model to succeed in reducing information asymmetries and achieving better results for the government, SOEs need to have strong internal and external monitors to ensure that the financials reported to external investors are accurate. Moreover, SOEs should have annual, semiannual, or quarterly financials audited by reputable auditing firms. It has to be clear that the reputation of such firms is at stake if they ignore problems. Both auditing bodies must provide timely and accurate financials to facilitate the monitoring work of analyst and credit rating agencies.

Finally, boards of directors should have auditing and compensation committees, staffed with executives who have experience in the industry and who have had auditing and/or compensation experience in other firms. Governments need tighter controls over capital projects, tighter scrutiny of new SOE debt issues, and tighter timetables to allow SOEs to request funds from governments, for both wholly owned and partially privatized SOEs. Otherwise, corruption scandals will likely continue to happen. Having centralized monitoring of large capital projects may help the ultimate monitors (e.g., the congressional budget office) to have benchmarks for procurement contracts and large capital projects.

The advantage of partial privatization over bond issuance is related to the incentives that the two types of investors have to monitor SOEs and to harden the budget constraint of the firm. Bond investors are not incentivized to monitor SOEs, as they expect the government to guarantee them. The only situation in which this situation changes is when the sovereign has a high probability of default on its own debt. In such cases, bond investors seem to price SOE bonds using the fundamentals of the firm instead of the balance sheet of the sovereign.

For shareholders of SOEs, the monitoring problem is different than for bondholders. Equity holders know that SOEs have a soft budget constraint and understand that SOEs are likely to be bailed out if they fail. Yet, their incentives to monitor the firm and avoid a bailout are different because for them, a bailout, or any recapitalization of the SOE for that matter, dilutes the cash flow (and voting) rights of their shares. That is, even with the soft budget constraint, shareholders of SOEs have something to lose if the company requires funds from the government. This key difference in monitoring is what makes partial privatization a plausible option to reduce both information asymmetries and

fiscal governance problems: shareholders themselves will make it hard for the SOE to obtain funding from the market if things are going wrong, as the stock price will fall and debt-to-equity ratios will increase.

Table 1.5 explains how these two options would mitigate the information asymmetries and fiscal governance problems. In the majority control model, governments can privatize a small fraction of the total equity in an SOE, retaining control of the firm. It is easy to see how typical agency problems (or asymmetry of information problems) are solved by introducing better incentives for managers and better monitoring by boards, as well as by, for example, forcing the SOE to comply with the stock market's disclosure requirements. More importantly, in this option, the firm has private shareholders that are directly vested in the firm's performance and, in theory, should act as strict monitors of its managers. Because the government retains control, there are risks of fiscal extraction. Thus, the shareholders of these partially privatized firms should be active enough to monitor and prevent the extraction of public benefits of control (Pargendler, Musacchio, and Lazzarini, 2013).

### The Centralized Model of SOE Monitoring and Control

The Centralized Model of SOE Monitoring and Control has multiple advantages to reduce both information asymmetries and the fiscal governance problems by introducing a degree of separation between the government and its SOEs. Overall, this centralized agency monitoring system is a good solution for controlling (and minimizing) the fiscal risks that stem from the operation of SOEs under the current more decentralized system (in most countries).

The centralized monitoring agency can be a holding company or a semi-autonomous agency that reports to the MoF, but that has enough autonomy to appoint its own board, control SOEs, approve their strategic plans, request financials from them, induce them to publish financials in their own web pages, and others. This agency can then choose managers and directors of SOEs from a pool of professionals according to their experience and expertise. The agency can also introduce performance contracts for SOEs with complex scorecards to induce managers to make financial performance more predictable (and to minimize losses) as well as improve the quality of the services or products and a variety of environmental, governance, and social objectives (the so-called environmental, social, and governance objectives [ESG] in the literature). Centralized monitoring agencies can also reduce some of the multiple principals problems by concentrating the monitoring and control of SOEs under one roof.

Finally, the centralized model of SOE monitoring has advantages in reducing the fiscal governance problems. They can act as a buffer between

**Table 1.5. SOE Problems and Possible Solutions Using Centralized Monitoring and Partial Privatization**

Type of corporate governance problem	Main issue associated with SOEs	Centralized model with ex ante controls MoF or ministry of industry oversees SOE (+ SOE agency or holding company controls SOE)	Market-based monitoring with the government as a majority shareholder	Market-based monitoring with the government as a minority shareholder
Information asymmetries	Agency problems	<p>Central agency or holding introduces incentives</p> <ul style="list-style-type: none"> <li>Ex ante controls limit managerial discretion</li> <li>Performance plan: incentive-compatible contracts based on qualitative and quantitative metrics; bonuses for meeting targets, but also capacity to fire managers if they do not meet targets</li> <li>Better selection of managers (using pool of talented managers and experts of SOE agency/holding company)</li> </ul> <p>Board of directors</p> <ul style="list-style-type: none"> <li>Need a clear mandate</li> <li>Stacked with technical bureaucrats to monitor managers closely</li> <li>Should be accountable (annual board evaluation using balanced scorecard—qualitative + quantitative criteria)</li> </ul> <p>Financial transparency</p> <ul style="list-style-type: none"> <li>Holding requires SOE to declare in timely fashion a vast array of financial and operational information necessary to monitor it closely</li> <li>Stringent, standardized auditing procedures; continuous internal auditing by central SOE agency or holding company</li> </ul>	<p>Manager incentives</p> <ul style="list-style-type: none"> <li>High-powered incentives (e.g., stock options)</li> <li>Managers monitored by private investors, analysts, boards, and rating agencies</li> <li>Managers can be fired if they underperform</li> </ul> <p>Boards of directors</p> <ul style="list-style-type: none"> <li>Should not have a majority of politicians or bureaucrats</li> <li>Independent or external directors to balance power of controlling shareholder</li> <li>CEO should not be chair of board</li> <li>Should have an auditing committee</li> </ul> <p>Transparency</p> <ul style="list-style-type: none"> <li>Firms have to report financials regularly following stock market accounting requirements</li> </ul>	<p>Manager incentives</p> <ul style="list-style-type: none"> <li>High-powered incentives (e.g., stock options)</li> <li>Managers monitored by private investors, analysts, boards, and rating agencies</li> <li>Managers can be fired if they underperform</li> </ul> <p>Boards of directors</p> <ul style="list-style-type: none"> <li>Politicians/bureaucrats are at most a minority on the board</li> <li>Independent or external directors to balance power of controlling shareholder</li> <li>CEO should not be chair of board</li> <li>Should have an auditing committee</li> </ul> <p>Transparency</p> <ul style="list-style-type: none"> <li>Firms have to report financials regularly following stock market accounting requirements</li> </ul>
	Multiple principals	<ul style="list-style-type: none"> <li>Holding centralizes monitoring and has full-time monitors dedicated to each SOE. Reduces multiple principals and busy boards problem.</li> </ul>	<ul style="list-style-type: none"> <li>Boards of directors turn into principals</li> <li>Works if there is true separation of ownership and policy</li> </ul>	<ul style="list-style-type: none"> <li>Board of directors and controlling shareholders as principals</li> </ul>

*(continued on next page)*

**Table 1.5. SOE Problems and Possible Solutions Using Centralized Monitoring and Partial Privatization** *(continued)*

Type of corporate governance problem	Main issue associated with SOEs	Centralized model with ex ante controls MoF or ministry of industry oversees SOE (+ SOE agency or holding company controls SOE)	Market-based monitoring with the government as a majority shareholder	Market-based monitoring with the government as a minority shareholder
<b>Fiscal governance</b>	<p>Soft-budget constraint (SOEs extracting resources from the government in an ad hoc fashion and at unpredictable moments)</p> <p>Public benefits of control or quasi-fiscal operations (governments extracting resources from SOEs in an ad hoc fashion)</p>	<ul style="list-style-type: none"> <li>Allocation of resources to SOEs is formula-based and renegotiation of such allocations requires painful renegotiations</li> <li>Negotiation of resources is with holding company and follows a strict time line; there is no channel to negotiate with politicians</li> <li>SOE agency or holding company monitors SOE's investment and operational plans closely and asks for financial reports to prevent the sudden need for bailouts</li> <li>SOE agency/holding company can also be the privatizing agency; thus, SOEs will have the threat of being privatized or restructured if they underperform (this was the case in Spain and now in Peru)</li> <li>The firm can be isolated from political intervention by having financial autonomy and having a majority of independent directors on the board (to act as counterweight to government power)</li> <li>SOE agency or holding company structure creates a degree of separation from the government that should separate ownership and policy</li> </ul>	<ul style="list-style-type: none"> <li>No dependence on government to finance large projects or bail out firm</li> <li>Most funding is obtained from equity and debt markets</li> <li>Prices are determined by the market</li> <li>Firm can go bankrupt (no "too big to fail"); clear bankruptcy or restructuring procedures</li> <li>The firm can be isolated from political intervention by having financial autonomy, being publicly traded, and having a majority of independent directors on the board.</li> <li>Managers and controlling shareholders can get pecuniary and nonpecuniary benefits of control (e.g., selling assets below-market price) by abusing control</li> </ul>	<ul style="list-style-type: none"> <li>No soft budget constraint unless firm is too big to fail</li> <li>Firm isolated from political intervention by having financial autonomy</li> <li>Firms can meet social objectives through corporate social responsibility programs.</li> <li>Shielding against extraction such as price controls will depend on the judicial institutions of the country.</li> </ul>

*(continued on next page)*

**Table 1.5. SOE Problems and Possible Solutions Using Centralized Monitoring and Partial Privatization** *(continued)*

Type of corporate governance problem	Main issue associated with SOEs	Centralized model with ex ante controls MoF or ministry of industry oversees SOE (+ SOE agency or holding company controls SOE)	Market-based monitoring with the government as a majority shareholder	Market-based monitoring with the government as a minority shareholder
		<ul style="list-style-type: none"> <li>• If agency/holding company is autonomous from the government and is run by professionals, it should have financial objectives in mind</li> <li>• Policy objectives imposed on firm should be transparent and company should be compensated for social or quasi-fiscal operations imposed on it (e.g., the case of Chile)</li> </ul>	<ul style="list-style-type: none"> <li>• If policy objectives are explicit and the cost of such policies is paid by MoF to firms, it will reduce discretionary abuses</li> <li>• Shielding against extraction and abuses of minority shareholder rights will depend on the judicial and corporate governance institutions of the country (e.g., stock markets, securities regulators, corporate laws, and court system)</li> </ul>	

Source: Expanded from Musacchio, Pineda Ayerbe, and Garcia (2015).

the government and the SOE, introducing stricter timelines and procedures to request funds and complicating the ad hoc extraction of resources from SOEs, although governments can set tariffs and prices and impose other social objectives on SOEs. They should, in theory, reduce the soft budget constraint problem because they allocate resources in a non-politicized way, approving strategic and investment plans and monitoring the expenses of each of the SOEs they monitor.

In general, there are two key models of SOE monitoring. The decentralized model relies on bureaucratic control, while the centralized agency model relies on a semi-autonomous organization devoted exclusively to monitoring SOEs. The decentralized approach was commonly used in mixed and centrally planned economies in the 1960s, 1970s, and 1980s because of its usefulness for industrial policy. This was the model that prevailed in Europe and the LAC region until recently. Yet such decentralization, together with poor incentives for managers, increased the need for bailouts, especially after the oil shocks of

the 1970s and the liquidity crisis of the early 1980s. Moreover, having a decentralized model led to the multiple-principals problem—free riding and weak monitoring—and allowed SOEs to have non-standardized procedures for auditing, financial reporting, promotion, compensation, procurement, debt issuance, and risk management. The collapse of the state-owned system in the 1980s was, to a large extent, due to the accumulation of large liabilities by SOEs under the radar of the MoF (or explicitly ignored by the MoF) and the limited flexibility to adapt to shocks. That is, they could not fire workers at the same rate as the private system and suffered huge losses (Musacchio and Lazzarini, 2014).

Today, OECD countries that follow the centralized model, with one ministry and one SOE agency monitoring public enterprises, include Australia, Belgium, the Czech Republic, Denmark, Greece, the Netherlands, New Zealand, Norway, Poland, Slovakia, and Sweden. In Korea, since 2007 an inter-ministerial committee oversees SOEs under the leadership of the Ministry of Strategy and Finance (Korea, 2013). According to the OECD, among the countries that have holding companies is the United Kingdom, which has centralized the ownership and monitoring of 27 SOEs under the Shareholder Executive since 2003 (OECD 2005; 2011). This organization hired a large proportion of its staff from the private sector, mostly from investment banking, accounting, private equity, and consulting firms. In 2003, France created the Agence des Participations d'État, under the supervision of the MoF, to monitor SOEs, appoint their executives, and “reduce as far as possible the day-to-day management intervention by the state” (OECD, 2005: 55). In 2008, Finland centralized its shareholdings by creating two holding companies, one to manage companies in which the government has majority ownership and one, called Solidium Oy, that manages and oversees nine companies that are publicly traded and nonstrategic and in which the government holds minority ownership (OECD, 2011). Hungary established the Hungarian State Holding Company in 2008, merging three holding companies and agencies that held SOE equity.

The introduction of these centralized monitoring agencies in the LAC region and the OECD was part of a political compromise in which politicians in power agreed to keep SOEs out of politics and under the control of these agencies. Since this is more feasible in smaller, less politicized firms, this solution is better for smaller firms.

### **Attacking the Multiple Principals and Busy Boards Problems**

Beyond information asymmetry, there is the challenge of having multiple principals. This usually happens when there are multiple agencies or ministries monitoring SOEs. One way to mitigate this problem is to centralize the ownership function so that an SOE's managers deal mostly with one principal. This



can be done using ex ante administrative controls or centralized management structures or by partially privatizing firms and relying on boards of directors to act as the only principal.

The set of administrative ex ante controls described above can also be used to reduce the multiple-principals problem. Ex ante controls can reduce the problem by outlining clearly what each ministry or congress is tasked to do (McCubbins, Noll, and Weingast, 1987). For instance, it can be clearly mandated which ministries or agencies are in charge of monitoring SOEs, who is in charge of approving strategic and investment plans, the timing for such approvals, and so on. The same objective can be achieved using a centralized monitoring agency for SOEs. These agencies can improve the bureaucratic procedures that SOEs follow to report plans and results and can allocate more full-time personnel to monitor, ex ante and ex post, the activities of SOEs.

The case of Mexico illustrates how the multiple-principals and busy boards problems operate and how a centralized monitoring agency could potentially help to solve them. Boards of directors of SOEs have many members charged with the monitoring of the performance and strategic direction of the company. Each SOE board includes the minister or vice-minister of the industry, the minister and vice-minister of finance, and a variety of other government officials (in some cases even some outside directors).

The configuration of monitoring in Mexico, with its decentralized nature and distribution of monitoring tasks among a variety of ministries via board membership, creates two problems, usually called the multiple-principals problem and the busy boards problem. The multiple-principals problem has to do with the fact that while the board members from the ministry of the relevant industry usually monitor the general direction of the company, the MoF focuses on the monitoring of the firms' finances, its financial reporting, and the execution of budgets (although not necessarily its strategic or investment plans). The problem of this scheme is that it generates incentives for board members (outside of those from the MoF) *not* to monitor the finances of the company, just as it generates incentives for the MoF board members not to monitor the strategic or operational matters that may be unrelated to the firm's budget. Therefore, the multiple-principals problem can lead to free riding. Moreover, while the ministry of the relevant industry wants the SOE to provide goods or services that are relevant or key to the industry, they may disregard the financial cost of doing so, exacerbating the discretionary nature of the fiscal relationship between SOEs and the government. SOEs can request funds from the MoF because ministries ask them to pursue quasi-fiscal operations, such as subsidizing a group or industry. Alternatively, if the MoF

is only concerned with keeping expenses within the budget, it may lead SOEs to undersupply key public goods or services. Finally, because no specific ministry looks at the company overall, the free riding may lead ministries to miss key issues, such as the size of liabilities and the liquidity of the balance sheet, among others.

Second, there is the busy boards problem. In Mexico, the bylaws of all SOEs require the minister or vice-minister of finance to sit on the board, as well as having a minister or vice-minister from the line ministry (i.e., the sector ministry) to also sit on the board. This institutional design aims to have all of these cabinet members pursuing monitoring and control of the company jointly. Yet, in practice, the MoF and the line ministries have to monitor too many firms, a task for which they are inadequately staffed. That is, more often than not, the representative of the MoF on a board of directors has only hours, not days, to prepare to attend a board meeting in an SOE. When an SOE operates in a complex industry, not having full-time staff focused on monitoring it turns into a major weakness of this decentralized monitoring process. There is a literature on busy board of directors that finds that in large, mature companies, when directors sit in three or more boards, they actually destroy value for a firm rather than create it (Field, Lowry, and Mkrtchyan, 2013).

According to calculations for the present work, the SHCP (the MoF in Mexico), has to send top officers to at least 130 SOE board meetings (out of around 200 institutes and SOEs in Mexico). In the 87 SOEs we identified as commercial enterprises in Mexico (including financial institutions), the MoF has to send top officers to sit on the board of at least 73 of them. The estimates show that only about 30 top officers in the MoF in Mexico can serve on these boards of directors because of their rank and experience. This means that one of the top 30 MoF officers has to participate in over 2 boards of directors, on average, besides doing their full-time job at the ministry. These officers are not specialized in the monitoring of these firms and have limited time to do their job as directors. Experienced officers admit that they prepare only for a few hours for some of the SOE board meetings.

Table 1.6 compares the number of full-time staff or bureaucrats tasked with monitoring SOEs in Mexico with corresponding numbers in seven countries that have centralized agencies for the control of SOEs. For the case of Mexico, only those top officers who have specific assignments to board seats in SOEs in Mexico are included. The ratio of employees per board is calculated for the commercial SOEs and for all SOEs and institutes. It is clear that the number of people dedicated to the monitoring of SOEs in Mexico is too small in relative terms. While in most countries the staff in charge of monitoring SOEs covers mostly one firm or less, in Mexico, each of the most qualified

**Table 1.6. Centralized Agency Personnel per SOE in Selected Countries**

	Number of bureaucrats monitoring SOEs	Number of board seats they have to fill	Board seats per bureaucrat
Mexico-MoF (all SOEs)	30	130	4.3
Mexico-MoF (commercial SOEs)	30	73	2.4
Colombia	15	34	2.3
Sweden (MoF)	26	31	1.2
Chile-SEP (quasi-holding)	30	22	0.7
Singapore-Temasek (holding)	53	20	0.4
Peru-Fonafe (holding)	90	31	0.3
Spain-SEPI (holding)	80	24	0.3
Austria-OIAG (holding)	50	10	0.2

Source: Authors' elaboration.

officers has to cover between 2.4 and 4.3 organizations and only for a few hours per year.

Finally, in addition to the limited time that staffers have to monitor SOEs in Mexico, there are not enough qualified directors to serve on the boards of all SOEs, unless the search can be extended into the private, which is not sanctioned by law (until very recently in the case of energy companies).

## Conclusions

This chapter provides a simple framework based on agency theory to understand the source of weak corporate and fiscal governance of SOEs. As clarified by this framework, it is difficult to fix corporate governance if there are no fixes for fiscal governance as well, since the perverse incentives for SOE managers arise from both sides and the sources of fiscal risk are embedded in weak performance.

The database shows that SOEs in the LAC region are large relative to the size of the governments. They also have constant losses, requirements for fiscal transfers (cash flow risk), and large liabilities (contingent liability risk). Furthermore, underperformance and fiscal risk are inherent in both large and small SOEs. Finally, SOEs are also more inefficient than their private counterparts and seem to have larger liabilities relative to the size of their home economies. There are a number of solutions to these liabilities and risks, which will be detailed in the following chapters.

## Appendix 1.1

### The IDB Database on SOEs in Latin America and the Caribbean

To ascertain the state of commercial SOEs in LAC, data on SOEs were collected across the region. Ideally, the data needed to be systematic, cover large and small countries, and show performance and possible contingent fiscal risks over a long period of time. It is difficult to gather the data for several reasons: (i) many LAC countries lack centralized agencies compiling such data, (ii) the accounting standards across the region vary, and (iii) the level of detail in the financial disclosures of SOEs are not only heterogeneous but also mostly superficial. Most governments are more worried about the execution of the budget (i.e., cash flows) than about the stock measures (e.g., the balance sheet, leverage, etc.) or about the actual profitability of the firm (e.g., profit and loss statements) and thus do not make it a regular practice.

With the assistance of the governments of Brazil, Chile, Jamaica, Mexico, Paraguay, Peru, and Uruguay and online research, the IDB compiled a comprehensive database of SOE financial performance for 2010 through 2016, with some gaps in coverage in some countries. For most countries, the only way to find systematic data was to mine the reports that each SOE submits to the Congressional Auditing Office and patch together data for the entire system.

Minor adjustments to the data were made, when possible, to have a true indicator of the performance of SOEs and how they contribute to (or subtract from) the government budget. Net income figures for fiscal transfers were corrected, removing those fiscal transfers that governments use to cover gaps in the performance of these firms or to recapitalize them, to create a raw measure of financial results or adjusted net income. Using this adjusted measure, adjusted ratios were created, such as ROA and the percent of firms with losses every year. Most of the other indicators are from the financial reports of the region's commercial SOEs.

The main sources of data for the database are official reports or databases created by the government agencies that monitor SOEs (see Table A.1) or, when those reports did not exist, the websites of the auditing bodies for the federal government or the auditing body of the national congress in each country. For many of the small countries, as well as larger ones such as Colombia, the data are scattered across many websites and organizations, published over a year after the date of the filing. Furthermore, the published data are often too incomplete to allow thorough analysis.

Only Brazil, Chile, Peru and, more recently, Colombia publish data for all federal SOEs in a centralized way. Colombia, however, only started to publish

**Table A.1. Main Sources Used to Build the Database**

Country	Main sources
Argentina	Bloomberg (only publicly traded companies); Chief of Cabinet Office.
Brazil	DEST/SEST; some data for SOEs and private companies from Bloomberg.
Chile	SEP; company's websites; Bloomberg.
Colombia	Reporte Anual de Empresas Publicas de la Nación 2015 y 2016; annual reports on some SOE websites.
Costa Rica	Annual audited reports published on SOE websites.
Ecuador	Comptroller General of the State; miscellaneous online reports.
El Salvador	Nacional Transparency Portal: <a href="http://www.transparencia.gob.sv">http://www.transparencia.gob.sv</a> .
Guatemala	Comptroller General of Accounts, <i>Informe de Auditoria, Entidades Descentralizadas</i> .
Honduras	Company websites; National Audit Office; miscellaneous online reports.
Jamaica	Data from the government (MoF), IDB survey of SOEs (2016 and 2017).
Mexico	MoF.
Nicaragua	MoF; miscellaneous online reports.
Panama	General Comptroller's Office; company websites.
Paraguay	Government; company websites.
Peru	Fonafe; Petro Peru.
Uruguay	Government; online sources ( <a href="https://transparenciapresupuestaria.opp.gub.uy/inicio/empresas-p%C3%BAblicas">https://transparenciapresupuestaria.opp.gub.uy/inicio/empresas-p%C3%BAblicas</a> ).

Source: Authors' elaboration.

centralized data for 2015 and 2016. In 2015, Brazil stopped collecting systematic data for Petrobras after the accounting scandals, and since then the data on SOEs started to have lags. Also, the governments in Chile and Peru have compilations of SOE financials since they have a centralized agency controlling and monitoring a large proportion of their SOEs. The website for those agencies publishes all the financials for the affiliated firms.

While not perfect, the IDB Database of State-Owned Enterprises in Latin America is the most comprehensive database to study the SOE sector in the region. It shows the sector's basic problems and enables statistical tests to be conducted on how some the current solutions are working.

The SOE data rarely follow international reporting standards. Ultimately the data were compiled on aggregates that are comparable across firms and across countries. Data on assets, total liabilities, and long- and short-term debt were taken from balance sheets. Net worth (shareholders' equity) was calculated by subtracting liabilities from assets or copied directly from the balance sheets. Revenues, operating costs, payroll expenses (when available), fiscal transfers (when available), financial expenses or interest payments (when available), and net income were copied from profit and loss statements. Data on payroll

and financial expenses were sparse or bundled in big aggregates (i.e., financial income and expense or other expenses), making it hard to compile a comparable series. Thus, only about half of the observations have financial expenses and payroll data.

Hence, the financial performance variables include operating margin (i.e., revenues minus operating costs), net income margin, administrative expenses to revenues (for about half of the observations), interest payments to revenues (for about half of the observations), ROA, ROE, and measures of performance relative to the size of the economy or the budget (such as SOE revenues or net income to GDP or net income relative to the size of the government budget). In countries where SOEs include fiscal transfers before reporting net income, net income was adjusted by subtracting fiscal transfers where possible. Consequently, the performance variables that include net income in the nominator were replaced by adjusted net income, leaving an adjusted net income margin, adjusted ROA, adjusted ROE, and adjusted income to GDP or relative to the government budget (all income variables reported in tables in this chapter are adjusted following this procedure). Other subsidies, such as subsidized loans from state-owned banks or from other SOEs, were impossible to track. Thus the data may still contain subsidies. At least if the subsidies were in the form of loans, the financial expense captured some of that and ended up affecting net margins and net worth (when SOEs do write-offs). Increases in the government's equity and other transfers in the balance sheet were carefully tracked and accounted for as fiscal transfers in the year in question.

The fiscal impact variables include leverage ratios (assets over equity) and total SOE liabilities to GDP, as well as fiscal transfers to GDP and those relative to the size of the budget. Data were compiled on short- and long-term debt for a large number of SOEs. Yet, SOEs have many sources of leverage that go beyond issuing debt or getting bank loans, for example large short-term loans from other SOEs, which are impossible to track given the data available, and large accounts payable.

In the end, key indicators of performance and fiscal risk were used to compare across countries and to compare the performance of SOEs relative to private firms in the same industry with the same size. Some SOEs are either too large or have monopolies in many of the LAC countries. In these cases, to draw comparisons with similar private firms, it was necessary to find comparable private firms in other countries. Most of the small- and medium-sized SOEs were matched with a private firm in the region. However, it was impossible to find matches for some of the largest firms (e.g., Petrobras, Pemex, and Comisión Federal de Electricidad). This introduces some bias into the comparisons

because the largest firms tend to be those that do the largest quasi-fiscal operations and that perform the worst. Most of the losses were incurred by the two largest firms.

### ***Limitations of the IDB Database of SOEs in Latin America and the Caribbean***

There are important limitations to the database. First, the panel data are unbalanced. That is, not all SOEs financial statements are available to the public. Hence, the database has information for only a fraction of SOEs. Even for those SOEs with available information, the data may be incomplete for some years. Second, governments use different accounting criteria to report financial information. That is why some variables may not be available for all SOEs or countries. Finally, even if many countries report data for state or municipal SOEs, public financial enterprises, or social security institutions, the analysis excludes them and focuses only on federal SOEs. Despite these issues, the results of the analysis should provide a clear idea of how SOEs have performed financially in recent years, mainly because the database includes the most important enterprises of the region.

Table A.2 shows the years for which data are available in each country that can be used for comparisons across countries. It shows the most obvious gaps in the data, such as the lack of systematic information for Argentina or the fact that some years of data are missing for Uruguay (i.e., 2010, 2015, and 2016). Uruguay publishes basic profit and loss results for their SOEs on government websites, but not publish balance sheets, which complicated the collection of data.

Beyond those noticeable gaps, the database has uneven coverage for some Central American countries and for Jamaica. For Nicaragua, for instance, the reports are uneven. For Jamaica, the collection of data has incomplete coverage for the 2015–2016 period, missing some key companies. In Colombia, data on federally owned SOEs is good for 2015–2016, when the centralized monitoring agency was created, but it is uneven going back further. It was possible to piece together some of the financials using websites, but the data for 2012–2014 are patchy. For 2010–2011, the Colombian MoF put together thorough reports with complete financials.

Despite its limitations, this database is the most comprehensive one available on SOE performance in the region. It allows governments to analyze SOE performance and risks and provides a minimum standard of reporting for SOEs in other countries. It also enables econometric tests of efficiency and risks, relative to other SOEs in the region as well as private firms.

**Table A.2. Countries and Years Used for the Regional Comparison**

Country	2010	2011	2012	2013	2014	2015	2016
Argentina	NA	NA	NA	NA	NA	NA	NA
Brazil	X	X	X	X	X	X	X
Chile	X	X	X	X	X	X	X
Colombia	X	X	X	X	X	X	X
Costa Rica	X	X	X	X	X	X	X
Ecuador	X	X	X	X	X	X	X
El Salvador	X	X	X	X	X	X	X
Guatemala	X	X	X	X	X	X	X
Honduras	X	X	X	X	X	X	X
Jamaica	X	X	X	X	X	X	X
Mexico	X	X	X	X	X	X	X
Nicaragua	X	X	X	X	X	X	NA
Panama	X	X	X	X	X	X	X
Paraguay	X	X	X	X	X	X	X
Peru	X	X	X	X	X	X	X
Uruguay	NA	X	X	X	X	NA	NA

Source: Author's elaboration.

Note: NA = data not available.





**PART 1**

---

# **Fiscal Governance: Reducing Soft-Budget Constraints and Fiscal Risks in SOEs**



# Identifying and Mitigating Fiscal Risks from SOEs

*by Teresa Ter-Minassian*

State-owned enterprises (SOEs) can often create significant fiscal risks for the economy. These risks are especially relevant when a country chooses to define its fiscal targets in terms of the public sector as a whole (i.e., including SOEs), and also when the targets pertain only to the central government because SOEs' finances can, and often do, have adverse consequences for public finances. There is ample empirical evidence of SOEs giving rise to significant fiscal risks for the government and of such risks materializing with substantial implications for the national budget. A recent study by Bova (2016), using a sample of 80 advanced and emerging market economies from 1990 to 2014, found that contingent liabilities from SOEs accounted for 14 percent of all identified contingent liabilities, 18 percent of realized liabilities incurred fiscal costs, and that bailouts cost the countries 3 percent of GDP, on average, with the cost being as high as 15 percent in the most extreme case. In fact, the study showed that realized liabilities from SOEs represented the fourth largest fiscal cost, on average (after the financial system, legal rulings, and subnational governments).

## Sources of Fiscal Risks from SOEs

Kornai (1992) introduced the concept of soft budget constraints to describe the relations between governments and SOEs in socialist economies, but soft budget constraints can also be used to characterize such relations in capitalist economies across the development spectrum. A soft budget constraint arises whenever a government is unable to credibly commit not to bail out (explicitly or implicitly) an enterprise of which it has sole or controlling ownership. The

SOEs are as vulnerable to exogenous shocks as private enterprises operating in the same sector, including macroeconomic shocks (fluctuations in demand, international commodity prices, interest rates, credit availability, and exchange rates); natural disasters (droughts, hurricanes, and earthquakes); and civil unrest. However, the presence of soft budget constraints distorts their incentives to be more efficient and encourages excessive risk taking. If such a shock materializes, the SOEs' ability to withstand it will be substantially weaker relative to the private sector. The SOEs might also take on excessive debt, as financial markets are often more willing to lend when soft budget constraints exist.

While private enterprises operating in competitive markets can expect to go bankrupt if they operate inefficiently and fail to meet their obligations, SOEs typically do not face the same consequences, especially if they are responsible for the provision of socially sensitive goods and services or if they are large employers. This reduces their incentives to control costs and improve the quality of their output and may also motivate their managers to focus on the maximization of the size of the enterprises, at the expense of profitability. A soft budget constraint can result from policies that adversely affect the SOEs' finances and those that unduly favor them. In the first case, due to policies that place them at a competitive disadvantage vis-à-vis comparable private firms without explicit and transparent compensation, the SOEs can understandably expect that the government would bail them out in times of financial distress. In the second case, the expectation of government support might embolden the SOEs to undertake risky investments or incur protracted losses.

### ***Quasi-fiscal Operations***

Often, soft budget constraints arise when SOEs are directed by their governments to pursue public policy objectives and are not given the resources to do so. Such quasi-fiscal burdens may be imposed through price, labor market, or other types of regulations and are quite pervasive in Latin America and the Caribbean (LAC) (see Table 2.1). The repeated use of such uncompensated quasi-fiscal activities leads to loss accumulation, underinvestment, and/or excess borrowing by the affected SOEs. Ultimately, the government has to step in to bail out the enterprises through transfers, equity increases, and, in extreme cases, the assumption and restructuring of their debt, often at substantial budgetary cost (e.g., in China, several LAC countries, and the United Arab Emirates). Even in the absence of financial crises, underinvestment by the SOEs can limit the economy's growth potential and the population's access to adequate public services.

**Table 2.1. Main Sources of Fiscal Risks in Selected Latin American and Caribbean Countries**

Country	Argentina <sup>a</sup>	Brazil <sup>b</sup>	Chile	Colombia	Mexico <sup>c</sup>	Paraguay	Peru
Quasi-fiscal activities <sup>d</sup>							
Pricing policies	X	X			X		
Labor market policies	X				X	X	
Investment policies	X	X			X	X	X
Procurement policies	X	X			X	X	
Dividend and royalty policies	X	X	X	X	X	X	X
Preferential access of SOEs to financing	X	X					
No borrowing controls		X		X <sup>e</sup>			X <sup>f</sup>
Administrative borrowing controls	X		X	X	X	X	X
Weaknesses in SOEs' PFM							
Risk analysis	X	X	X <sup>g</sup>	X	X	X	X
Monitoring and reporting	X				X <sup>h</sup>		
Data availability	X						

Source: World Bank (2014).

Notes: An X indicates that this potential source of risk is significant in the country.

<sup>a</sup> Refers to situations under previous governments; currently under reform.

<sup>b</sup> Refers to situations under previous governments; currently under reform.

<sup>c</sup> In more recent years, Mexico has undertaken major reforms regarding the corporate and fiscal governance of its two large energy companies, Pemex and Federal Electricity Commission (Comisión Federal de Electricidad, or CFE), which have substantially reduced or eliminated the quasi-fiscal activities reflected in the table.

<sup>d</sup> With no or partial compensation through budgetary transfers.

<sup>e</sup> For Ecopetrol and ISA.

<sup>f</sup> For Petroperu (currently under reform).

<sup>g</sup> Brazil, Chile, and Colombia provide information on SOEs' contingent liabilities.

<sup>h</sup> Central government monitoring of non-energy companies is limited.

Governments tend to use SOEs for uncompensated, quasi-fiscal operations for a variety of political economy reasons. Explicit subsidies are highly visible and may require budget cuts in other areas, especially in the presence of numerical rules constraining the government's budget and/or debt. In contrast, the resulting erosion of the SOEs' profitability, ability to invest, and financial robustness may not become fully apparent for years (often beyond the relevant time horizon for politicians).

The main sources of quasi-fiscal burdens are as follows:

- Countries frequently set regulated prices for goods and services provided by SOEs (energy and utility prices in particular) at levels that do not allow for efficient operations. A number of LAC countries have made significant progress in recent decades in setting up independent agencies for regulating energy and utility prices on the basis of transparent formulas, linking prices to projected cost and demand factors in the framework of efficient enterprise models.<sup>1</sup> However, SOEs often incur uncompensated losses as regulated tariffs are not adjusted frequently enough to account for cost increases. Moreover, in an attempt to moderate the headline inflation rate, statutory formulas are often suspended, and the prices of SOE-provided goods and services that carry a large weight in the consumer price index are frozen or adjusted only partially by the government. Previous governments in Argentina, Brazil, and Mexico have used such policies extensively, and the affected SOEs were typically only partially compensated for their losses. More recently, the governments in these countries have taken important steps to bring energy and some utility prices more in line with current cost structures, thereby reducing the quasi-fiscal burdens on the SOEs in those sectors. Quasi-fiscal burdens on SOEs are also quite common in some Central American and Andean countries. Interestingly, in Chile, while the tariffs for some SOE-provided services (e.g., the metropolitan transport system of Santiago) are set at levels that do not fully cover costs, the affected SOEs are compensated for the shortfall with transparent budgetary transfers.
- In some LAC countries (e.g., Paraguay), the SOEs' employees enjoy the same rights as the country's civil servants. This reduces their ability to adapt the size of their workforce to changing demand levels, technological changes, or financial constraints. The SOEs might also be forced to comply with a rigid pay structure, resulting in high floors for wages paid to low-skilled workers and an inability to attract highly skilled talent without violating the pay structure. Even in countries such as Colombia and Peru, where the SOEs' employees are subject to the same legal regime as those of private enterprises, the limited margins of flexibility afforded by legislation have made it politically difficult for the SOEs to resize their workforce

---

<sup>1</sup> These formulas in some cases allow cross-subsidization among individual firms' product lines or types of consumers. For example, electricity tariffs for industrial users are frequently set at levels that cross-subsidize small residential users. Similarly, retail prices for different fuel products may reflect cross-subsidization mechanisms. Such policies, which are generally motivated by distributional considerations, may involve costs in terms of allocative efficiency.

in response to cyclical and structural factors. The power of trade unions further complicates workforce management, especially in the larger SOEs.<sup>2</sup> Judicial rulings on labor disputes have also been a source of financial risk for some SOEs in recent years.

- SOEs providing public services such as electricity, water, and sanitation are frequently directed to undertake costly investments to expand their coverage, particularly in remote rural areas. The SOEs are usually not compensated for both the initial investment and the costs associated with providing the services at a loss. Governments often use their SOEs to carry out social activities that are unrelated to their core businesses. A prominent example is Venezuela's use of its national oil company (Petróleos de Venezuela, S.A., or PDVSA) to carry out several social activities; this contributed to a deep de-capitalization of the enterprise and its woeful underinvestment in recent decades.
- SOEs are often forced to source raw materials and equipment from relatively costlier national suppliers. Brazil made extensive use of such requirements during the last decade, especially in the energy sector, which undoubtedly contributed to substantial delays and cost overruns in the implementation of large projects such as the exploration of the pre-salt oil fields.
- In an effort to increase transparency, SOEs are often required to adhere to cumbersome public procurement regulations. This significantly increases their regulatory burden and reduces their competitiveness vis-à-vis private firms. Such requirements are quite common in LAC countries.
- SOEs are often obliged to contend with payments in arrears from national/subnational units or from other SOEs (e.g., under the Kirchner governments in Argentina) and/or distribution losses resulting from the unauthorized usage of their services (e.g., electricity or water). Such distribution losses are commonplace in developing countries (e.g., India) and are also found in LAC countries.
- SOEs are often unable to take profit-maximizing decisions as political forces dictate decisions on the locations and types of investment, recruitment of staff, and procurement. This leads to cost increases, reductions in efficiency, and an implicit expectation by the SOEs' management to be bailed out in case they run into financial distress. In more extreme but not uncommon cases, such interventions are accompanied by outright corruption

---

<sup>2</sup> For instance, some SOEs' collective agreements require the enterprise to give preference in recruitment to relatives of current employees. Strong union power likely contributes to the well-documented fact that, when faced with a downturn in sales, SOEs reduce their workforce less than comparable private enterprises (Lazzarini and Musacchio, 2015).

for personal or party gains, as in the recently unveiled “Car Wash” scandal involving *Petróleo Brasileiro S.A. (Petrobras)*, Brazil’s state oil company.

### Excessive Resource Extraction from SOEs on the Part of their Government Owners

Government regulators should require SOEs to generate rates of return that are comparable to those earned by companies in the private sector, after accounting for any public policy objectives imposed on their activities. This is hard to implement because of the difficulty in fully separating SOEs’ commercial and quasi-fiscal activities.

In most OECD countries, the public bodies exercising the government’s ownership function provide guidance to the SOEs’ boards on expected rates of return, often in the context of the approval of annual or long-term corporate plans submitted by the latter. Similarly, a number of OECD countries have established standing guidelines to determine how SOEs should distribute dividends to their national treasuries. Some countries define expected dividend payouts as a fixed percentage of the SOEs’ profits, while others link expected dividend distribution to optimal capital structure guidelines (Box 2.1).

Explicit rate-of-return requirements are not common in LAC countries although, in some cases, regulators do take rate-of-return considerations into account when setting tariffs. However, state-owned holding companies (SOHCs) or oversight bodies often publish comparative performance statistics for their SOEs. Similarly, dividend distribution policies for SOEs in LAC countries tend to be largely dictated by short-term government budgetary needs, resulting in less than optimal capital structures (debt-to-equity ratios significantly higher than those of comparable private companies) and/or diminished investing capacity. This is frequently exacerbated by the fact that SOEs often have preferential access to credit. The discretionary nature of dividend distribution policies also makes it harder for SOEs to forecast the amount of internal financing available and plan future investments.

In Argentina, the profits earned by SOEs included in the national administration are distributed fully to the treasury while the other SOEs’ profits are paid out as dividends or retained on a year-by-year basis, without any clear guidelines. From 2009 to 2014, in Brazil, both financial and non-financial SOEs were often required by the government to pay future dividends to the treasury to help it meet its primary balance targets. In Chile, annual dividend payout ratios are set by ministerial decree each year based on the recommendations of its budget directorate (*Dirección de Presupuestos de Chile*, or *DIPRES*). Similar practices are employed in Colombia (where the decisions are made by the inter-ministerial committee *CONPES*), Mexico (by the Ministry of Finance and



### Box 2.1 Selected Country Practices on SOEs' Capital Structure and Dividend Policies

The capital structure policy for SOEs is important because it concerns (i) how, and at what cost, they finance their operations (i.e., the mix of debt and equity financing and whether it is obtained at market rates) and (ii) how SOEs use these capital resources to create value for their investors and owners (ultimately the broader public). While all companies face challenges in maintaining an optimal capital structure—in particular achieving an appropriate balance between profit reinvestment and dividend distribution—SOEs may face additional constraints because of their state ownership. SOEs can be put at a disadvantage vis-à-vis their private competitors when short-term government budgetary concerns become the predominant factors in decisions relating to SOEs' capital structure. Avoiding such situations requires high standards of governance and a continued focus on capital efficiency and value creation at all stages in SOEs' corporate lifecycle.

In most countries, the responsibility for decisions about SOEs' capital structure is shared between the SOEs themselves and their government owners/shareholders. However, their respective roles vary significantly across countries. According to OECD (2014), decisions about SOEs' capital structure are primarily the responsibility of their boards, with limited government involvement, in Germany, Lithuania, and Slovenia. In Australia, Ireland, Netherlands, New Zealand, Sweden, and Switzerland, the respective oversight authorities provide SOE boards explicit guidelines for developing an optimal capital structure, often taking the form of an announced credit rating target, which is used as a benchmark for all subsequent decisions impacting the capital structure.<sup>a</sup> In the Czech Republic, Finland, Poland, and the United Kingdom, the authorities influence capital structure decisions mainly through their participation in annual shareholders' meetings. In the rest of the OECD countries, recommendations by SOEs' boards about capital structure are subject to direct review and approval by the government.

Rates of return are indicators of how efficiently SOEs use the capital resources at their disposal to create value through their commercial activities. Requiring wholly commercial SOEs to achieve rates of return comparable to those of their private sector peers promotes a more efficient allocation of capital resources in the economy, by ensuring that capital is channeled to the most productive activities. However, establishing appropriate rates of return can be challenging when SOEs are engaged in both commercial and non-commercial activities, especially if those activities are not structurally separated and the financial burden of the non-commercial activities is not compensated through budgetary transfers. In such cases, many countries opt for a second-best approach of requiring a lower rate-of-return on an SOE's entire portfolio of activities. According to the above-mentioned survey, national practices in the OECD regarding rate-of-return targets can be broadly summarized as follows:

- Rate-of-return targets established by ownership function or SOE boards: in about three-quarters of the reporting countries, explicit rate-of-return targets

*(continued on next page)*

### Box 2.1 Selected Country Practices on SOEs' Capital Structure and Dividend Policies *(continued)*

for SOEs are elaborated either directly by the authorities, or by SOE boards in close consultation with the authorities. In some of these cases, the oversight authority elaborates guidelines that are broad enough to be applicable to the entire SOE sector, while in other cases it sets annual targets for individual SOEs, taking into account sector-relevant benchmarks:

- In three countries (Canada, Finland, and Slovenia), SOE rate-of-return targets are established primarily by SOE boards, with the ownership function providing feedback on the targets through the corporate planning process.
- In five countries (Estonia, Lithuania, New Zealand, Norway, and Sweden), the ownership function provides to SOE boards quite specific guidance, including on the methodology to be used to identify the cost of capital when calculating rates of return.<sup>b</sup> In most of these cases, the guidelines are discussed with the SOEs during the annual corporate planning process and are expected to inform the elaboration of their annual business plans. The achievement of the targets can then be used as a basis for measuring and monitoring SOE performance.
- No rate-of-return targets: in a minority of countries, the authorities do not establish explicit rate-of-return requirements for the SOE sector. However, within this group, two countries (Ireland and Israel) reported that rate-of-return requirements had been developed for SOEs in regulated industries.

Dividend policies for SOEs also vary significantly across countries. According to the survey, OECD countries can roughly be divided into the following four groups according to the level of policy elaboration for determining annual SOE dividend payouts:

- No dividend guidelines or targets: in this group of countries, which includes the Czech Republic, Estonia, Finland, Germany, Hungary, Italy, Japan, and Korea, no explicit dividend guidelines or targets are in place. Dividend levels are negotiated annually between SOE boards and owners at the annual general meeting, or in the framework of the annual corporate plan consultation process.
- Broad guidelines: in this smaller group of countries (Israel, Korea, and Poland), the authorities elaborate broad guidelines, applicable to the entire SOE sector, on the factors that should be considered in setting dividend levels. In Canada and the United Kingdom, there is no overall dividend policy for the aggregate SOE portfolio, but dividend frameworks for individual SOEs are elaborated via consultations between SOE boards and the oversight authority.
- Explicit percentage of net profits: in this group of countries (Ireland, Lithuania, Netherlands, Norway, Slovenia, and Switzerland), dividend expectation levels are generally calculated as a pre-defined target percentage of SOEs' net profits. The percentages vary significantly across this group.<sup>d</sup>

*(continued on next page)*

### **Box 2.1 Selected Country Practices on SOEs' Capital Structure and Dividend Policies** *(continued)*

Linked to an optimal capital structure: in this final group of countries (Australia,<sup>d</sup> New Zealand, and Sweden), the authorities communicate broad expectations regarding dividend levels, linking annual payout ratios to the achievement of an optimal capital structure. In some of these cases, the authorities communicate a target credit rating by which to measure the optimal capital structure, and this acts as an overarching guiding principle for annual dividend payout levels.

*Source:* OECD (2014).

<sup>a</sup> Box 1 of OECD (2014: 22) provides a description of how an optimal capital structure of SOEs is identified in Australia.

<sup>b</sup> Box 2 of OECD (2014: 28) provides an example from Estonia on calculating rate-of-return targets based on the Capital Asset Pricing Model.

<sup>c</sup> See Table 3 of OECD (2014: 36–37).

<sup>d</sup> For details, see Australia Finance Department (2011).

Public Credit), and Paraguay. In Peru, all of the SOEs' profits are transferred to the National Fund for the Financing of the Public Sector Companies (Fondo Nacional de Financiamiento de la Actividad Empresarial del Estado, or Fonafe), an SOHC whose board (consisting of selected ministers) determines their redistribution between the government and its SOEs (not necessarily the contributors) based on the recommendations of the holding's management. This cross-subsidization within the Fonafe group weakens the incentives for SOEs to be efficient and profitable.

Unreasonably high tax rates and loyalty rates are other resource extraction mechanisms, especially for SOEs involved in the exploitation of natural resources. A glaring example is provided by Venezuela's national oil company (Petróleos de Venezuela, S.A., or PDVSA), which has been drastically decapitalized over the last decade or so by the Venezuelan government. In Chile, the Restricted Law on Copper requires the national copper company, Corporación Nacional del Cobre de Chile (Codelco) to contribute 10 percent of its revenues to the military budget, in addition to the royalties and taxes paid to the government. This has led to repeated recapitalizations of the enterprise due to declining copper prices in recent years. A more extreme case is the Mexican oil company Petróleos Mexicanos (Pemex), which has been operating as an insolvent entity for the last few years because it pays out all its profits in taxes and other government fees.

### ***Preferential Access of SOEs to Financing***

Preferential access to financing is one of the main sources of soft budget constraint for SOEs; it distorts their incentives for seeking efficiency as they know

they can rely on government bailouts and encourages excessive borrowing, which can ultimately result in a debt-fueled financial crisis. Such preferential access can take different forms:

- Governments often lend directly to their SOEs at below-market interest rates or use state-owned banks to lend to non-financial SOEs. Such activities are relatively uncommon in the OECD countries due to restrictions imposed by the European Union on state aid and the declining state ownership of financial institutions. It is more common in LAC countries, where the state has a large presence in the financial sector and often obtains foreign funding for its SOEs. In Peru, for example, Fonafe offers short-to-medium term loans to its enterprises. In Argentina, the share of loans to non-financial SOEs in the portfolio of the Bank of the Argentine Nation (Banco Nación) has grown significantly over the last decade. The clearest example is provided by the Brazilian Development Bank (Banco Nacional de Desenvolvimento Econômico e Social, or BNDES), which gave 20 to 40 percent of all of its loans to SOEs over the last decade (Musacchio and Lazzarini, 2014).
- The government often guarantees SOEs' borrowings and security issues. Most OECD countries do not provide explicit guarantees or only do so for a limited subset of SOEs, typically the large operators (e.g., railways, airports, and financial enterprises).<sup>3</sup> Some governments might also levy fees on these guarantees. Government guarantees are commonly used in LAC, but no fees are levied.
- Even in the absence of explicit guarantees, financial markets expect the government to step in if one of its SOEs is about to default.

To limit fiscal risks, governments can use standing rules or various administrative mechanisms, or they may choose to rely on fiscal governance indicators, such as by requiring SOEs to obtain a specified minimum credit rating for medium- to long-term borrowing or for issuing bonds. This mechanism is used by a number of OECD and emerging market economies, but it might be thwarted by transparency concerns stemming from information asymmetries. More importantly, financial markets might treat the SOEs' risk as equivalent to sovereign risk and lend to large SOEs in the hope the government will step in if the SOE is unable to service the debt (examples include Petrobras and

---

<sup>3</sup> Guarantees by local governments to municipal enterprises may be more common, but few data are available in this area.

Petróleos del Perú S.A., [Petroperu]<sup>4</sup>). In reality, most LAC countries rely on administrative controls; SOEs are required to obtain authorization from the MoF for every borrowing decision, with the exception of short-term (less than one year) loans to finance working capital requirements. MoF approvals are reportedly based on an evaluation of the proposed usage of the debt and the SOE's ability to service it. In reality, most approvals are discretionary.

However, administrative control systems can also give rise to soft budget constraint problems for the following reasons:

- They create room for bargaining between the government and the SOEs, especially for the large and politically well-connected ones.
- Governments might find it politically difficult to not bailout enterprises if credit issues that they (or their predecessors) had approved were responsible for the financial difficulties being faced by the SOE in question, and
- Financial markets would understandably see the government as guaranteeing the loans or bond issues that it had approved.

Therefore, it is crucial that SOEs' access to financing be made conditional on their ability to meet clear, pre-specified, and well-publicized criteria assessing their capacity to service the debt. The government (specifically the MoF) should ensure that the SOEs are assessed according to the pre-specified criteria.

## Information Asymmetries

Various types of information asymmetries can also give rise to soft budget constraints. Some affect the degree of control that shareholder governments have over their SOEs, whereas others further limit whatever due diligence financial markets can perform on the SOEs and/or their accountability to other stakeholders, notably the consumers of their goods and services.

### *Information Asymmetries between SOEs and the Government*

Relations between a government and its SOEs are typically characterized by principal-agent problems (Musacchio, Pineda Ayerbe, and Garcia, 2015). The objectives of the government (the principal), namely pursuing certain policy

---

<sup>4</sup> Following an unsustainable borrowing binge during the Rouseff government, PETROBRAS had to undertake severe adjustment measures, including workforce retrenchment and sale of assets. PETROPERU substantially increased its debt to finance the expansion and modernization of its main refinery and had to be recapitalized by the government in 2016, in conjunction with adjustment measures.

goals, correcting market failures, and maximizing the return generated by the enterprise, may not be fully aligned with those of the SOE's management (the agents). They might be more interested in increasing the size of the firm, acquiring more capital, pursuing different investments, or maximizing their own compensation. The management exploits the fact that it typically has more information about the enterprise's operations and finances than the shareholder government. Such asymmetries are likely to be exacerbated by the following:

- Some countries delegate the oversight of individual SOEs to different ministries (finance, planning, and sector-specific) which each might have different policy objectives of their own. With multiple principals and no central coordination mechanism, the SOEs may attempt to minimize the government's control by strategically restricting the information provided to each principal.
- The presence of vague and weakly enforced government guidelines regarding the following:
  - SOEs' planning, budgeting, and investment selection processes
  - The detail and frequency of information to be provided to the government for each process, as well as during the implementation of specific plans
  - The identification, quantification and disclosure of risk factors affecting the SOE's projected operational and financial results
  - The actions to be taken in the event of underperformance
  - Weaknesses in the accounting and internal and external auditing systems for SOEs
- Insufficient resources in the ministerial units responsible for monitoring the SOEs.

Not surprisingly, the severity of these information asymmetries varies widely across countries and over time, reflecting the country's level of development, the size of its SOE sector, and the quality of its institutions. In the LAC region, Chile, Colombia, and Peru have robust oversight and control mechanisms; SOHCs or inter-ministerial committees have been set up to mitigate the multiple-principal problem. The SOEs are given detailed guidance on budget and investment decisions and required to submit comprehensive financial reports in a timely manner.<sup>5</sup> However, some SOEs, such as the defense

---

<sup>5</sup> There is, however, significant debate regarding the requirement of SOEs to go through the same system as government entities, the National Systems of Public Investment (Sistemas Nacionales de Inversión Pública, or SNIP), which are often quite lengthy and formalistic procedures.

enterprises in Chile and Petroperu in Peru, do not have to abide by the general rules. Consequently, it is not possible to perform any sort of risk analysis due to the lack of operational and financial data.

Transparent SOE control mechanisms were nonexistent during the Kirchner governments in Argentina. The new government under President Macri has created a high-level, inter-ministerial committee for the strategic oversight of SOEs, which is supported by a staff unit attached to the president's chief of staff to implement extensive corporate governance reforms with the support of the OECD.

Brazil maintains a multiple-principal (finance, planning, and the relevant sectoral ministries) model of governance for its SOEs with reporting requirements varying with the nature of the information provided. Its Secretary of State Enterprises in the Planning Ministry is responsible for consolidating information for the preparation of quarterly and annual reports on the performance of the SOEs.

The Mexican government mainly focuses on monitoring the two major SOEs, the oil company Pemex and the Federal Electricity Commission (Comisión Federal de Electricidad, or CFE), with the MoF devoting few resources to any of the other SOEs.

### ***Quality and Transparency of Public Information on SOEs' Performance***

The evaluation of published information on the operational and financial performance of SOEs by minority shareholders, financial market operators, consumers, and other private firms depends critically on its quality and credibility. However, published information often falls short in several ways:

- Non-conformity with international standards for corporate accounts
- Limited detail
- Low or irregular frequency of publication
- Frequently unaudited
- Lack of standardized, timely, and reliable indicators of operational performance such as the quality of the enterprises' output, coverage of their services, consumer satisfaction, and the efficiency of their operations.

In general, information on SOEs' financial performance tends to be more readily available and is of a higher quality than what is provided on their operational performance. This is clearly the case in the LAC countries; most of the countries surveyed for this study (a notable exception being Argentina) publish summary financial data for individual SOEs at regular intervals (at least quarterly) and more comprehensive audited income statements and balance

sheets annually. Most countries also publish aggregated financial statistics for the entire SOE sector. However, these reports rarely analyze a particular enterprise's performance against its own targets and the results achieved by private and foreign firms operating in the same sector. In addition, they seldom offer recommendations for the future. Progress has been made by countries such as Brazil and Peru in developing operational efficiency indicators for SOEs, such as service coverage and continuity, as well as key inputs per unit of output. However, there is ample room for improvement to make them more useful and reliable.

## Mitigating and Managing Fiscal Risks from SOEs

This section focuses on the possible approaches for mitigating and managing the fiscal risks discussed so far. The relevance of an approach to an individual country depends on its exposure to different sources of risk and more generally on the prevailing institutional and socio-political context. Therefore, different combinations of preventive or corrective actions will be applicable to different countries.

### *Reducing Risks from Quasi-fiscal Activities*

The most effective approach for managing the fiscal risks arising from the imposition of quasi-fiscal burdens on SOEs is for governments to avoid policies that can give rise to such burdens, or to eliminate them if they are already in place. Obviously, reducing the burden of quasi-fiscal operations on SOEs requires a political compromise that is often difficult to achieve, especially because the politicians who reap the benefits of these operations in the short run assume they will not face their fiscal costs. The following solutions, therefore, would need a political compromise to reduce the discretionary nature of fiscal governance in SOEs, with actions that include:

- Liberalizing the prices of goods and services provided by SOEs in competitive markets and regulated prices in monopolistic or oligopolistic markets at levels that would allow them to earn an adequate profit. The distributional effects of these policies should ideally be dealt with through the provision of vouchers<sup>6</sup> or cash transfers to the affected groups.<sup>6</sup>
- Allowing SOEs to operate to the same labor and employment regulations as firms in the private sector.

---

<sup>6</sup> See IMF (2013) for a comprehensive discussion of energy subsidies reforms.



- Eliminating any local content requirements for the SOEs and streamlining procurement procedures. The SOEs' investment decisions must pass the same cumbersome review and approval process as government investments; perhaps a separate, more efficient regulatory procedure can be developed as they currently operate at a disadvantage relative to the private sector.
- Improving corporate and fiscal governance through reforms that grant SOEs' management boards the operational autonomy they need to make profit-maximizing decisions. Efforts should also be made to limit political interference and improve operational transparency.

Efforts to eliminate quasi-fiscal burdens are often politically unpopular. Pricing socially sensitive goods and services at market levels is often unfeasible, especially when the administration lacks the capacity to identify and compensate the vulnerable households. The SOEs frequently do have to take on suboptimal investment projects as they are the government's best bet for getting the job done, such as infrastructural projects (e.g., in energy, water, or sanitation) in remote rural areas. In such cases, there should be clear guidelines for assessing the monetary burden. Moreover, SOEs should be given adequate and timely compensation through transparent budget transfers.

The measurement of quasi-fiscal burdens is a complex exercise which requires a difficult-to-implement, notional separation of the commercial and non-commercial activities of an individual SOE, which might be benefiting from economies of scale and scope by simultaneously engaging in both activities. Naturally, the SOE has an incentive to overstate the costs of noncommercial activities and attribute a disproportionate amount to inputs, and to understate any gains from economies of scale and scope. On the other hand, the government would prefer the reverse to be true. The pros and cons of the different methods for calculating quasi-fiscal costs are discussed in the OECD (2010).

European countries have made significant progress in quantifying quasi-fiscal burdens, partly due to the European Commission's desire to limit unjustified state aid to SOEs and any fiscal risks that might entail. In the European Union countries, such as France and Italy, that use public service agreements with their SOEs, noncommercial objectives mandated to each enterprise are identified, their cost is estimated for the period covered by the agreement, and the related budgetary compensation is explicitly specified.

In LAC, there is still significant room for progress. Chile sets out transparent criteria for estimating the budgetary subsidies to SOEs providing urban transportation at below-cost fares. In Brazil, the new law 13,303 of June of 2016 states that the government should financially compensate the enterprises if they are

forced to deviate from performing their intended functions, as specified in the original legislation. However, the law fails to provide specific guidance on how the compensation should be assessed. Recently, Brazil has also substantially reduced domestic procurement requirements for its SOEs.

Energy reforms in Mexico have greatly reduced quasi-fiscal burdens on Pemex and CFE. Other SOEs receive significant federal budgetary transfers, with the amount being determined through negotiations rather than a transparent assessment of the quasi-fiscal costs. Similarly, most other LAC countries do not have specific guidelines in place for the identification and quantification of the quasi-fiscal burdens.

### ***Avoiding Excessive and/or Discretionary Resource Extraction from SOEs***

To minimize the chances of excessive resource extraction, which reduces the SOEs' competitiveness, governments should do the following:

- Subject SOEs to the same tax regime as the other enterprises operating in the same sector. The same should be done for royalties and resource sharing arrangements for SOEs in the oil, gas, and mineral resource sectors.<sup>7</sup>
- Provide clear, forward-looking guidance to SOEs on expected rates of return and the distribution or reinvestment of profits. A preannounced dividend policy may take the form of a fixed percentage of annual profits or link the payout to the achievement of a desired capital structure for each SOE. The latter approach, albeit more complex, is preferable because it limits discretion and provides the flexibility to modify dividend payouts in response to changing investment needs and market conditions.

### ***Reducing Fiscal Risks from SOEs' Borrowing***

Like private companies, SOEs need access to financing to sustain their operations and make investments. Fiscal rules requiring SOEs to consistently run balanced budgets put them at a competitive disadvantage relative to other firms in the same sector, and can lead to serious underinvestment in the

---

<sup>7</sup> As discussed in detail in Daniel, Keen, and McPherson (2010), the taxation (broadly defined to include royalties, production sharing arrangements, and other compulsory unrequited payments to the government) of non-renewable natural resources (NNR) is a very complex subject, which requires balancing a number of different objectives, as well as giving due consideration to the special features of the NNR exploitation activities, including long gestation periods, high sunk costs, and others. What is emphasized here is the desirability of leveling the playing field between SOEs operating in these sectors and their private (domestic or foreign) competitors in the design of their taxation regime.

development of public services. They also fail to address intergenerational equity considerations since such investments also benefit future generations and they should bear some of the costs; SOEs should be allowed to charge higher prices to account for financing costs. However, there should be safeguards preventing SOEs from becoming too leveraged. Governments should not provide preferential access to finance and contractual terms to their SOEs and ought to introduce transparent and non-discretionary controls on borrowing, aiming to ensure the SOEs remain liquid and solvent.

The government should only provide explicit guarantees to help the SOEs obtain financing for projects providing significant public benefit. The MoF should define an aggregate debt ceiling for each sector to be approved by the parliament. Guarantees should then only be granted to SOEs after a thorough, transparent assessment by the MoF of their ability to service the debt and post the required collateral. The SOEs should be charged fees that are comparable to those levied on any guarantees granted to private enterprises, as is the case in Australia. Governments should also eschew policies that call for separate prudential requirements for the provision of credit to SOEs, pressurize public banks to favor SOEs, and confer tax advantages for bonds issued by the SOEs.

To design an effective mechanism for regulating the SOEs' access to finance, it is imperative to eliminate discretion in the government's approval process. Borrowing controls should be based on clear, prespecified, and objective criteria that assess the SOEs' ability to service their debts. This includes the size and structure of the SOEs' liabilities, their interest burden, debt repayment schedules, their operational profitability, the size of their contingent and known future liabilities (e.g., pension payments to their employees), the liquidity of their assets, and the volatility of their revenues. The assessment should also predict how the new capital structure will affect these indicators, as the enterprises will have increased exposure to financial market movements and demand and supply shocks.

Governments can implement systems that grant approval, via the MoF, for either the SOEs' annual plans or individual financing decisions. The first approach would naturally be more appealing to the SOEs as they can plan ahead with certainty, whereas the latter would be preferred by the government as it would allow it to exert greater control over the SOEs' financing decisions. For each country, the choice of system should depend on the quality of the SOEs' corporate and fiscal governance and their degree of exposure to exogenous shocks.

At a minimum, the indicators used for assessing the SOEs should include the ratio of gross liabilities to revenue, debt denominated in foreign currency

to foreign exchange reserves, interest payable to revenue, and liquid assets to short-term liabilities. It is also desirable to evaluate the ratio of contingent or known future liabilities to revenue and that of operating expenses to revenue. The indicators should be standardized and (possibly) weighted for making approval decisions. An alternative approach would be to evaluate each SOE against a set threshold for each indicator, which negates the need to assign weights (see Table 2.2 for a simple example).

The framework could stipulate that SOEs need to score at least a B in each category to be considered for approval. The range of values for each indicator should be set at prudent levels that reflect the SOEs' vulnerability to exogenous macroeconomic, industrial, and other relevant shocks, which might mean having separate ranges for each sector. The MoF should ideally be responsible for the implementation of the assessment framework. To be effective, the borrowing controls should be firmly and uniformly enforced with the SOEs being

**Table 2.2. Illustrative Ratings by Range of Indicators**

Indicators	Value ranges	Ratings
<b>Indebtedness</b>		
Gross debt (D)/ current revenues (CR)	D/CR less than $x$	A
	D/CR between $x$ and $y$	B
	D/CR above $y$	C
<b>Interest burden</b>		
Interest due (I)/ current revenues (CR)	I/CR less than $z$	A
	I/CR between $z$ and $q$	B
	I/CR above $q$	C
<b>Liquidity</b>		
Short-term liabilities (SL)/ liquid assets (LA)	SL/LA less than 1	A
	SL/LA above 1	C
<b>Foreign exchange exposure</b>		
Debt denominated in foreign currency (FXD)/ Foreign exchange earnings (FXE)	FXD/FXE less than $p$	A
	FXD/FXE above $p$	C
<b>Contingent liabilities</b>		
Contingent liabilities (CL)/ current revenues (CR)	CL/CR less than $xx$	A
	CL/CR between $xx$ and $yy$	B
	CL/CR above $yy$	C
<b>Operational profitability</b>		
Current revenues (CR)/ operational expenditures (OE)	CR/OE above 1	A
	CR/OE less than 1	C

Source: Authors' elaboration.

given some leeway in exceptional circumstances, such as natural disasters. This requires the following:

- Ensuring the MoF has the resources required for monitoring the SOEs' finances and movements in the financial markets.
- Imposing sanctions on both the SOEs and their respective boards for non-compliance, with the severity of the sanctions being proportionate to the degree of noncompliance. This could include sanctions for having excessive accounts payable or failing to submit the required information on time.

### ***Strengthening SOEs' Financial Management***

Robust fiscal governance is essential for managing the fiscal risks associated with SOEs. Regardless of the chosen model of corporate governance and control, governments should ensure that their SOEs have sound fiscal governance systems in place by providing them with clear guidance on all aspects of financial management, including the preparation of annual and multiyear business plans and monitoring whether the SOEs are following them. The SOEs could be assisted further with accounting, financial reporting, auditing, and asset-liability management. Responsibility for these tasks in most countries lies with the MoF (or the Ministry of Planning or State Participation). In countries with an SOHC—such as Fonafe in Peru, Sociedad Estatal de Participaciones Industriales (SEPI) in Spain, and Temasek in Singapore, or a similar organization—such as the Sistema de Empresas (SEP) in Chile—these functions are performed by the SOHC itself with assistance from the MoF.

The thoroughness of any guidance will depend on the degree of autonomy the government wants to provide to its SOEs, including under quasi-contractual arrangements such as public service agreements with the government. The following are some general recommendations for each aspect:

#### Budgeting:

- The governing body should prepare SOEs' annual budgets for review and approval in a standardized format that is consistent with international accounting standards. The budgets should be sufficiently detailed and have explanatory notes to allow a thorough assessment by the oversight body.
- The budgets should include detailed projections of revenues, operational expenditures, relevant financing costs, proposed investments, and information on the amount and type of financing required.
- The reports should specify any assumptions made for variables such as commodity prices, the exchange rate, and interest rates, and SOE-specific factors; these include demand factors for the SOE's products, relevant

tariffs, the size and composition of its workforce, and cost considerations resulting from wage increases or the prices of other key inputs.

- These assumptions should be subjected to sensitivity analyses and combined stress tests,<sup>8</sup> with the results being presented in the budget report along with any proposed actions for navigating worst-case scenarios. Box 2.2 presents the results of sensitivity analyses conducted for several key SOEs in Peru. Such exercises are rare in LAC countries and it is imperative that regulatory authorities institute reforms that encourage the SOEs to perform these analyses.
- The budgets should also contain a section on explicit contingent liabilities which provides estimates of their expected values, the probability of their realization, and the amount of capital reserves needed to remain solvent.

Monitoring, reporting, accounting, and controls:

- The SOEs should be required to implement effective systems to monitor—preferably in real time—the execution of their budgets and provide detailed monthly/quarterly reports to the oversight authorities. There should be a single standardized reporting system to allow all SOEs to submit these reports electronically. Aside from being quicker than paper submissions, the use of an electronic system will help the authorities to compare the SOEs' relative performance and calculate aggregate statistics, which can be used to analyze the impact of the entire SOE sector on public finances.
- Oversight authorities should be given the human and technical resources needed to monitor the SOEs, ensure their compliance with the budgetary and reporting requirements, analyze budgets and reports, and provide timely feedback on necessary corrective action when required.
- The SOEs usually prepare their financial statements according to the same accounting standards that are applicable to private companies, allowing performance comparisons with domestic/foreign private competitors. However, a separate set of statements should be prepared according to a public accounting format, such as the International Monetary Fund's Government Finance Statistics, so as to allow their consolidation with those of the entire region/state/country.
- A consolidated set of statements, as mentioned above, is certainly desirable for analytical and statistical purposes. This does not imply that fiscal

---

<sup>8</sup> Stress tests to assess the combined impact of several different shocks are recommendable, because of the frequent correlation of these shocks. For instance, downturns in demand may be accompanied by pressures on foreign exchange rates; wage pressures may also lead to currency depreciations, as can political disturbances or large natural disasters.

**Box 2.2 An Illustrative Sensitivity Analysis of the Impact of Macroeconomic Shocks on Selected SOEs in Peru**

This information in this box, prepared for one of the background case studies for this book, summarizes the results of an analysis of the sensitivity of revenues and expenditures of main SOEs to macroeconomic shocks in Peru. The details of the econometric estimates are presented in statistical annex of Ter Minassian (2017).

The study estimated first the elasticity of revenues of the main Peruvian SOEs to changes in aggregate domestic demand, or GDP. It found significant differences among the enterprises, with estimated elasticities being largest for the financial SOEs and for the water and sanitation enterprise in Peru (Servicio de Agua Potable y Alcantarillado de Lima, or Sedapal) (both significantly larger than 1), and smaller (significantly below 1) for the electric and transport ones. The demand elasticity for the oil company Petroperu was estimated to be close to 1. Some of the SOEs whose business is more linked to external trade, such as the port and airport ones, were found to be vulnerable to cyclical downturns in foreign demand.

The study also analyzed the impact of changes in international commodity prices and exchange rates on Peruvian SOEs. As could be expected, changes in international oil and gas prices were found to affect different SOEs in different ways. An increase in those prices would boost the cost of SOEs in electricity generation and distribution. Their profitability would be adversely affected to the extent that the increases were not promptly reflected in the tariffs paid by industrial and residential consumers. The econometric estimates conducted suggest that the elasticities of operational expenditures of electricity companies to changes in the international price of the WTI and in 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 could be expected to have a stronger impact on operational expenditures of Petroperu, given the nature of its business, a fact that was borne out by the econometric estimates conducted. For SEDAPAL, the main risk was found to be increases in construction costs.

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 SOEs in Peru are three financial enterprises—the development bank Cofide, Fondo Mi Vivienda, and Agrobanco—Peru's water services company (Servicio de Agua Potable y Alcantarillado de Lima, or Sedapal), and, in recent years Petroperu. The bulk of their indebtedness is in U.S. dollars; 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 conducted.

*(continued on next page)*

### **Box 2.2 An Illustrative Sensitivity Analysis of the Impact of Macroeconomic Shocks on Selected SOEs in Peru** *(continued)*

The impact of changes in interest rates on the SOEs' finances would depend on various factors: differential developments in interest rates (e.g., 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 suggest that the electricity companies and Sedapal are relatively more vulnerable than other SOEs to increases in domestic interest rates.

*Source:* Econometric estimates of Ter-Minassian (2018).

targets or rules should be specified in consolidated terms; separate targets for the governments and SOEs are desirable as they are evaluated using different criteria. Federal spending is (or should be) judged on whether it achieved particular aims such as macroeconomic growth and fiscal stability, whereas the SOEs' budgetary allocations are assessed on their profitability, efficiency, and liquidity, among other aspects.

- The SOEs should have credible internal control systems, including an internal audit department which is given the necessary resources to perform its functions. In addition, annual income statements and balance sheets should be subjected to external audits by qualified domestic or international firms.

Finally, governments should strive to strengthen their SOEs' asset and liability management (ALM) capabilities. This involves ensuring that company boards have the necessary skillset to make this a priority. While some elements of ALM can be outsourced to financial institutions, the SOEs should have a core of in-house financial experts, and funds should be set aside for the augmentation and further development of this core.

### ***Improving the Transparency of SOEs' Operations***

The public disclosure and timely dissemination of comprehensive information on SOEs' operational and financial performance is essential for good governance. Furthermore, scrutiny by external stakeholders will greatly increase the SOEs' accountability and deter political collusion or blatant corruption. Financial information is publicly available in a number of LAC countries.

Reforms aimed at improving transparency should focus on:

- Greater disclosure of the SOEs' contingent and future liabilities and the results of sensitivity and risk analyses.



- The development and publication of improved indicators of operational performance, including the quality of goods and services provided, cost-efficiency, and customer satisfaction.
- Ensuring the SOEs' quarterly and annual reports contain sections analyzing their performance during the corresponding period.

## Conclusions and Recommendations

This chapter argues that a fundamental requirement for the effective governance of SOEs is “leveling the playing field” between them and private firms. SOEs should be adequately compensated with transparent budgetary transfers for any public policy objectives imposed on them. This chapter also discusses the public policies frequently used by governments that impose quasi-fiscal burdens on the SOEs and how these can be mitigated. It emphasizes the need to prevent excessive resource appropriation by governments, the imposition of tax or royalty rates in excess of those levied on their private competitors, the use of dividend policies dictated by short-term government budgetary objectives, the SOEs from becoming highly leveraged, and serious underinvestment in essential infrastructure. Such policies could reasonably lead to the SOEs operating inefficiently as they would expect to be bailed out by the government if they ran into financial trouble.

However, soft budget constraints could also arise from policies that either explicitly or implicitly guarantee SOE credit or grant them preferential access to financing. While governments should endeavor to treat their SOEs fairly, it could be difficult to convince the financial markets that the SOEs do not enjoy implicit government guarantees. Corrective policies could ensure that both public and private firms can access credit on equal terms and reduce the fiscal risks resulting from excessive leverage.

Government assistance should only be provided after a thorough evaluation of a particular SOE's ability to service the debt, and not on the basis of short-term policy objectives. This includes an analysis of its current debt stock, current revenues, debt service burdens, foreign exchange exposure, liquidity, contingent liabilities, and profitability. The effectiveness of any borrowing controls depends on the enterprises' financial management systems and the regulatory body's capacity to monitor their finances and implement corrective measures. Finally, the chapter argues that increased scrutiny by external stakeholders could necessitate timely public disclosure of comprehensive operational and financial information by the SOEs, thereby increasing transparency and reducing their fiscal risks.

Evidence provided by the background studies discussed herein shows that there is a need to strengthen the fiscal governance of SOEs in each LAC

country. Some countries, in particular Chile and Peru, have made greater progress than others in this regard. It is also encouraging that major LAC economies which were lagging behind the rest over the last decade, such as Argentina, Brazil, and Mexico, have enacted important reforms to improve the fiscal governance of their SOEs.

# Do Bond Markets Discipline SOEs?

*by Mauricio Jara, Rodrigo Wagner, and Aldo Musacchio*

Over the last 30 years, governments around the world have embarked on massive privatization programs. Many have kept relatively large state-owned enterprises (SOEs) under 100 percent state ownership, however, for a variety of political and strategic reasons (Megginson and Netter, 2001; Musacchio and Lazzarini, 2014). Most of these wholly owned SOEs, especially in Latin America and the Caribbean (LAC), suffer from a variety of agency problems. These agency problems include information asymmetries, because managers are not monitored actively and have no way to align their incentives with those of the SOEs, and fiscal governance, because managers face a soft budget constraint (La Porta and Lopes-de-Silanes, 1999; Schleifer and Vishny, 1998; Musacchio et al., 2015). Without recourse to privatization, governments have commonly required large, strategic SOEs to issue corporate bonds in global markets as a shortcut to reduce these agency problems. It is not known, however, whether debt markets actually perform the monitoring that governments expect, if they harden the budget constraint for SOEs by pricing their debt according to their fundamentals, or if they accentuate the soft budget constraint by mispricing debt issues because investors assume the debt has government backing as an insurance against default.

The idea that investors will provide monitoring if SOEs issue bonds stems from the fact that, to issue bonds in the world's largest stock exchanges, SOEs must meet several requirements. First, they are required to submit financial statements using international accounting standards. Second, they need to have their financials from prior years audited by recognized auditing firms. Third, they need to get a credit rating. Finally, having these bonds traded exposes managers to the evaluation of the market, at least in theory. In fact, according to data

from the Thompson Reuters Eikon Database, in 2014 these wholly owned SOEs issued bonds that represented nearly 10 percent of the US\$3.3 trillion of total corporate bond issues worldwide.

This chapter explores pricing of SOE bond issues. Specifically, it examines whether the way that SOE bond issues are priced imposes discipline on SOE managers, or whether SOE bond issuers price in implicit bailouts and thus misprice SOE bond issues by considering the balance sheet of the sovereign rather than the fundamentals of the issuing company. If investors in SOE bond issues do not price them according to the fundamentals of the firm, they may erode any possibility of using bond markets as a disciplining mechanism for SOEs. In other words, if bond markets do not harden the budget constraint of SOEs, then allowing SOEs to issue bonds may actually soften the budget constraint and exacerbate some of the typical agency problems of SOEs. This is because investors are not incentivized to monitor SOEs, since their debts are insured (Kornai, 1979). While bond issues would increase the moral hazard of having a soft budget constraint, they could also increase managers' autonomy to pursue their own agendas. This would increase the risk in the sovereign's balance sheet due to the "too-big-to-fail" status of these SOEs (Levi Yeyati, Panizza, and Micco, 2007).

This chapter also compares the yields of corporate bonds issued by SOEs that are 100 percent owned by governments with those issued by comparable corporations owned by private investors. SOEs are defined as an agency in Thomson Reuters Eikon. That is, they are corporations that are 100 percent owned by the government and therefore without shares floating on public markets. Nevertheless, SOEs issue bonds that are not considered sovereign bonds. Thus, these bonds capture the implicit guarantee that comes from being close to the government but not explicitly part of it. Bond issues from state-owned banks (2,841 issues) and those of non-financial SOEs (904 issues) are matched with similar private issues (by year, size, country, and industry). On average, credit for state-owned corporate issuers is 30 to 80 basis points (bps) cheaper than for comparable private firms. This finding is not only statistically significant and consistent across many different specifications, but also has great economic significance.

This finding suggests that the way that investors price bonds issued by wholly owned SOEs does not reflect the fundamentals of these companies, thus creating a soft budget constraint for the managers of these firms. That is, if governments assume that bond markets can help them to improve the governance and monitoring of SOEs by inducing convergence in reporting and monitoring standards toward those of private firms, the evidence shows that this process of convergence is imperfect and incomplete.

Interestingly, investors price the issues of wholly owned SOEs at similar levels to those of similar private firms only when sovereigns have a high risk of default. That is, when the ex ante probability of sovereign default is controlled for, it turns out that when the government is less creditworthy, the discount that SOEs obtain in their bond issues mostly disappears. This is because investors calculate the default risk on these SOE bonds according to the characteristics of the firm only when the balance sheet of the sovereign does not seem strong enough to bail out the SOE.

## Data and Methodology

The first step in the data construction process is to obtain a comprehensive sample of all the available bond-level issuance information from Thomson Reuters Eikon. This platform permits several features of bonds issuances to be identified, such as issue date and maturity, currency, coupon rate, bond category (high-yield, investment grade, not rated), bond credit rating (S&P rating, Moody's rating, and Fitch rating), yield to maturity (YTM) and price at issuance, issuer name, type, industry, and country, among other data fields. After this primary process, around 5,757 issuance events of corporate SOE bonds are identified, of which 3,442 belong to banks and 2,375 to industrial firms. In the same way, 33,793 issuances of corporate bonds of listed firms are around the world are identified, of which 13,599 are from banks.<sup>1</sup>

Since the SOE firms are not publicly listed companies, all firm-level fundamentals were obtained through a long process of extraction from Standard & Poor's Capital IQ platform. Once firm-level data were obtained, a comparable control group of privately owned corporations was formed. Non-SOEs in industries not present in the sample were dropped, along with non-SOEs below a certain size, since SOEs tend to be on average bigger than publicly listed companies. Each variable was winsorized at the 1 percent level on each

---

<sup>1</sup> As a preliminary filter, all agencies that belong to the "public administration" segment were eliminated, since they do not have an obvious private counterpart. Following Datta, Iskandar-Datta, and Patel (1999) and Elton et al. (2001), all bonds with special features were also eliminated, such as bonds with options (callable or sinking fund bonds), floating rate bonds, coupon zero bonds, zero then fixed bonds and zero then floating bonds, as well as bonds with maturities at issuances less than 4 years and more than 99 years. This is because the analysis is centered on medium- to long-term debt rather than short-term liquidity management. Robustness checks include bonds with maturities less than four years without much qualitative difference in the results. In some cases, observations are lost if information to calculate the variables at-issuance are not available, despite being available starting at some later date in the life of the bond. Historical information of bond prices and their YTM come from Thomson Eikon.

tail. Finally, given the differences between banks and industrial firms in terms of financials statements and indicators, the dataset was divided into two subsets: (i) banking sector and (ii) industrials. Each contains both SOEs and non-SOE companies that are publicly traded and almost always have 0 per cent state ownership.

The final sample has 14,619 bond observations using only the information at issuance in Table 3.1. A little more than half of the bonds were issued by banks (8,030), of which around one-third (2,841) are SOEs. Industrial bonds at issuance are 6,589, of which 904 come from SOEs. Overall, SOE bond issues tend to be relatively more important in the banking sector. These bonds are associated with 1,836 firms from 61 countries, between 1994 and 2015 (since 1996 for industrials). Table 3.1 shows the definitions of the variables while Table 3.2 provides descriptive statistics of bond issuances by geographical category and issuer type. Panel A displays the data for banks (SIC 2-digit codes 60 and 61); while Panel B displays the descriptive statistics for industrial firms, which are all other SIC codes.

On average, SOE banks have lower YTM than their non-SOE counterparts for all geographic regions (e.g., North America shows an average YTM of 4.01 percent in private banks and 3.57 percent in SOE banks). As shown in Table 3.2 Panel A, the largest sample of bank issuances corresponds to East Asia, with 2,864 bonds issued, followed by Europe, with 2,148 bond issuances, and North America, with 1,790 bonds issuances. Additionally, in most regions, SOE banks tend to issue longer-term bonds.

Regarding firm-level features, SOE banks show considerably higher leverage for almost all regions. Overall, SOE banks tend to be larger than non-SOE banks, but in North America the pattern is reversed, with SOE banks on average smaller than non-SOE banks. In terms of issuance size, SOE banks usually raise larger amounts of capital. The preferred estimations correct for that factor.

Regarding the industrial subset in Table 3.2, Panel B, corporate bonds of SOEs also tend to have lower YTM than non-SOEs for all geographic regions (e.g., North America shows an average YTM of 5.27 percent in non-SOE and 4.54 percent in SOE), while SOEs tends to issue longer-term and issue larger amounts, although not in North America. Note that only non-SOE firms that are similar in terms of size are considered, but non-SOE firms that are below/over the minimum/maximum value of  $\text{Log}(\text{assets})$  in the SOE sample distribution are dropped. Despite this treatment, SOE firms are still larger than non-SOE firms in all regions. In sum, the basic descriptive statistics suggest that SOEs obtain cheaper funding, potentially supporting the view of a perceived implicit guarantee.

**Table 3.1. Variable Definitions**

Abbreviation	Variable	Definition
<b>Dependent variable</b>		
YTM	Yield to maturity	Bond yield to maturity at issuance
<b>Explanatory variables</b>		
<b>SOE variable</b>		
SOE	SOE dummy	1 if firm is 100 percent owned by a government, and zero otherwise
<b>Bond-level</b>		
	Maturity	Natural logarithm of bond maturity at issuance
	Issue amount	Natural logarithm of the issue amount (issue amount was previously converted to USD)
<b>Firm-level</b>		
Liabilities to assets	Liabilities ratio	Total liabilities/total asset's replacement value
	Firm size	Natural logarithm of total assets
	Assets tangibility	Ratio property, plants, and equipment over total assets
	Operating margin	Operating margin over total revenues
Bond rating	Bond credit rating	Homologated credit rating classification using rating from S&P, Moody's, and Fitch Rating.
Bond default	Bond default probability	Converted probability of default using Standard & Poor's Financial Services LLC (2014).
<b>Heterogeneity</b>		
Debt/GDP	Debt-to-GDP ratio	Ratio of government debt to a country's GDP, provided by the World Bank, World Development Indicators, accessed December 2016
Rule of law	Rule of law	Standardized rule of law index provided by the World Bank, Worldwide Governance Indicators, accessed December 2016.
Log(GDP per capita)	GDP per capita	Indicator provided by the World Bank, World Development Indicators, accessed December 2016
Country rating	Country credit rating	S&P Country credit rating classification.
Country default	Country default probability	Converted probability of default using the Standard & Poor's Financial Services LLC (2011).

Source: Authors' elaboration.

## Regression Analysis

This section estimates an empirical model that aims to measure the effect of being a public bank on the YTM at which banks get bond funding in global markets. The main estimated equation is the following:

$$y_{bfct} = \beta^{SOE} SOE_{fc} + \gamma X_{bfct} + \mu_{ct} + \epsilon_{ct} \quad (\text{Eq 3.1})$$

**Table 3.2. Descriptive Statistics of Firms and Bonds (at issuance)**

Panel A: Firm and bond features at issue (banking sector)													
Region	Obs.			YTM (%)		Log maturity		Log issue amount (in USD)		Log assets		Liabilities to assets	
	Private	SOE	Total	Private	SOE	Private	SOE	Private	SOE	Private	SOE	Private	SOE
East Asia and Pacific	1,526	1,338	2,864	3.25	2.05	1.83	2.32	4.25	5.02	9.42	11.90	0.66	0.94
Europe and Central Asia	939	1,209	2,148	3.32	3.26	2.03	2.08	4.07	5.01	9.59	11.53	0.62	0.94
Latin America and the Caribbean	115	88	203	4.47	4.11	2.09	1.92	4.11	5.93	9.16	11.15	0.62	0.94
Middle East and North Africa	0	41	41	—	1.15	—	2.28	—	2.48	—	9.74	—	0.92
North America	1,656	134	1,790	4.01	3.57	2.33	2.32	2.85	1.48	13.14	10.09	0.91	0.98
South Asia	876	13	889	9.73	4.18	2.19	1.72	3.12	5.99	9.19	9.38	0.69	0.90
Sub-Saharan Africa	77	18	95	7.03	7.90	2.10	1.90	2.40	4.49	7.84	9.11	0.90	0.36
Total banking	5,189	2,841	8,030	4.68	2.73	2.10	2.20	3.55	4.88	10.57	11.67	0.74	0.94
Panel B: Firm and bond features at issue (industrial sector)													
Region	Obs.			YTM (%)		Log maturity		Log issue amount (USD)		Log assets		Liabilities to assets	
	Private	SOE	Total	Private	SOE	Private	SOE	Private	SOE	Private	SOE	Private	SOE
East Asia and Pacific	1,716	445	2,161	3.44	2.19	2.06	2.40	4.90	4.94	8.57	9.05	0.61	0.53
Europe and Central Asia	627	225	852	4.87	3.44	2.30	2.55	5.98	5.11	9.24	10.25	0.61	0.77
Latin America and the Caribbean	141	179	320	6.00	5.77	2.20	2.56	4.32	5.89	8.16	11.06	0.63	0.75
Middle East and North Africa	12	0	12	4.14	—	2.15	—	6.67	—	10.07	—	0.73	—
North America	3,062	47	3,105	5.27	4.54	2.57	3.05	5.79	5.18	9.12	10.49	0.62	0.88
South Asia	117	1	118	9.51	4.01	2.09	2.30	3.33	6.21	8.72	9.80	0.50	0.74
Sub-Saharan Africa	10	7	17	9.47	7.27	2.36	2.83	5.17	5.66	8.26	7.61	0.58	—
Total industrials	5,685	904	6,589	4.79	3.37	2.36	2.51	5.46	5.16	8.94	10.30	0.61	0.72
<b>Grand total</b>	<b>10,874</b>	<b>3,745</b>	<b>14,619</b>	<b>4.74</b>	<b>2.89</b>	<b>2.24</b>	<b>2.27</b>	<b>4.55</b>	<b>4.94</b>	<b>9.72</b>	<b>11.46</b>	<b>0.67</b>	<b>0.91</b>

Source: Authors' elaboration using data from Standard & Poor's Capital IQ Database and Thomson Reuters Eikon Database.

Notes: All the special features of issuances that could bias the results were eliminated—such as coupon zero, zero then fixed, and zero then floating—as well as maturities less than 4 years and over 99 years. Each variable was winsorized at 1 percent on each tail. Private means that it is not state-owned.



where on the left-hand side  $y_{fct}$  is the yield to maturity of a bond  $b$ , issued by firm  $f$  from country  $c$  in year  $t$ ; on the right hand side,  $SOE_{fc}$  is a dummy variable equal to one if the issuer is a state-owned bank or corporate, and zero otherwise. For simplicity, at this stage only banks that are 100 percent state owned and are not partial privatizations are included. Thus, part of the sample is not listed, although they issue bonds. SOEs are benchmarked with standard companies, most of them owned by private investors and listed in global markets.

The main parameter of interest is  $\beta^{SOE}$ , which represents the differential bond yields obtained by SOEs. Additional control variables included in the regression are  $X_{fct}$ , which can potentially vary by firm, country, and year. The study controls, among many others, for size of the company and characteristics of the issuance.

Importantly, although the sub-index for each bond is included, the sample is not a panel of bonds followed over time. Each bond appears only once in the sample (at issuance), and the sub-index  $t$  aims to reflect the time of issuance. This is important because all country specific variation in a year with a fixed effect,  $\mu_{ct}$  has been removed.

Different theories provide priors about the size and sign of the  $\beta^{SOE}$ . If one assumes that bond markets can fully discipline a state bank, as if it were a private bank, then one would expect a  $\beta$  not statistically different from zero. In contrast, if investors in the bond market assume that SOEs or state-owned banks have a soft budget constraint, then they expect that a default would trigger some form of insurance (Kornai, 1979). It should therefore be expected that, everything else constant, the required return on that SOE bond would be lower than the required return on a bond issued by a comparable private company. This means a negative  $\beta^{SOE}$  coefficient.

## Findings

The explanatory analysis begins with the results of the estimations of the baseline model of Eq. (3.1). Since banks and industrial firms are structurally different in terms of size and leverage, among others, two separate sets of regressions are run, one for each group.

Panel A of Table 3.3 reports the estimates of Eq (3.1) for the sample of corporate bonds issued by banks. All the estimates include a set of interacted country-year-currency fixed effects, which control for concerns regarding depreciation and market conditions, among others. That means bonds issued in dollars are not being compared with bonds issued in euros. Bond issues are compared within bonds in U.S. dollars and within those in euros, within country and year.

Column (1) displays the raw average within each country and year of issuance, without the inclusion of additional control variables, not even the yield curve effect of maturity. Columns (2) to (3) introduce bond-level controls, while columns (4) to (6) introduce firm-level controls.

The estimated coefficients across all specifications that control for yield curve show that SOE firms are negatively associated with the yield to maturity at issuance of the bond. The yield discount of SOE banks goes between 8 and 60 bps in columns (1) and (3). When firm-level controls are introduced to the estimations in columns (4) and (6), the discount remains in a similar range, between 59 and 61 bps, respectively. This evidence suggests that, on average, bonds of banks are valued with a premium that comes from potentially safer positions in default scenarios, which are the scenarios to which bonds pricing is sensitive.

Panel B of Table 3.3 reports the estimates for industrials, introducing bond-level and firm-level controls in ways similar to the estimates in banking that were previously mentioned. As with banks, industrial SOEs are traded at a discount in their YTM compared to non-SOE industrial firms. The coefficient of SOE is significant in all the regressions that include a control for maturity of the bond, with point estimates between 38 and 122 bps.

The basic equation on a region-by-region basis is estimated but not reported. When the sample region is split, results are similar of those observed in Table 3.3. In those cases, when all control variables are introduced, the estimated coefficients are significant for almost all regions, and the average discount is around 40 bps.

### Robustness of Baseline Regressions

Having established that the estimates are robust to the inclusion of a variety of basic controls, it is necessary to explore potential confounding channels. Matching methods are used to test for various types of non-linearities in the variables, followed by various polynomials in the yield curve. Finally, a fully interacted model is attempted, in which all control variables are interacted by the SOE dummy. In all cases the results remain qualitatively robust.

Then, a nearest-neighbor matching analysis is run, where the “treatment” is being an SOE, controlling also for assets and maturity. While the result is a positive and statistically significant estimate for all industries, the preferred way to explain that the effect is consistent across industries is to plot for each industry the average YTM for SOEs on the vertical axis and the YTM for non-SOEs on the horizontal axis. The results are displayed in Figure 3.1, where all the industries lie below the 45-degree line, meaning that the mean YTM of

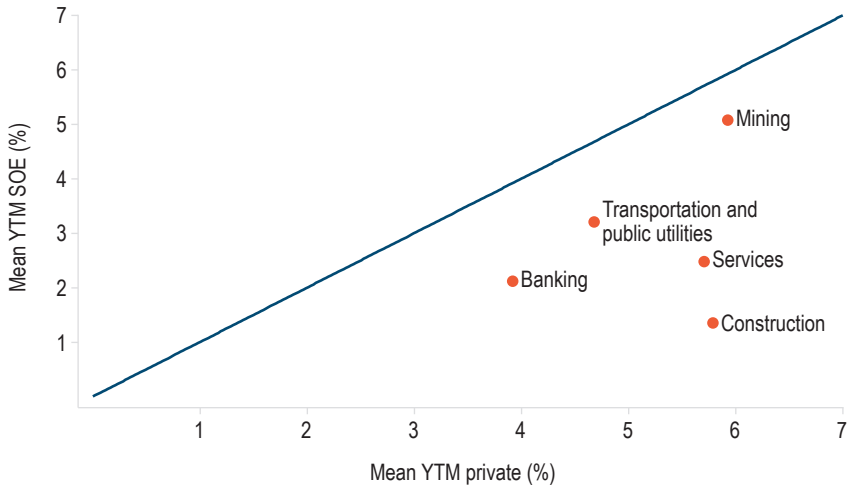
**Table 3.3. Baseline Regression of SOE Effect on Yield to Maturity at Issuance for the Banking and Industrial Sectors**

Panel A. banking							
Variables	(1)	(2)	(3)	(4)	(5)	(6)	
SOE	-0.08 (0.14)	-0.61*** (0.10)	-0.60*** (0.10)	-0.59*** (0.10)	-0.51*** (0.10)	-0.61*** (0.15)	
<b>Controls</b>							
Constant and country-year-currency-FE	Y	Y	Y	Y	Y	Y	
Log(maturity)	N	Y	Y	Y	Y	Y	
Log(issue amount)	N	N	Y	Y	Y	Y	
Log(liabilities to assets)	N	N	N	Y	Y	Y	
Log/assets)	N	N	N	N	N	Y	
Observations	8,030	7,758	7,596	7,042	7,042	5,216	
R-squared	0.85	0.88	0.87	0.87	0.87	0.86	
Panel B. industrials							
Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
SOE	-0.21 (0.20)	-0.38** (0.19)	-0.44** (0.19)	-1.22*** (0.24)	-0.97*** (0.24)	-0.98*** (0.24)	-1.11*** (0.28)
<b>Controls</b>							
Constant; country-yr-ind-currency FE	Y	Y	Y	Y	Y	Y	Y
Log(maturity)	N	Y	Y	Y	Y	Y	Y
Log(issue amount)	N	N	Y	Y	Y	Y	Y
Log(liabilities to assets)	N	N	N	Y	Y	Y	Y
Log/assets)	N	N	N	N	Y	Y	Y
Tangibility (fixed/assets)	N	N	N	N	N	Y	Y
Operating margin	N	N	N	N	N	N	Y
Observations	6,589	6,589	6,448	5,782	5,782	5,782	4,346
R-squared	0.80	0.81	0.81	0.79	0.80	0.80	0.84

Source: Authors' elaboration using the data described in Table 3.1.

Notes: This table provides estimated coefficients from the fixed effect regression  $y_{b,f,t} = \beta SOE_{f,c} + \gamma X_{b,f,t} + \mu_{c,t,x} + \epsilon_{b,f,c,t}$ ; where  $y_{b,f,t}$  is the bond YTM at issuance for the sub-sample of banks.  $SOE_{f,c}$  takes value one if firm is an SOE, and zero otherwise.  $\ln(maturity)$  is the natural logarithm of bond maturity at issuance,  $\ln(issue\ amount)$  is the natural logarithm of the issue amount. Liabilities to assets represents the total liabilities over total asset's replacement value,  $\ln(total\ assets)$  is Natural logarithm of total assets. Tangibility is the ratio of property, plants, and equipment over total assets and Operating margin is the operating income over total revenue.  $\mu_{c,t,x}$  is the country-year-currency fixed effect, and  $\epsilon_{b,f,c,t}$  represents the individual error term. All the regressions were performed clustering the standard errors in country-year-currency groups. Robust standard errors are in parentheses. \*\*\*, \*\*, and \* represent a level of significance lower than 1%, 5%, and 10%, respectively.

**Figure 3.1. Mean Yield to Maturity in Each Industry for Both SOE and Non-SOE after Nearest-Neighbor Matching**



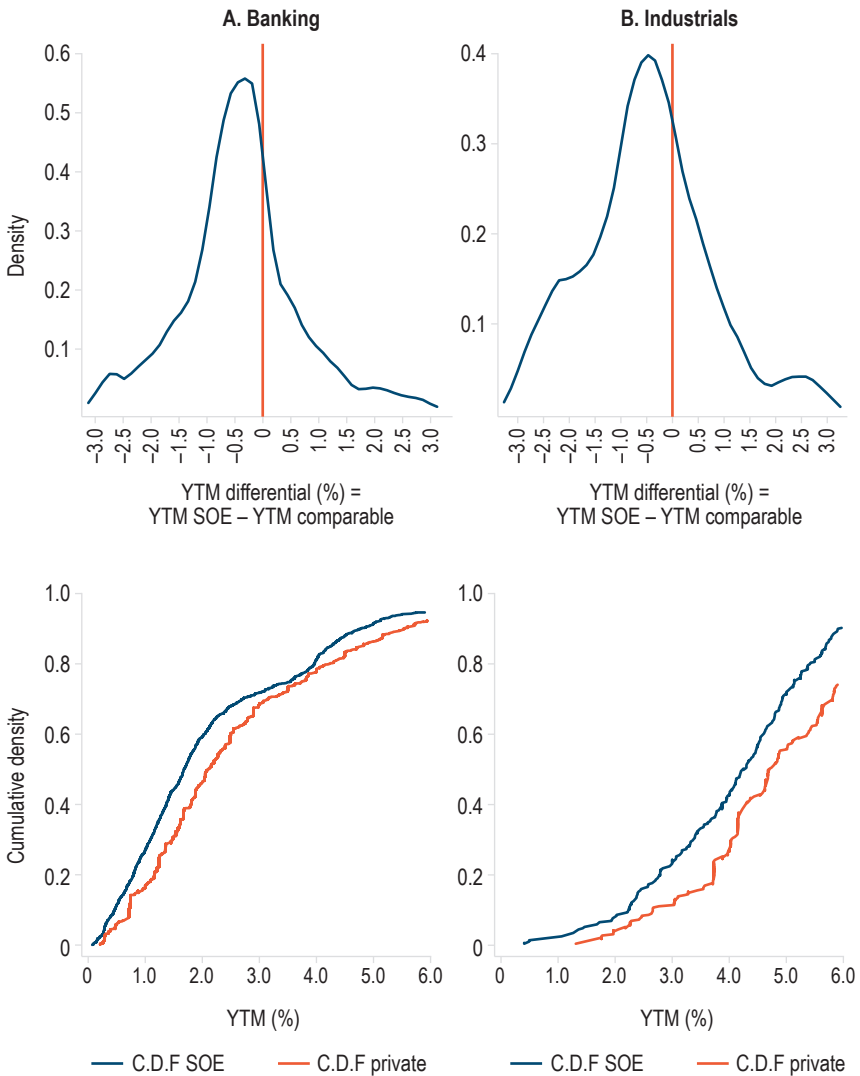
Source: Authors' elaboration using data from Thomson Reuters Eikon Database.

Notes: This scatter plot reflect the nearest-neighbor matching estimation between SOE and non-SOE, controlled by asset and bond maturity (and exact matching by year/currency for banking sector, and by year/currency/industry at SIC 2 digit for the industrial sector). Results for sectors like agriculture, forestry and fishing, manufacturing, retail and wholesale trade are not reported because there are no issuances by SOE firms in those sectors.

SOEs is lower than the average for non-SOEs of the same matched characteristics. Interestingly, the widest differences, on average, measured as distance to the 45-degree line, are in the construction sector, while mining companies seem relative closer to the 45-degree line. This suggests that on average there might be fewer differences between SOEs and non-SOEs. Still, all averages lie below the line.

Instead of showing the average treatment effect of matching, the whole distribution of treatment effects available is plotted in the first row of Figure 3.2. For both the banking and industrial sub-samples, in the majority of the cases, the estimated effect of SOE is negative, but still with relevant heterogeneity. When in the second row of Figure 3.2 the cumulative density function of SOE and non-SOE groups is plotted, some clear first-order stochastic dominance for the banking sector (left side) and also for the industrial sector (right side) is observed. The results of the nearest-neighbor matching exercise suggest that the existence of an SOE discount in yield is more pronounced for industrials and that the center of the kernel distribution is around 49 bps of yield discount for these SOEs and 41 bps of yield discount for SOE banks.

**Figure 3.2. Kernel Density Estimate for YTM Differential between SOE and Comparable Firms, and Cumulative Distribution Function for YTM after Nearest-Neighbor Matching**



Source: Authors' elaboration.

Notes: Out of the total spreads, for banking 73.9 percent (1,700 out of 2,302) of spreads are negative and the median of the distribution is close to -41bp. For industrials, 69.5 percent (178 out of 256) of spreads are negative and the median of the distribution is close to -49bp. The Epanechnikov kernel function is used to estimate the density function. Two-sample Kolmogorov-Smirnov test for equality of distribution functions was performed for the banking and industrial sectors; the result for banking indicates that the biggest difference between the SOE cumulative distribution function (c.d.f.) and the private c.d.f. is 0.000 (p-value 1.00), the biggest difference between the private c.d.f. and the SOE c.d.f. is -0.156 (p-value 0.00), and the combined test have a p-value of 0.00; while for the industrial sector these indicate that the biggest difference between the SOE c.d.f. and the private c.d.f. is 0.016 (p-value 0.94), the biggest difference between the private c.d.f. and the SOE c.d.f. is -0.191 (p-value 0.00) and the combined test have a p-value of 0.05.

## Additional Robustness Checks

One possibility is that the SOE is being confounded by some non-linearity in the yield curve. This possibility was not considered since the baseline regressions were forced to have only a linear term on maturity. To give more flexibility to the regression model, a determination is made whether introducing controls for non-linear effects of the yield curve affect the results. No significant changes were found in the coefficients when the squared and cube of log maturity were included in the estimates. The estimated coefficient shows that, after controlling for nonlinearities of the yield curve, the SOE banking discount in yield is around 46 and 52 bps. Industrials display an SOE discount of between 87 and 92 bps, larger than for banking and very stable across specifications. Another test is conducted to determine whether the results change for maturity at issuance below four years, and the sample is split using that cutoff. The results are robust even when maturities below four years are included.

A final robustness check examines the possibility that SOEs could have different slopes on every control variable included. Thus, the analysis so far might be biased because it does not consider these differential sensitivities. Thus, a model is estimated that interacts all controls variables. Again, the results do not change significantly.

## Channels and Heterogeneity

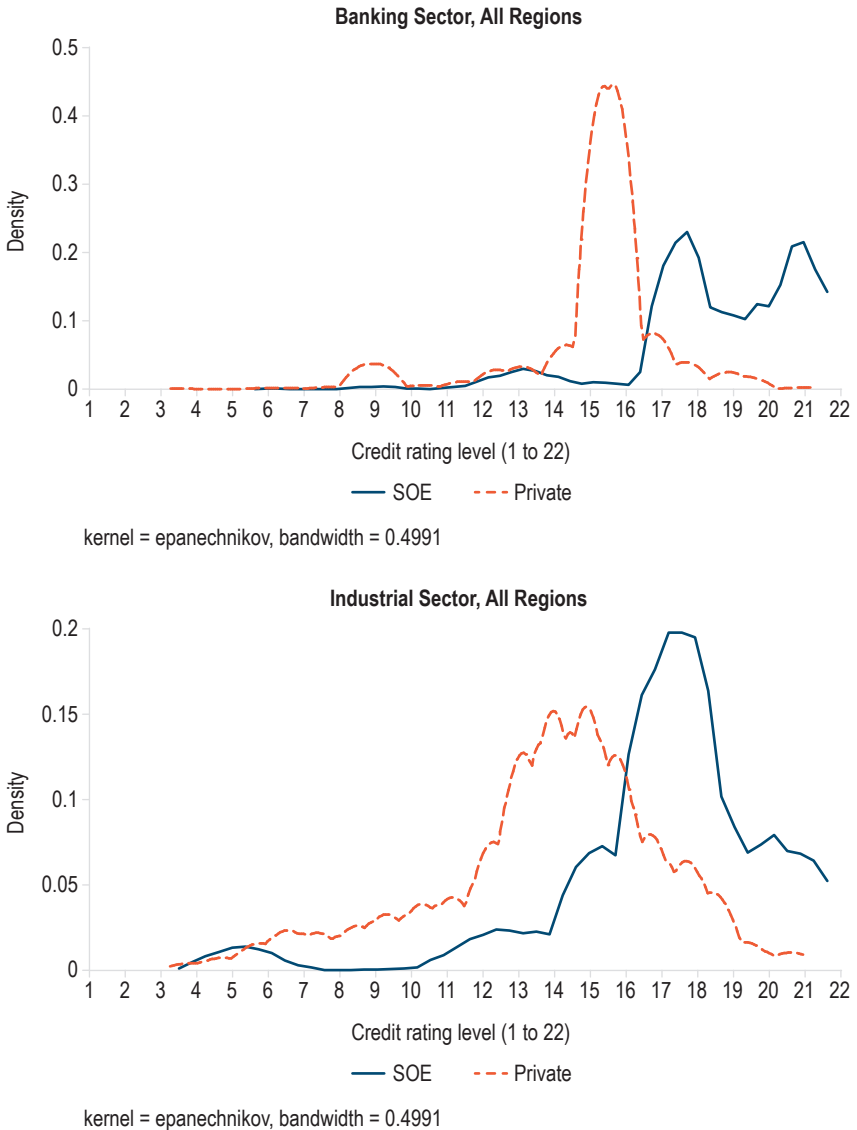
Having established that the main effect of SOE status lowering the YTM is robust to multiple specifications, it is important to determine what channels are behind it. This subsection first explores how much of the effect goes through some form of explicit guarantee, and it attempts to determine how much of the reported discount comes from differences in credit rating. Then, heterogeneity is explored across countries and across levels of creditworthiness. Overall, the importance of implicit guarantees is documented, along with the fact that credit rating agencies seem to explain only partly why SOE have cheaper bond financing.

It is possible that the discount in yield of SOE firms is due to better credit ratings, since agencies can capture the implicit guarantees and report a higher credit quality for that bond. In that case, the main effect is still there, but the story behind it may have to do with the rating process.

Bond ratings come from the three main credit rating agencies: Standard & Poor's, Moody's, and Fitch. This study follows Afonso et al. (2012) to transform the sovereign credit rating information using a linear scale to group the 22 categories, where a AAA rating takes value 22. Thus, the higher the number, the

better the rated quality of the bond. Credit ratings are indeed higher for SOEs, as shown in Figure 3.3, which displays the kernel density ratings.

**Figure 3.3. Kernel Density Estimates of Credit Rating Scores for SOE and Non-SOEs in Banking and Industrials**



Source: Authors' elaboration.

Notes: The figures above report the kernel density estimated for banking (on the top) and industrials (on the bottom). The SOE sub-sample is the thicker full line, while the comparable set of non-SOE (private) is the dotted line. An immediate inspection of the graph shows that the distribution of SOEs is to the right, meaning better credit ratings.

**Table 3.4. SOE Effect on Yield Including Dummies for Guarantee and Bond Credit Rating**

Panel A. banking							
Variables	(1)	(2)	(3)	(4)	(5)	(6)	
SOE	-0.17 (0.16)	-0.54*** (0.10)	-0.56*** (0.10)	-0.52*** (0.10)	-0.50*** (0.11)	-0.75*** (0.16)	
Guarantee (Yes=1, No=0)	-0.11 (0.11)	0.08 (0.08)	0.09 (0.08)	0.06 (0.08)	0.06 (0.08)	0.07 (0.09)	
<b>Controls</b>							
Constant and country-year-currency-bond credit rating FE	Y	Y	Y	Y	Y	Y	
Log(maturity)	N	Y	Y	Y	Y	Y	
Log(issue amount)	N	N	Y	Y	Y	Y	
Log(liabilities to assets)	N	N	N	Y	Y	Y	
Log/assets)	N	N	N	N	N	Y	
Observations	7,758	7,758	7,596	7,042	7,042	5,216	
R-squared	0.88	0.90	0.90	0.90	0.90	0.90	
Panel B. industrials							
Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
SOE	0.37*** (0.18)	-0.01 (0.12)	-0.07 (0.09)	-0.34 (0.75)	-0.30 (0.75)	-0.37 (0.77)	-0.54 (0.70)
Guarantee (yes=1, no=0)	0.09 (0.09)	0.10 (0.08)	0.11 (0.08)	0.14 (0.09)	0.14 (0.09)	0.14 (0.09)	0.02 (0.13)
<b>Controls</b>							
Constant; country-yr-ind-currency-bond rating FE	Y	Y	Y	Y	Y	Y	Y
Log(maturity)	N	Y	Y	Y	Y	Y	Y
Log(issue amount)	N	N	Y	Y	Y	Y	Y
Log(liabilities to assets)	N	N	N	Y	Y	Y	Y
Log/assets)	N	N	N	N	Y	Y	Y
Tangibility (fixed/assets)	N	N	N	N	N	Y	Y
Operating margin	N	N	N	N	N	N	Y
Observations	6,435	6,435	6,305	5,644	5,644	5,644	4,239
R-squared	0.93	0.95	0.94	0.94	0.94	0.94	0.95

Source: Authors' elaboration using data from Standard & Poor's Capital IQ Database and Thomson Reuters Eikon Database.

Note: Robust standard errors are in parentheses. \*\*\*, \*\*, and \* represent a level of significance lower than 1%, 5%, and 10%, respectively.

Additionally, the main argument so far is that the government provides an implicit guarantee. Thus, it is natural to ask whether the effect is driven solely by some explicit guarantee in the debt contract or if, even without an explicit guarantee, the same discount is still observed. To implement this test, Table 3.4 introduces the dummy variable *guarantee*, which takes the value one if the bond



documents display an explicit guarantee and zero otherwise. Baseline estimates are re-run using this variable and no significant change in the main coefficient is found. Moreover, the coefficient of the guarantee variable is not significant. In Table 3.4, an additional interaction in the fixed effects is also introduced, namely, the country-year-currency-credit-rating 4-tuple, where the innovation is the credit rating. Also, the specification contains an additional dummy for guaranteed debt. Panel A reports the results for banking. As usual, column (1) of Table 3.4 shows the raw average within each country, year, currency, and credit rating, without the inclusion of control variables. In columns (2) to (3) control variables related to the bond-level issuance are introduced, while columns (4) to (6) introduce firm-level control variables. In all specifications that include yield curve controls, the SOE is significant and negative between 50 and 75 bps. Thus, since the inclusion of the credit-rating fixed effect did not dramatically change the estimates of the SOE coefficient, for banking the SOE discount in YTM comes from a different sensitivity of the market to a similar credit rating.

This contrasts with Panel B, which shows the results for industrial companies. In fact, for non-financial corporations, the estimated coefficients for SOE are still negative, but not statistically significant and smaller in magnitude than in the baseline specifications where credit rating is not controlled for. This suggests that for industrials, a relevant portion of the SOE discount can be explained by differential behavior of credit rating agencies. This may be related to the fact that the rating agencies may have more room for industrials than for banking, where benchmarking and reporting of key performance indicators tends to be more standardized.

### **Does the Effect Depend on the Creditworthiness of the Sovereign or Rating of the Bond?**

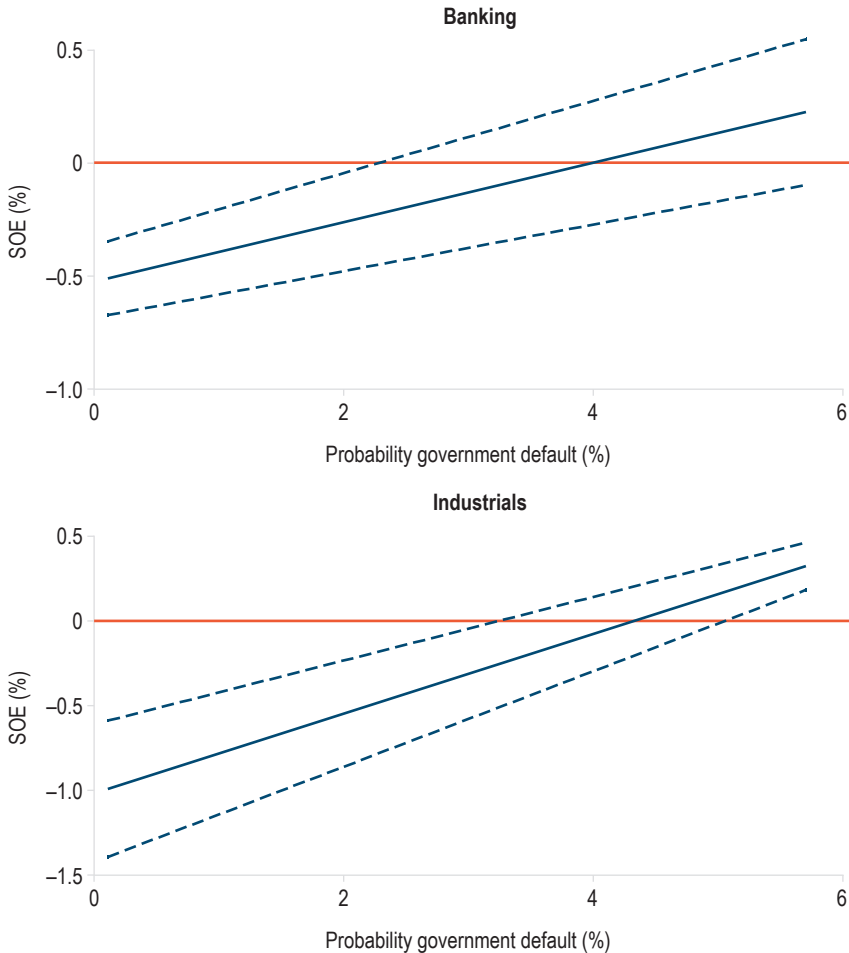
Another way to explore the importance of macroeconomic characteristics as moderating factors is to examine sovereign debt characteristics and interact them with the variable of interest. To do so, a continuous variable is used that captures the (inverse of) the quality of a bond and of a sovereign (the ex ante default probabilities). The country default probabilities are found in the country credit ratings and Standard & Poors Financial Services (2011). Similarly, the bond-level credit ratings were transformed into bond-level default probabilities through Standard & Poors Financial Services (2014).

For this exercise, using the estimated bond- and country-level default probabilities, a new set of regressions is run interacting the SOE dummy with each of them and also using a triple interaction of bond and country default probabilities with the SOE variable. While bond default probabilities do not necessarily

reduce the discount found for SOEs, the interaction with country default is positive in most cases. This means that the SOE effect can be positive or negative depending on the country default probability. In countries with low default probability, SOE bonds have a discount in terms of YTM, but that discount can turn into a premium if the country's default probability increases.

Figure 3.4 illustrates the marginal effect of the triple interaction  $SOE * bond\ default * country\ default$ , where the point estimates for both banking and industrials tend to have, in absolute value, a lower SOE discount in bonds as the

**Figure 3.4. Marginal Effect of  $\partial YTM / \partial SOE$  for Different Levels of Government Creditworthiness Measured as Ex Ante Country Default Probability**



government is less creditworthy. That is, investors price in an implicit sovereign guarantee in SOE bonds, except when the default probability of the sovereign bond is high. In those cases, investors price the SOE risk according to firm fundamentals.

## Conclusions and Policy Implications

This chapter shows that global bond markets tend to lend between 30 and 80 bps more cheaply to SOEs than to comparable private firms, even after controlling for a large number of potential confounding factors and using only variation coming from bond issuances within the same country and year. This finding comes from a contrast of fully state-owned companies with their privately owned counterparts. The results are qualitatively very different from the previous literature that has focused on the yields of bonds of former SOEs after partial or full privatization (Borisova and Megginson, 2011). In this literature, fully privatized firms obtain cheaper financing than firms with partial state ownership. This result is compatible with the results of this study because the incentives that investors must monitor do not change in a linear way, as equity is privatized.

This study shows that state-owned banks and other SOEs obtain cheaper financing from bond markets and that this effect is stronger for governments that are more creditworthy. For industrials a significant part of the effect can be attributed to better credit rating for bonds given observed fundamentals, while in banking, there is still a significant SOE discount in YTM even after controlling for credit rating.

The result that SOE banks obtain cheaper financing has important implications for banking policy. One is the conjecture that some banking regulations might have differential effects on state and private banks. The second is that some of the systemically important banks, from the point of view of macroprudential policy, could be these SOE banks. Lastly, it would also make sense to include regulations so that these public banks keep extra provisions given that their leverage will be higher due to the current implicit guarantees of the government. That way banks will face some of the cost of the liabilities they incur in.

The results point to the fact that the market anticipates an implicit guarantee by the government in SOE issues and may end up softening the budget constraint of such firms even more, instead of hardening it with the improved monitoring and by pricing bond issues using the fundamentals of the firm. Thus, the findings suggest that it would be prudent from a fiscal standpoint to more explicitly account for these contingent liabilities, to control the amount of such bond issues, and to explicitly account for such debt as sovereign contingent

liabilities (thus reflecting the risk of these bond issues in the sovereign's balance sheet). Musacchio, Pineda Ayerbe, and Garcia (2015) argue that governments should have *ex ante* bureaucratic controls that include the approval of SOEs' strategic and investment plans, including medium- and long-term debt plans, and even caps on total bond issues by SOEs. In Chapter 2 of this volume, Teresa Ter-Minassian explains further the risks of not accounting properly for these SOE liabilities as part of government risk management calculations. These kinds of measures could potentially reduce the surprise costs of SOE bailouts and recapitalizations during systemic crises. They would also align the incentives of governments to monitor SOE bond issues and operations more. In this way, these bureaucratic controls can harden the budget constraint, while bond issues improve the transparency and reporting practices of SOEs.

The fact that in many countries SOEs can borrow at a discount (relative to their fundamentals) based on their link to the government has three implications for SOE performance. First, SOEs should consider that discount when calculating the net present value of projects, given that the *real* cost of capital is 40 to 80 bps higher than what they use for debt.

Second, if SOEs pay lower interest rates than what they should thanks to the implicit backing of their government, this means that profit and loss statements are inflated with that subsidy in the cost of capital. Thus, the net income of wholly owned SOEs that issue bonds should be adjusted to reflect the 40 to 80 bp discount in the cost of capital. For large firms this could mean a significant adjustment in net income reported.

Third, and most importantly for the purposes of this volume, the fact that investors are assuming that the bonds issued by SOEs have an implicit guarantee means that they do not have incentives to do the monitoring that in theory SOEs should get from the market. Thus, letting SOEs issue debt may not be the best way to reduce information asymmetry problems (while also making the fiscal governance problem worse). Instead, governments should consider issuing quasi-equity instruments to perform the monitoring or should pursue partial privatizations to use market monitoring more effectively. Partial privatizations, in contrast to bond issues, may increase monitoring by investors because underperformance leads to recapitalization by the government. However, unlike in the case of bonds in which bondholders get repaid if the SOE is bailed out, private shareholders get diluted every time the government injects capital in the firm. Thus, shareholders are often more incentivized than bondholders to monitor SOEs.



PART II

---

# Improving the Monitoring of SOEs



# Improving Incentives for SOE Managers Without Privatization

*by Rodrigo Wagner*

Many governments in Latin America and the Caribbean (LAC) and around the world struggle with the challenge of privatizing or partially privatizing large, strategic state-owned enterprises (SOEs). For many of them, the political costs are too high. Yet, they need mechanisms that can mimic the role of stock markets in improving the monitoring of SOE managers, and to be able to introduce pay-for-performance contracts to incentivize them.

Having an instrument that can track the performance or valuation of an SOE is key because most SOEs are not traded on a stock exchange and therefore have no current market valuation or any traded instrument that tracks their performance. Some of the largest wholly-owned SOEs have bonds traded in large stock markets. However, bonds may not be the best instruments to track the fundamentals of a firm. Furthermore, there are various other tools (e.g., Wagner, 2017), but unfortunately not a proper market valuation, which provides information that could be useful to managers, owners, and stakeholders.

This chapter presents a new mechanism to create a market value for SOEs that cannot have publicly traded equity because of political or administrative restrictions. It is assumed, as is customary in the literature, that the market valuation can provide an external and potentially disciplining assessment for the company, which may not be produced in-house because of agency problems, behavioral biases, or other failures. Thus, the innovation is based on the idea that parties, potentially independent from the SOE, can trade contingent financial claims for the future cash flows that the SOE pays to the government. This idea is applied to many settings and known as Arrow-Debreu state-contingent securities. The innovation is to create one synthetic asset that can mimic the SOE's residual cash flows (Duffie and Huang,

2005). Unlike privatization, which gives up both residual cash flow rights and residual control rights to equity holders, this pseudo-equity instrument would only give up exposure to the cash flows, without giving up any control or voting right.

For the mechanism to work, there are some prerequisites. The company should be large enough so that a relatively small share of the firm floating in a synthetic security can attract enough investors and analysts. Also, the firm should ideally have profitability as an important goal, rather than being purely oriented to satisfy social objectives. This restricts the number of firms to which the instrument can be applied. Yet, it is precisely in large firms, such as Mexico's oil company, *Petróleos Mexicanos* (Pemex); Chile's copper mining company, *Corporación Nacional del Cobre de Chile* (Codelco); and Panama's Canal Authority (PCA), that this instrument would be most helpful in reducing information asymmetries between management and the government.

### **The Need for Market Values for SOEs**

In theory, prices represent the forward-looking discounted value of the future stream of after-tax profits to be received from owning the company. Share prices tend to rise when circumstances or decisions improve, and in that sense, they could provide valuable feedback for decisions about the company. Of course, having a market price can also be a problem if managers overreact to them, as argued by Albagli, Hellwig, and Tsyvinski (2011). In general, however, there seem to be lost opportunities when owners cannot observe the market's expectation about the company's value. For SOEs that are not privatized, it would be useful to have a market valuation that could benefit at least the following players:

1. The country's treasury. A market valuation would allow for an estimate of future cash flows, which is useful in general but even more so for countries that have modern fiscal rules (Frankel, Vegh, and Vuletin, 2013). A figure that originates from multiple buyers and sellers making bets on the value of the SOE is potentially a useful and disciplined figure to use in the calculation for future fiscal income. In particular, countries where the SOE is a large source of fiscal income would naturally benefit from having a market valuation of the net income stream that they should expect to receive. For instance, Panama's fiscal planning would greatly benefit from having as an anchor the market valuation of the future flows coming from the PCA.



2. The SOE's management and owners. A market valuation would enable greater monitoring of market reactions. For example, a sequence of poor decisions could be reflected in a lower price for the valuation instrument, and that market reaction could make managers more accountable or more prudent in making decisions.
3. Citizens. An instrument to generate a market valuation for SOEs may be a useful disciplining device for these firms and their unions. For example, massive strikes of SOE employees could negatively impact the value of the company. News about the loss could make the SOE more accountable to the public and unions more conscious of the impact of their actions.
4. Corruption monitors. Massive drops in value after a large noncompetitive procurement could be interpreted as a market signal that the deal was not made at market prices, and there might be potential siphoning of profits out of the company (assuming the market participants can actually monitor such transactions—as the recently unveiled “Car Wash” scandal involving Brazil's *Petroleo Brasileiro S.A. [Petrobras]*<sup>1</sup> shows, this is not always the case). This is different from the impact on citizens discussed above because of the widely dispersed nature of SOE ownership.
5. SOE managers and monitors. Market valuation may improve the assessment of research and development projects and exploration. These activities do not generate cash flow in the short term. This means that, today, the only estimate of the return on these investments is derived from the expectation that some people in the SOE may form about future cash flows, which are often in the distant future. A market price may help to discipline these estimates and contrast them to what the market thinks the innovations are worth by, for example, looking at market prices before and after the announcement of these innovations. There are reasonable grounds for a shareholder to be cautious about the projections made by internal experts. For example, Burton, Lonie, and Power (1999) show that after the announcement of a new investment project, the change in the stock market valuation does not necessarily reflect the additional valuation suggested by the firm. Ferguson and Scott (2011) show how presentations to boutique resource investors in Australia generate an abnormal return in the market valuation of these firms. In the long run, however, they are unable to see that this effect persists. Titman, Wei, and Xie (2004) show that firms that have large investment expenditures tend to underperform later. All these concerns

---

<sup>1</sup> For more details, see the introduction to this book as well as Moro (2018).

about projections made by firms naturally suggest that ministers of finance and citizens should be pragmatic but vigilant about the actual value of the new discoveries. Having an independent market valuation could be an important step in that process, although not a perfect one.

In short, having a market price for the company could improve agency problems in the management of these organizations, by reducing information asymmetries and increasing monitoring. Such valuations can also harden the soft budget constraint that some of their decisions face (Kornai, 1986).

A market valuation is neither necessary nor sufficient (e.g., based on the evidence mentioned above from Petrobras) to overcome this informational problem, but it can be helpful. SOEs should also consider other measures for valuation that are currently recommended by international organizations (Musacchio, Pineda Ayerbe, and Garcia 2015; World Bank 2014).

### ***Mechanisms Currently Available and their Drawbacks***

Today's SOEs can find ways to obtain a market valuation. The current toolbox contains various measures to improve the management of SOEs (World Bank, 2014a). SOEs can, for example, use current ratios of efficiency to evaluate their performance. They can also rely on the staff's valuation of internal rates of return (and net present values) of SOE projects, as well as improve their corporate governance to facilitate feedback into the company. They can bring in consultants or experts to pursue valuations using a variety of criteria and benchmarking. Finally, some SOEs could be partially or totally privatized to obtain a market valuation. Yet, in all but the last option, valuations are not generated by people who risk their own money; thus, they may not reflect the true sentiment an investor would have about the company and its projects.

Currently, to generate a market price with these characteristics, the company must be privatized. In some settings this is a viable option. For example, many Chinese and Brazilian companies have been partially privatized and have introduced pay-for-performance for their managers (Fan, Wong, and Zhang, 2007; Musacchio and Lazzarini, 2014). In many countries, however, privatization might be too politically sensitive, making it excessively controversial for a government to pursue such an endeavor. One example is Pemex (Huizar, 2015).

The focus in this chapter is on companies that cannot be privatized due to political, administrative, or other reasons. This subgroup of SOEs lack a market price because they are not partially privatized and/or listed.

These companies sometimes issue fixed-income securities such as bonds. They do not issue shares, however, because that would imply a partial privatization.

Valuing bonds, however, is not the same as valuing the ownership of the company. The challenge is that the market valuation of fixed-income securities only provides information about the downside risk of a business in terms of the probability of defaulting on the bond. Bond prices do not provide useful information about SOEs that are not likely to go bankrupt or restructure their debt.

Still, these SOE bonds represent an important segment of the global bond market. In 2014, corporate bonds issued by SOEs amounted to US\$300 billion, representing around one-tenth of global bond issuances that year. In gross terms, these wholly-owned SOEs are traded in public markets, but they do not have securities with exposure to the upside of the company.

Another problem of relying on bond pricing as an indirect measure of the financial soundness of an SOE is the lower yield to maturity obtained on SOE bond issues than on those of equivalent private companies. When compared to equivalent private companies, correcting for many possible differences in bond valuation, SOEs get around 30 to 80 basis points of lower yield to maturity, and the effect increases with the financial quality of the sovereign. These facts are consistent with the too-big-to fail problem, in which the market expects that if an SOE defaults, the sovereign will step in to bail it out. Thus, bond prices are not a good disciplining device to value the financial strength of a company, because the market would appear to be pricing something else. Thus, SOE bonds may not be useful as a proxy for a market price for the company.

Currently, the Mexican government is issuing synthetic securities<sup>2</sup> to finance Pemex and the Electricity Company CFE.<sup>3</sup> These are the so-called FIBRAS-E, which are different from the pseudo-equity contract discussed earlier herein, because they are closer to what in the United States is known as a master limited partnership. These securities are usually linked to secured assets that get a stable stream of profits and/or have some type of guarantee over the asset and could be used to monetize a pipeline or electrical infrastructure. They are financial innovations used for SOEs but are not particularly helpful in determining a market value of the SOE, and are only used for safe assets within an SOE.

### *Size of the Market for an Innovation*

Without further restrictions, the potential market for an innovation is composed of all SOEs around the world. Given the characteristics of the tool, to achieve

---

<sup>2</sup> In applied financial jargon, sometimes a synthetic stock is a combination of a riskless bond and buying futures of a stock, which can effectively give a similar exposure, but at the cost of only using the margin calls. This is something different. Thus, the idea of a synthetic security should not be confused with this existing trading strategy.

<sup>3</sup> See, for example, Webber (2015).

enough liquidity and analyst attention it would be reasonable to focus initially on SOEs that are 100 percent state owned but at the same time are bond issuers in global markets. Table 4.1 shows a list of 195 SOEs that have issued bonds in global markets. Of these, 114 firms were reporting to foreign markets. Of particular interest are firms in commodity sectors like mining or oil, as well as state-owned banks. From the same data, Table 4.2 shows that when the data are split by region, there are 4 of these companies in Africa, 16 in LAC countries, 25 in EU and high-income countries and 31 in Asia/Pacific. Looking at the sum of past bond issuances, the LAC region has the highest average per firm, although with a likely skewed distribution.

This analysis does not include the hundreds of firms that could use this application in a second stage but that are currently not disclosing their information to global financial markets, although they do so in domestic markets. Still, any financial instrument that pays based on the underlying profitability of the company (i.e., stocks, B-shares without voting rights, or any of the synthetic assets suggested in this chapter) need to have enough free float to attract analyst coverage and liquidity, to create a meaningful price.

**Table 4.1. Descriptive Statistics on SOEs that Issue Bonds in International Markets**

Industry classification	Frequency of firms	Percent of firms	Sum of bond issuance 1990–2012 (in US\$ billion)
National agency	17	8.72	976.00
Public administration	17	8.72	348.00
Regional agency	18	9.23	336.00
Other financials	20	10.26	262.00
Oil and gas	7	3.59	175.00
Banks	34	17.44	164.00
Credit institutions	9	4.62	111.00
Transportation and infrastructure	13	6.67	81.90
Regional government	1	0.51	53.70
Bonds without clear industry classification	12	6.15	38.90
Power	11	5.64	34.30
Metals and mining	3	1.54	20.20
Diversified financials	1	0.51	16.90
Professional services	6	3.08	11.40
Petrochemicals	1	0.51	7.83
Building/construction and engineering	6	3.08	5.97

(continued on next page)

**Table 4.1. Descriptive Statistics on SOEs that Issue Bonds in International Markets** (continued)

Industry classification	Frequency of firms	Percent of firms	Sum of bond issuance 1990–2012 (in US\$ billion)
Legal services	1	0.51	5.27
Educational services	1	0.51	4.55
Machinery	1	0.51	3.77
Real estate management and development	2	1.03	2.93
Water and waste management	5	2.56	2.00
Government-sponsored enterprises	1	0.51	1.89
Other real estate	3	1.54	1.27
Asset management	1	0.51	1.16
Insurance	1	0.51	0.65
Agriculture and livestock	1	0.51	0.26
City agency	1	0.51	0.22
Brokerage	1	0.51	0.01
<b>Total</b>	<b>195</b>	<b>100</b>	<b>2670</b>

Source: Author's elaboration using data from the Thomson Reuters Eikon database.

Notes: This table describes the SOEs that are bond issuers in international markets according to the Thomson Eikon database. They are classified by industry. The first numerical column provides the number of firms, while the second shows the size of each bin as percentage. Industries are sorted according to the third numerical column, which is the sum of the total amount issued between 1991 and 2012 by these companies, measured in billions of current U.S. dollars. The database includes all "agencies" with bonds outstanding in international markets. According to the author, sectors with a (\*) may seem ex ante more likely, as a group, to be a potential source of demand for the suggested innovation, because their goal seems more likely to be profit maximization, with some constraints or adjustments for externalities or strategic services. This is not a definitive statement but an exploratory one.

**Table 4.2. SOEs of Selected Industries that Issue Bonds in Global Markets, by Region**

World regions	Frequency of firms	Percent of firms	Total bond issuance 1990–2012 [US\$ bn]
Africa	4	5.26	6.46
LAC region	16	21.05	248.00
EU and high-income countries	25	32.89	318.00
Asia/Pacific	31	40.79	185.00
<b>Total</b>	<b>76</b>	<b>100</b>	<b>757.00</b>

Source: Author's elaboration using data from the Thomson Reuters Eikon database.

Notes: This table describes the SOEs that are bond issuers in international markets according to the Thomson Eikon database and that belong to one of the following industries: other financials, oil and gas, banks, credit institutions, metals and mining, diversified financials, petrochemicals, and asset management as classified in Thomson Eikon. The first numerical column describes the number of firms, while the second shows the size of each bin as percentage. The third column is the sum of the total amount issued between 1991 and 2012 by these companies, measured in billions of current U.S. dollars. The database includes all "agencies" with bonds outstanding in international markets that belong to the abovementioned industries.

Overall, as can be seen in Table 4.2, the type of instrument discussed herein has applications for SOEs in regions across the globe. The initial application is focused on companies like Pemex, which have had outstanding bonds for many years and for which investors have access to their accounting information through regulators such as the U. S. Securities and Exchange Commission (SEC).

### The Basic Elements of the Innovation

The innovation is based on the idea that two parties, potentially independent from the SOE, can trade contingent financial claims that would depend on the future cash flows that the SOE pays to the treasury. For example, party *A* would buy a financial instrument from party *B*, in which party *B* promises to pay party *A* an amount of  $z$  dollars for each dollar that the SOE pays as dividend to its owner (the State) in the future. Note that this means replicating the cash flows. It is not the same dollars that the SOE pays to the government, but it is the same amount (if  $z=1$ ). It is replicated. The price of such an instrument, if the promise of payment is credible, would reflect the expected market valuation of the future dividends of the SOE, or a proportion  $X$  of them. The innovation would be on the application of the abovementioned method to SOEs. The practical application of this principle has some adaptations to make it work in more complex settings.

In theory, the stock price represents the market valuation of the future cash flows that the company's owners expect to get. It is an expectation formed by the market. In mathematical terms,

$$P = E \sum_{t=0}^{\infty} \frac{\text{Cash Flow}_t}{(1+r)^t},$$

where the expectation is given by the symbol  $E$ . Cash flows are uncertain, and future flows are discounted more heavily. This is why in each period there is a discount  $1/(1+r)^t$ , where  $r$  is the discount rate and represents future periods. Sometimes the discount rate may reflect various additional issues related to risk tolerance, correlation with the return of the reference market, liquidity, and other aspects. It can also vary over time. That is standard finance theory and not part of this innovation; it is just a preamble.

The innovation suggested in this chapter consists of a financial derivative that can, in practice, replicate the cash flows of the SOE, even if there are no true shares floating in a stock exchange. In some settings this is called pseudo-equity. It is "pseudo" because it gives access to the cash flow rights but not to the residual control rights (i.e., no seats on the company's board or voting

rights are granted). The asset valuation could have some proportionality with that of the market value if the firm had been floating on the market.

Continuing with the innovation proposed here, each period the SOE pays the treasury a variable amount  $\$X_t$ , and this gets recorded in a public record recognized by the market, such as the SEC. Today, large SOEs such as Pemex or Codelco must file their financials every quarter with the SEC because they have outstanding bonds in the United States for many years to come.

Therefore, based on that publicly available information, agents in the market could trade a derivative that replicates the cash flows of SOEs. Specifically, at least two parties trade a contract or a series of contracts that replicate in some proportion the cash flow that the SOE pays to the treasury as filed in the SEC. For example, they could write a contingent contract such that “for each \$1 that the SOE pays to the treasury, the issuer of the derivative pays to the owner of the derivative an amount \$z,” where  $z$  is a proportion determined ex ante, meaning before the cash flow is  $X_t$  realized.

The price of this contract or series of contracts would be proportional to the price of the SOE, had it been publicly traded.

$$p^{Derivative} = E \sum_{t=0} \frac{zX_t}{(1+r)^t} \Rightarrow p^{SOE} = \frac{1}{z} p^{Derivative}$$

To make the proportionality in the contract translate into a proportionality in market values, the cash flows from this derivative must be discounted at a similar rate, or the rate at which the market would have discounted the equity of the SOE. Also, the market should have the “right” expectations, or at least the same expectations about cash flows that the market would have had if the SOE had been publicly traded (i.e., partially privatized). These conditions have practical considerations for making these synthetic securities truly represent a market value. In particular, the following conditions must be met:

**Counterparty credibility.** If the buyer of that derivative is concerned that the issuer of the derivative would not fulfill the promise of paying, then the expected cash flow would be less than proportional. Either expected cash flows would be lower than the face value per dollar, or the discount rate would be higher. Thus, for this derivative to perfectly commove with the counterfactual SOE stock price, the issuer must either have big pockets or be in a long position vis-à-vis the SOE cash flows.

**Analyst coverage and liquidity.** If market information about these SOEs is poorer than it would be if the SOE's equity were publicly traded, this could be

another reason why the price of this derivative may not reflect the SOE value. Therefore, when designing these securities, there must be sufficient market information, which could be proxied by analyst coverage. While many of these companies are already in global bond markets, equity markets require more information, especially from the upside of the business. According to Dang et al. (2017), bonds are more information-insensitive than equity-like contracts. To get more coverage by analysts, the total amount of these SOE-linked derivatives traded would need to be large enough. Otherwise, there would not be enough opportunities to profit from trading the asset.

Related to the previous point, the security must be as liquid as possible. The reasons being that, on one hand, trading opportunities make it profitable to gather information. On the other, and more important for the present analysis, one central objective of issuing an equity-like security would be to obtain an updated market valuation of the company. This need for liquidity requires a minimum issuance size, otherwise the price of this synthetic security will not serve as a tool for monitoring SOEs.

One potential synergy of issuing an equity-like security is that there could be more incentives to gather information about the company (Boot and Thakor, 1993). If that is the case, there could be an additional benefit because the bonds of these same companies may become less volatile and could even have lower yields, decreasing the SOEs' cost of funding.

**Incentives for the owner.** The design of this security should consider the incentives of the owner (e.g., the treasury) to manipulate earnings as a way to avoid payments. Not all applications of the general principle discussed herein generate such an incentive to earnings management.

**Legal restrictions.** In the design of these synthetic securities there could be some legal constraints. For example, as a device to limit special interest groups from lobbying, many countries have specific laws against earmarking some types of fiscal income for some specific expenditures (Bos, 2000). This might be something to look at in cases where it would be preferable for the treasury of a country to issue a variable income security that pays investors according to how much the SOE pays to the treasury. That is, the treasury could issue a variable income security that pays investors according to how the SOE performs financially.

**Resilience to lobby by agents going long on the SOE's profits.** One potential concern is that the owners of the financial claim to the SOE would lobby to accelerate the receipt of additional dividends. This does not need to be the



case. In principle, having investors with the proper horizon could be a good way to limit the “fiscal extraction” problem, in which governments extract too much from the SOE, destroying value. When investors are impatient, the effects of their lobbying must be mitigated. However, such a lobby in favor of the SOE’s profits could also be a useful way to counteract the potentially powerful lobby of unions, managers, or entrenched groups, which may benefit from short positions of the SOE’s profits, as in the political economy model of Becker (1983).

### Implementation of the Principles

There are various ways to implement the principle of contingent cash flows discussed above. One is to implement it as pseudo-equity or replication of the dividends paid as equity to the government. An alternative would be to set a series of swap contracts, in which the promises are made year by year. In other words, one contract is made contingent on the cash flows of year 2016, another contract for the year 2017, and so forth. One advantage of implementing the method this way is that the claims can be made on the differential between the dividend paid by the SOE and a benchmark interest rate (e.g., LIBOR). Using swaps means that the claims would be on the net difference rather than the gross amounts, reducing some potential concerns about counterparty risk. This can facilitate implementation when the counterparty does not have big pockets. This would require a larger number of interested parties trading the swaps to create liquidity, because the number of instruments traded would be larger than the single instrument proposed before.

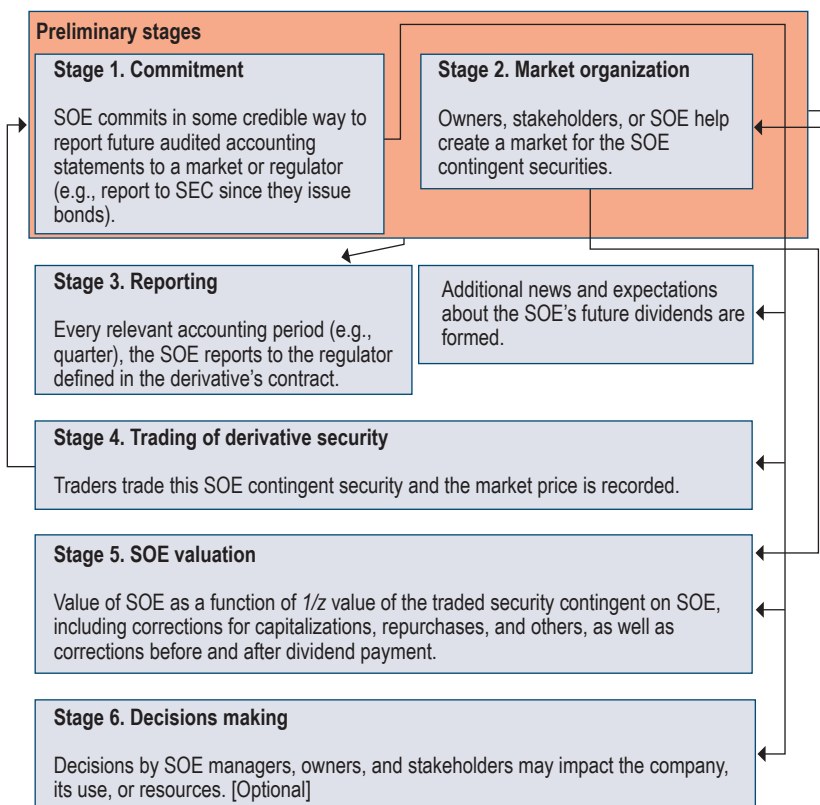
A third way to implement this principle is that the treasury of the country in question issues securities that are contingent on the SOE’s profits, or more specifically to the SOE’s dividends paid over and above the retained earnings and standard corporate taxation. This is appealing because the treasury is generally long in the cash flows of the SOE, so this is yet another way of mitigating the concerns about counterparty risk due to the issuer of the security being mismatched and in the future being unable to pay. By construction, the treasury will always be matched since the \$z of liability will be hedged by \$1 of assets that the treasury receives from the SOE. The Mexican Treasury is always long on Pemex’s profits, as is the Chilean Treasury with Codelco and the Panamanian Treasury with the PCA. In all applications of this method, one needs to make the appropriate corrections in the contracts as a way to reflect the repurchases of shares, equity injections by the majority shareholder (i.e., the treasury), and various types of contingencies (e.g., if the company is privatized).

A fourth way to implement this principle would be to endow some people with stock options, specifically, the option to get future cash flows from the SOE. This could be given, for example, as part of employee retirement plans. An application of this type would have the additional benefit of potentially aligning the incentives of SOE workers, if they know that they are truly owners of some residual cash flow rights. However, these stock options would not be naturally liquid. To obtain a price, one could facilitate the trading of such rights on a platform such as SecondMarket.

### How to Launch the Valuation Instrument

The figures below illustrate the different steps of the method to launch the SOE valuation instrument. Figure 4.1 describes the main steps, which is the overview of the whole process for the general case. There are two preliminary stages in the general process that can be considered prerequisites for a market to exist: (i) the commitment to reporting and (ii) market organization.

**Figure 4.1. Main Steps to Launch the Valuation Method**



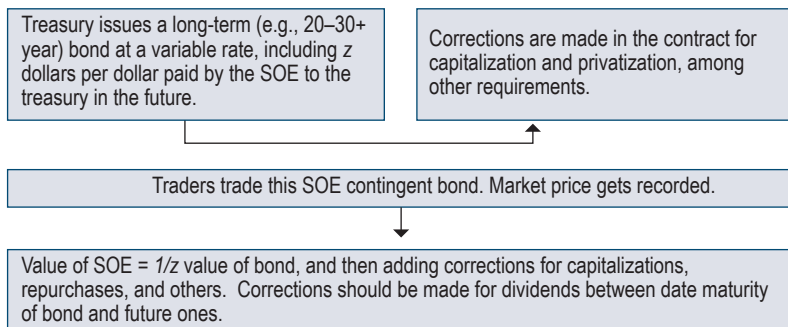
In Stage 1, the SOE commits in some credible way to report future audited accounting statements to a market or regulator (e.g., the SEC). This commitment could be fulfilled, for example, by issuing bonds in a reputable jurisdiction like New York.

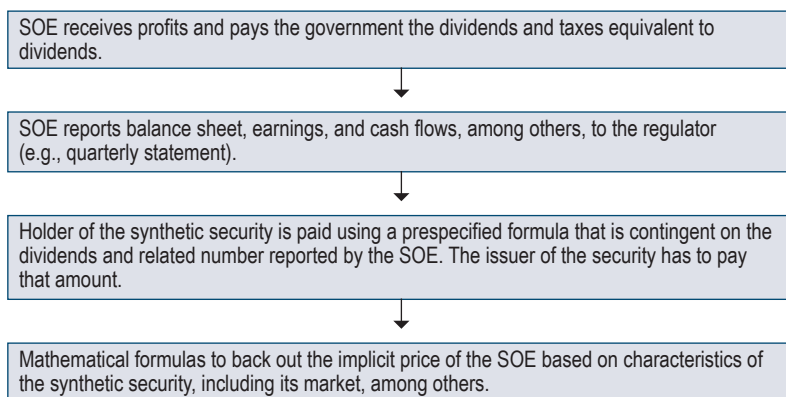
In Stage 2, SOE owners, stakeholders, or managers help create a market for SOE contingent securities. Any interested third party not necessarily related to the SOE could also develop this process. A bit like credit default swaps measuring the probability of sovereign default, they are not issued by the same party that issues the bond. Therefore, the market does not need to be organized by the sovereign or the SOE, but it can certainly help if they participate in the process.

The subsequent stages follow periodic timing. In Stage 3, the SOE reports financials and other market relevant information periodically to regulators and analysts. In Stage 4, parties trade a financial security that is contingent on SOE dividends being paid to the government. Stage 5 follows a series of mathematical formulas to back out the implied SOE market price from the price of the derivative. In the case of pseudo-equity, the calculation comes directly from the formulas presented earlier in the chapter. When the derivative is structured as a series of swaps, then more specific methods are needed to back out the SOE's valuation. Finally, in Stage 6, as the market valuation is posted, managers and stakeholders of the SOE are expected to adapt their decisions—if pertinent—to improve the company.

As clarification, Figure 4.2 focuses on a specific case, namely, when the issuer of the SOE contingent security is the treasury of the government that owns the SOE, or any natural holder of future dividends of the SOE. Figure 4.3 shows a process-flow diagram with an example of the payments and liquidation to be made in each period.

**Figure 4.2. Example of a Specific Case**



**Figure 4.3. Example of the Payments and Liquidation in Each Payment Period**

Source: Author's elaboration.

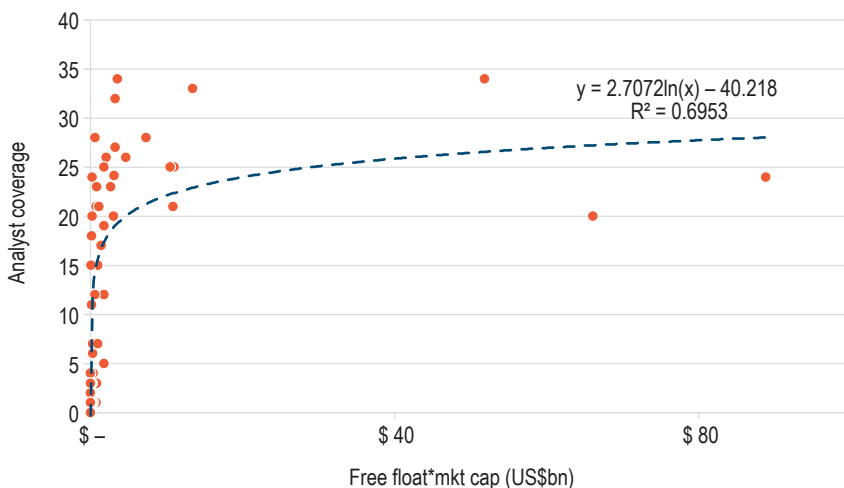
## Opportunity and Applications

The current moment is propitious for an opportunity like the one suggested here. First, after decades of privatization efforts (e.g., LAC and Post-Soviet economies), governments have understood that privatization has limitations and that not all SOEs can be easily privatized. There has also been an effort to improve corporate governance in SOEs and in some cases to privatize at the margins, but this has not been a panacea. The corruption scandal involving Petrobras mentioned earlier suggests that privatizing is not enough of a vaccine against capture. It also signals a probable demand for new approaches beyond incremental privatization. The advantage of the method presented in this chapter vis-à-vis the current technology is that companies do not need to be privatized to get market valuations. The hope is that it might be politically more feasible to derive a market valuation of SOEs using this method.

## Applications of the Synthetic Equity Innovation

The case will be illustrated with Codelco. First, it is important to have enough liquidity and analyst coverage. For this, it is necessary to have an idea of the minimum amount of this security to issue. As a starting point for the expected valuation, the estimations for Codelco are presented here. Although valuations are volatile and dependent on copper prices, this estimation used different methods to approximate a non-market valuation of the company by looking at multiples and various types of projections. One estimate, US\$24 billion, is derived from at least three methods. Using this floating valuation as input, it

**Figure 4.4. Analyst Coverage and Market Cap Adjusted by Free Float for a Group of Publicly Traded Copper Mines Comparable to Codelco**



Source: Wagner (2018).

Notes: The vertical axis plots analyst coverage for publicly traded copper companies. On the horizontal axis the plot shows the value of the floating shares for these companies. This is obtained by multiplying the percent of free-floating shares times the market capitalization. Most companies are in the range between US\$0 to US\$15 billion. The three companies on the right-hand side are BHP Billiton PLC with market capitalization of US\$89 billion, Rio Tinto PLC with US\$52 billion, and Rio Tinto LTD with US\$66 billion.

is possible to simulate the number of analysts it can get in the event that the pseudo-equity cash flows of Codelco are on the market.

Figure 4.4 shows how analyst coverage is related to the value traded for copper companies. The vertical axis shows the analyst coverage for publicly traded copper companies, from 0 to 35 analysts for their shares. The horizontal axis plots the value of the floating shares for these companies. This is obtained by multiplying the percentage of free-floating by the market capitalization.

Figure 4.4 shows that companies with around US\$2 to US\$5 billion in free float get around 20 analysts. More formally, inputting the assumed valuation of Codelco of US\$20 billion, and the assumed 10 percent free float, yields a similar predicted number of analysts (the point estimate is 21.4 analysts). Other multivariate models that include more covariates yield a similar order of magnitude for a 10 percent floating share of this synthetic security.

A significant variable in the analysis that predicts analyst coverage in copper is the market in which the shares are traded. In particular, shares traded on the London Metals Exchange have, everything else constant, eight additional analysts than those traded in benchmark countries. This is still three more analysts than for issuances traded in North America.

One implication of this result is that, to get more analyst coverage, the shares should not be traded in the home market of the SOE, but rather in a stock market that understands its industry and has more coverage. Although not conclusive, this is a first warning on the nationalistic view that if any SOE shares should be traded, they should be traded in the same country.

Overall, having 10 percent of Codelco's cash flow in the instrument could in principle be enough to attract analyst coverage. It would have as much coverage as a medium-sized copper mine listed in Canada or the United Kingdom.

Similar calculations could be performed for commodity companies like Pemex, using the analyst curve for oil companies. Preliminary estimations show a similar curve. The difference is that Pemex is a much larger company. As a result, with a smaller share of Pemex floating in the market (US\$2 to US\$5 billion floating market capitalization) has a similar number of analysts. This means that this method could be more easily applied to Pemex than to Codelco simply because of the company's size.

One challenge is that the recent decline in commodity prices may have reduced the value of both Codelco and Pemex, thus making it harder to jumpstart a system of analyst coverage and trading of pseudo-equity. It is therefore important to have a plan in place for the moment when commodity prices rise to their previous high levels.

Still, it is possible to obtain relevant signals of market value from a smaller volume of dividends floating. It is illustrative to see a rough calculation for the PCA. The PCA has current profits around US\$1 billion. Roughly, these profits could be discounted at 7 percent, a rate used for some ports. In this case, assets would be valued at US\$14 billion, assuming no growth or that all the growth goes to pay for the expansion. Such a simplistic scenario does not correct for many of the real-world variations, such as debt and taxes. In that case, a 5 percent free float would be US\$700 million. That amount corresponds to one and a half times the free float of Eurotunnel, the company that operates the tunnel between France and the United Kingdom, which currently has seven active analysts following the stock and is reasonably liquid. This approximation is not meant to be precise, but rather to estimate an order of magnitude of what could be achievable for the PCA. This is not necessarily a good project for Panama, but it is not unreasonable to evaluate ways to issue either bonds contingent on the profits of the Canal, B-shares without voting rights, or any of the other possibilities of pseudo-equity discussed in this chapter. All of these alternatives have the potential to be less politically controversial than simply floating shares in public markets.

## Conclusions

SOEs can be both systemically and politically important for many economies. While many of these firms have been privatized in recent decades, for various reasons several are likely to remain 100 percent owned by the State, which prevents them from getting a market valuation. Having a market signal for the value of SOEs could be desirable because it could help the treasury in its fiscal planning and managers for discipline and feedback. It could potentially discipline entrenched groups, and could also help in the valuation of research and development and discovery, or any other investment that is slow to show results.

The new mechanism presented in this chapter, pseudo-equity, can be used to create a market value for SOEs that cannot have publicly traded equity. It is based on the idea that parties, potentially independent from the SOE, can trade contingent financial claims for future cash flows paid by the SOE to the treasury. Technically it is a set of Arrow-Debreu securities that can mimic the SOE's cash flows. It can be implemented as pseudo-equity by third parties with deep pockets. However, it is important to limit counterparty risk. For that reason, it would be desirable for an agency like the treasury to issue some SOE-linked bond, since the sovereign is the owner of the SOE and therefore it is naturally long on the SOE dividends. It could also be a useful diversification tool.

For these new pseudo-equity securities to work, a large volume of SOE dividends would need to be traded. This would attract analyst and investor attention and improve monitoring. Thus, small SOEs could not avail themselves of this security. Preliminary calculations show that floating 10 percent of Codelco would attract enough analyst coverage to this synthetic instrument if the market perceives it to be equivalent to the dividends received by a minority shareholder in a mid-sized copper mine. For Pemex, since the company is larger, the percentage of floating shares of this pseudo-equity is a smaller percentage of its capital. A floating share below 2 to 3 percent can get enough analyst coverage. The numbers are gross estimates. For the PCA, comparable firms with decent coverage and liquidity despite a smaller free float, such as the Eurotunnel, have been identified. A 5 percent of the PCA's pseudo-equity—without voting rights—could be a starting point to obtain a market price for its net present value.

This chapter makes two main contributions to the overall argument of the book. First, it argues that governments can promote the development of financial instruments to improve the monitoring of large SOEs without necessarily privatizing voting rights or control. Second, it shows that there are mechanisms

to reduce information asymmetries and increase monitoring by experts for large SOEs. These instruments would also help to harden the SBC of SOEs, as the promised dividend could be adjusted by net transfers to the government (i.e., net of capital injections by the State). This means that the solutions for SOEs are different according to size. Smaller SOEs may need closer monitoring by a centralized agency.



# The Centralized SOE Monitoring Model in Latin America and the Caribbean

*by Aldo Musacchio and Emilio I. Pineda Ayerbe*

The Organisation for Economic Co-operation and Development (OECD) and the World Bank have an extensive set of surveys and manuals on how to reform the corporate governance of state-owned enterprises (SOEs) (OECD, 2015; 2018; OECD and CAF, 2014; World Bank, 2014a; 2014b). These works center on the importance of improving the government's role as SOE owner, with clearer objectives and corporate governance structures that mimic the advances in governance in the private sector (e.g., having independent directors, outside auditing, and greater separation of ownership and control). The surveys and manuals also emphasize that governments need to create centralized agencies to monitor SOEs, staffed with full-time professionals who work to improve the State's performance as owner. Their policy recommendations are based on case studies and cross-country qualitative evidence of the functioning of centralized monitoring agencies.

Given the overwhelming support in the policy literature to the use of centralized agency monitoring for SOEs, particularly the use of formal holding companies to control SOEs, there should be a sizable empirical literature showing that SOEs in countries that use these systems perform better (i.e., have less cash flow risk). This is not the case, however. The literature on private holding companies in emerging markets shows that their member firms perform better than similar firms that are not managed by a holding company. This is because holding companies can help member firms by creating internal markets for labor, products, and capital, substituting those markets in countries where there are significant market failures (Khanna and Palepu, 2000; Khanna and Rivkin, 2001; 2006; Khanna and Yafeh, 2005; 2007). More importantly, there is evidence that, in some countries, being part of a holding company reduces volatility in profits across member firms (Khanna and Yafeh, 2005).

For state-owned holding companies (SOHCs), the evidence is mixed. Some papers on China examine the effectiveness of the State-owned Assets Supervision and Administration Commission (SASAC) as a holding company to improve the performance of SOEs. Yet many of them are either propaganda or do not meet the standard of proof necessary to verify the effectiveness of centralized agencies as a whole (Chang and Jin, 2016; Sam 2007; 2011). Wang, Guthrie, and Xiao find that when SOEs in China were put under the control of the SASAC, their performance improved (and the higher the share of government ownership, the more the performance improved) (Wang, Guthrie, and Xiao 2011). There is also empirical evidence that reducing the discretion to request resources from the government can increase the financial autonomy of SOEs (Fan, Wong, and Zhang, 2013). The number of steps linking a specific SOE with the government is closely related to the professionalism of directors, higher productivity of labor, and greater total factor productivity (Fan, Wong, and Zhang, 2013). However, some studies show that the existence of SOHCs in China can actually lead to government extraction of value in publicly traded SOEs (Watanabe, 2002). As Hyungon Kim shows in Chapter 6 herein, Singapore's Temasek has been better at showing positive results for the firms it controls than other SOHCs in East Asia, where the results are more mixed.

In sum, there is little evidence supporting the idea that these centralized agencies have statistically significant effects on performance, volatility, or fiscal risk. This chapter provides qualitative and statistical evidence of the working of central monitoring agencies in Latin America and the Caribbean (LAC) to reduce both cash flow and contingent liability risk in SOEs. It presents quantitative and qualitative evidence that these agencies work to reduce uncertainty in performance and also tend to be better at managing the liability level of the SOE system. The empirical evidence is supplemented with some of the most salient experiments in centralized SOE monitoring in the region, namely those of Chile, Paraguay, and Peru.

This chapter discusses some of the disadvantages of centralized agency monitoring of SOEs. It emphasizes that as the number of SOEs that the agencies must monitor grows, the complexities and information asymmetries also multiply. Moreover, because of some of the limitations of the centralized agency model, these structures can be effective at monitoring medium-sized and small SOEs, but they can be ineffective when monitoring large, politically sensitive SOEs. This is because when dealing with SOEs that are too technically complex or too important politically, centralized agencies may not have enough bureaucratic capacity and political clout to monitor these SOEs and isolate them from politics. Thus, as this chapter and the following two chapters emphasize, central monitoring agencies are not a solution for all SOE

problems in all contexts; rather, political buy-in is needed to support the role of these agencies.

### **Centralized Monitoring Agencies as Political Agreements**

An important caveat is that the creation and empowerment of centralized monitoring agencies is a political compromise. Creating the agencies and passing laws mandating that SOEs must report to them, putting these agencies in charge of monitoring the performance of SOEs and punishing their deviations from strategic plans will have no practical impact without an explicit political agreement to ensure their independence. Without such an agreement, nothing mentioned in this section will have any practical consequences.

The creation of a centralized monitoring agency must include an agreement that politicians will not be involved in the day-to-day operation of SOEs, and that the managers of SOEs report to the agency. That is, there must be a significant change in the agency relationship between politicians and SOEs. This kind of agreement exists today in Colombia, Chile, and Peru, as well as to a lesser extent Paraguay. These experiences show that keeping SOEs apolitical is easier in smaller, less politicized firms, which is the reason for the recommendation throughout this volume that centralized monitoring agencies should not monitor larger, more politicized firms.

Additionally, as part of the political agreement to create these agencies, it has to be clear that these agencies can also mediate in the relationship between the government and the SOE when the government charges the SOE with quasi-fiscal operations. Either the centralized agency needs to have the mandate to prevent these quasi-fiscal operations, or it needs to have the tools to make them transparent and compensate them to avoid destabilizing the SOEs. As Teresa Ter-Minassian explains in Chapter 2 of this volume, quasi-fiscal operations need to be transparent, and the ministry of finance (MoF) has to compensate SOEs for any subsidy they may be providing as part of these operations. This type of transparent compensation is now common practice in Chile, Costa Rica, and Peru.

Finally, the objective of centralized SOE monitoring agencies is not just to improve financial performance. SOEs are often required to operate businesses that have limited returns and face frequent losses. Therefore, what these agencies should strive for as part of the political agreement for their creation are more predictable returns. That is, they should strive to minimize unnecessary losses, maximize the quality of the goods and services the government can provide, and avoid generating other unnecessary fiscal risks for the pertinent governments in their day-to-day operations.

## Centralized Agency Monitoring of SOEs in Latin America and the Caribbean

Based on recent experience in LAC countries, there are two types SOE monitoring models in the region: one relies on decentralized bureaucratic monitoring, and the other relies on centralized agency monitoring. The OECD has identified a variety of modifications within these frameworks, but this chapter focuses on these two broad models and points out some variations in different countries.

In the decentralized bureaucratic monitoring model, monitoring is split between the ministries of the relevant industry and the MoF for all budgetary activities. This model prevails in Central America, Mexico, and Jamaica. Argentina, Colombia, Ecuador, and Uruguay had this model until 2015. In countries that use bureaucratic monitoring, more often than not, the ministry of the relevant industry is responsible for the general monitoring of the firm and for providing strategic guidance (e.g., the ministry of mines for mining SOEs or the ministry of energy for national oil companies), and the MoF participates in the monitoring of the firms' finances, specifically monitoring the budget for the year and reporting on execution of budget items by the firm. In many countries, the MoF prioritizes the reporting of cash flow statements or statements of budget execution, rather than more standard balance sheets and profit and loss statements. In this system, the SOEs' boards of directors are usually composed of the minister of the relevant industry, the minister or vice minister of finance, and other government officials. Since monitoring is not these officials' main job, the attention they devote to each SOE is minimal, and they must monitor several SOEs at the same time. Therefore, most of the countries that use this system suffer from the multiple principals problem as well as the busy boards problem.

In the model that relies on centralized monitoring agencies, governments centralize the monitoring of a large proportion of the SOEs in a country (mostly medium-sized and small SOEs) in a structure that is either part of the MoF, the ministry of public enterprises, or the ministry of planning, and that operates with relative autonomy. These agencies have full-time staff dedicated to the monitoring of SOEs and their performance, execution of SOE strategic and investment plans, and timely collection of their financials. Therefore, these organizations require SOEs to submit annual balance sheets, profit and loss statements, statements of budget execution, and cash flow statements in an opportune manner. Most of these agencies also publish the financials of the SOEs that they monitor on a centralized website or require the SOEs to publish them on their webpages. These agencies mediate the financial relationship between SOEs and the government, minimizing requests for additional funds

from the government in the middle of the tax year. Using comprehensive balance scorecards, they focus not only on the provision of goods and services, but also on the financial sustainability of the firm.

There have been six experiments with centralized monitoring agencies in LAC countries. In Chile, the Public Enterprise System (Comité Sistema de Empresas Públicas, or SEP) has been in operation since 2001. In Paraguay, the State-owned Enterprise Supervision Council (Consejo de Supervisión de Empresas del Estado) has operated since 2006. Since 2016, Colombia has the Directorate of Public Holdings (Dirección General de Participaciones Públicas); Ecuador, the State-owned Enterprise Coordinating Company (Empresa Coordinadora de Empresas Públicas); and Argentina, the Chief Cabinet Minister (Jefatura de Gabinete de Ministros). In Peru, the government has relied on the SOHC National Fund for State Business Activity (Fondo Nacional de Financiamiento de la Actividad Empresarial del Estado, or Fonafe) to monitor 27 SOEs since 1999.

In Peru, Fonafe monitors companies that are majority- and minority-owned by the State, some that are publicly traded in the stock market, and others that are in liquidation. A board of directors that includes ministers monitors Fonafe. However, Fonafe enjoys a degree of separation from the government as it appoints SOE managers and boards of directors, approves their strategic and investment plans, and monitors and approves their debt issues. The National Congress of Peru oversees the budget, investment, and debt issues of the SOEs that participate in Fonafe, but the SOEs have no channel to negotiate ad hoc budget allocations with the government during the fiscal year (i.e., there are fixed timelines and the relationship of the SOE is with Fonafe, not with politicians). Therefore, there appears to be a stricter hard budget constraint and fewer political mandates for SOEs in Peru.

In Chile, the SEP operates like a holding company and shares many features with Fonafe. It also monitors SOEs' performance and execution of their strategic plans, centralizes the financial reporting, and appoints boards of directors and CEOs to the SOEs it controls.

The Department of State-Owned Enterprises (Departamento de Empresas Estatales, or DEST), part of the Brazilian Ministry of Planning, has been in operation since 1979 and is in charge of monitoring SOEs by collecting detailed information cash flow and profit and loss and balance sheets. Part of its mandate is to publish these financials in a timely manner on an easily accessible webpage. DEST is also charged with enforcing governance standards.

In Argentina, Colombia, and Ecuador, the experiments with centralized agencies are too recent to draw conclusions about their effectiveness. Yet, since these agencies imposed tighter controls on reporting and governance

and stricter timelines to report financials and request funds for strategic and investment plans, in some cases the results have been almost immediate (Argentina, 2017).

Table 5.1 summarizes the different models of SOE management in large LAC economies. In most countries, the monitoring agency reports to the MoF. In South America, there has been an important migration to centralized monitoring agencies. Some of these agencies have been in place for over a decade, while in others (e.g., Argentina and Colombia), government efforts to comply with OECD best practices in corporate governance of SOEs, with an eye to accession to this organization, have encouraged the migration.

Table 5.1 also shows that not all SOEs in the countries that have centralized monitoring are under the purview of the agency or holding company. It is common to allow the largest SOE or those from complex or strategic industries to operate autonomously. The reason for the variation in ownership models within countries is that governments often need to regulate separately the SOEs in complex industries that require technical and industry-specific expertise. For instance, the ministry of energy usually supervises oil and gas SOEs. Similarly, more technical ministries tend to be in charge of monitoring firms in high-tech sectors.

The OECD and World Bank prefer the centralized monitoring agency model because it reduces the multiple principals problem, facilitates the introduction of ex ante procedures to guide the behavior of SOE managers, and helps to standardize SOE disclosure requirements, timelines, procurement policies, and auditing procedures. The OECD has spent a great deal of time and effort convincing governments of these advantages, recommending in certain studies a centralized ownership structure and outlining the disadvantages of the more decentralized model in which various ministries monitor SOEs at a sectoral level (OECD, 2005; 2011).

The value of centralized monitoring agencies has to do with the professionalization and organization that they bring to the SOEs that they monitor. This translates into healthier financial reporting procedures and standards, better selection of SOE officers and auditors, and enhanced procurement procedures, among other benefits.

These centralized agencies operate as vehicles to improve transparency and centralize information either on their webpages or on those of the firms that they monitor. In countries with centralized monitoring agencies, such as Chile and Peru, there are centralized repositories of all the financial data of the SOEs. The webpages of the SOEs contain detailed financial reports that track basic financials and the progress of capital projects, monthly cash flows, and budget execution. In contrast, in most of the countries with decentralized

**Table 5.1. Models of Centralized Control and Monitoring of SOEs in Selected Countries (as of 2016)**

Country	Are all firms monitored by the central agency? If not, what firms are left out?		Are there holding companies at the federal level?		Are there holdings by sector	
	Centralized agency or holding	Centralized agency or holding	Are there holding companies at the federal level?	Are there holdings by sector	Are there holding companies at the federal level?	Are there holdings by sector
Argentina	Jefatura de Gabinete (at the Presidency level)	No, YPF operates independently.	No	No		No
Bolivia	Yes	No, all large firms (especially energy firms) are left out. It helps develop Lacteol, Papelbol, Cartonbol, Ecebol (cement), Azucarbol-Bermejo, and EBA (almond exporting company).	Yes, Servicio de Desarrollo de las Empresas Públicas Productivas (SEDEM) and Empresas Públicas Nacionales Estratégicas (EPNE)	No, only at the federal level.		
Brazil	DEST (monitoring); BNDESPAR is a holding	All	Yes, BNDESPAR (for minority investments in private enterprises)	Yes, Eletrobras in electricity; Petrobras in oil and gas and Banco do Brasil for banking.		
Chile	Sistema de Empresas Públicas (SEP)	Almost all, except Codeco and Empresa Nacional de Petróleo.	Yes, Corfo holds stakes in private firms.	No		
Colombia	Dirección General de Participaciones Estatales (established in 2015)	No, Ecopetrol and many partially privatized firms are outside the control of this firm.	Not at the federal level	Not properly; pyramidal structures in electricity sector.		
Ecuador	Empresa Coordinadora de Empresas Públicas (EMCOEP) (established in 2015)	No, large gas companies are left out.	Yes, EMCOEP is a quasi-holding company.	No		
Mexico	No	No	No	No		
Paraguay	Consejo Nacional de Empresas Públicas (CNEP)	No, Itaipu (electricity generation)	No	No		
Peru	No, Fonafte regulates all but Petroperu	No, Petroperu is out.	Yes, Fonafte	No		
Uruguay	No	No	No	No		

*(Continued on next page)*

**Table 5.1. Models of Centralized Control and Monitoring of SOEs in Selected Countries (as of 2016)** (continued)

Country	Do monitored SOEs follow international accounting standards?	Is there a punishment for not filing financials on time?	Does the agency select CEOs of SOEs?	Do SOEs have independent board members?	Do SOEs publish their annual reports on a webpage (in a timely manner)?	Are there performance contracts for these SOEs or a formal evaluation of performance tied to the budget of the SOEs?	How many professionals in the agency work in the SOEs?	How many firms do they monitor?	Do they approve annual strategic or investment plans?	Do they centralize procurement?
Argentina	No	No	Yes	Yes	No	No, there are periodic reviews but not contracts	6	46 nonfinancial and 6 financial	Yes	No
Bolivia	Yes	No	No	No	No	No	NA	NA	Yes	No
Brazil	Yes	Yes	No	Yes, but only for partially privatized SOEs.	Yes	Yes	N.A.	About 80 if subsidiaries are included.	No	No
Chile	Yes	Yes	Yes	Some have them.	Yes	Yes	30	22	Yes	No
Colombia	Yes	No	Yes, when they are partially privatized.	Yes, when they are partially privatized SOEs.	Yes, but not necessarily in a timely manner.	No	15	34	No, Congress approves them.	No
Ecuador	No clear accounting standards	No	Yes, by law EMCOEP.	They can	No	No	NA	12	Yes	No
Mexico	No	No	No	Large energy companies and some small SOEs	Yes	No	NA	73	No	No
Paraguay	Yes	No	No	Yes	Yes	Yes	17	9	Yes	No
Peru	Yes	n.a.	Yes	Yes	Yes	Yes	37	34	Yes	Yes, partially
Uruguay	No	No	No	No	No	Yes	NA	NA	NA	NA

Source: Authors' elaboration.



monitoring, financial information is rarely kept in a single repository. The webpages of most SOEs do not have all the financial reports organized and easily accessible, and what is available is often incomplete or too aggregated to serve as a good monitoring device (with notable exceptions, such as in Colombia).

When working with SOE data from countries with decentralized monitoring, financials are dispersed on different webpages, and those reports focus on cash flows and statements of budget execution rather than balance sheets and profit and loss statements. The problem with this approach is that no one is looking at the firm in its entirety; thus, there is no holistic approach to it and fiscal risks are more likely to arise.

Centralized SOE monitoring agencies also have better talent management practices. Since more often than not, centralized agencies monitor SOEs that operate under a corporatized model, they usually require management professionals to lead them. Thus, they have become agencies in which expertise in management is not only valued but required. Having agencies with experienced professionals has created semi-autonomous technocratic islands that can work more freely to minimize cash flow risk and fiscal risks overall, without the political constraints that hinder decentralized monitoring structures.

Centralized monitoring agencies or SOHCs also reduce information asymmetries and monitoring problems. They consolidate a variety of firms under one principal, thus reducing the multiple principals problem. They also have professional management dedicated exclusively to monitoring and managing SOEs, designing strategic plans, and processing information coming from SOEs, thus reducing information asymmetry. If the SOHC is legally a private entity following corporate law, it can restructure firms and fire and hire workers with more flexibility than when SOEs are treated as government subsidiaries following administrative law. SOHCs can share knowledge and best practices in a variety of areas, as well as centralize procurement for the entire portfolio of firms, taking advantage of economies of scale to increase their bargaining power with suppliers. They can centralize information technology to monitor the operations of all firms in the portfolio and standardize software for control and financial reporting. They can also have a central approach to the hiring, firing, compensation, and training of executives and staff of all SOEs in the portfolio, and they can centralize the training of auditors for all SOEs in the portfolio.

The centralized agency reduces the discretionary nature of fiscal governance. It can improve fiscal governance by reducing the soft budget constraint problem (i.e., by minimizing the risk of unexpected bailouts), but also by reducing the government's capacity to extract public benefits of control. If

the centralized agency has financial autonomy (e.g., if it is a holding company like Fonafe) and it is in charge of approving an SOE's investment plans, it can act as a buffer between the government and the SOE, reducing the possibility of extraction from SOEs as well as the soft budget constraint (as long as there is no discretion in the way it disburses funds to SOEs). In Peru, Fonafe not only monitors the budgets and capital projects of SOEs but it is also the only organization responsible for approving SOE expenditures and projects. It has the financial autonomy to provide funds to these SOEs to incur such expenditures.

### ***Disadvantages of Centralized SOE Monitoring Agencies***

Centralized monitoring agencies and SOHCs have two disadvantages. First, they cannot fully eliminate the fiscal governance problem because they cannot prevent governments from controlling prices and thus financially affecting the SOEs they control. Therefore, governments in LAC and other regions have assigned to these agencies the oversight of the less politically sensitive SOEs. This means that centralized agencies are usually good at monitoring medium-sized and small SOEs, which are usually less politically controversial.

Second, as holding companies become larger and more complex, there is the risk that the information asymmetries between the holding company and each SOE may increase. Therefore, the optimal size (and diversification) of the centralized agency or holding company can end up being relatively small or focused on the less politically sensitive, less complex firms. Some countries in Asia have experimented with large holding companies—with 70 or more SOEs—with mixed results. In Malaysia, Khazanah Nasional Berhad has been less effective at promoting financial efficiency among its portfolio firms than Singapore's Temasek, which has a smaller yet diversified portfolio of extremely efficient firms. Other governments have created holding companies at the industry level as a way to reduce the complexities of running a diversified centralized agency or holding structure. In Brazil, Spain, and more recently China, the governments have created holding companies in specific industries. In Spain, in the late 1970s and early 1980s, the government created three holding companies to manage firms and privatize them if they were inefficient: the INI Group (manufacturing), the INH Group (oil and gas), and the Patrimonio Group (telecommunications, banking, and other services). Today, the majority of SOEs in Spain (majority- and minority-owned) are controlled by a single holding company called State Industrial Holding Company (Sociedad Estatal de Participaciones Industriales, or SEPI). In Brazil, in the early 1970s, the government created holding companies by industry, including Petrobras for oil and gas, Siderbras for steel mills,

Eletrobras for electricity companies, Nuclebras for the nuclear energy complex, and REFASA for railways (Treat, 1983).

In sum, the central monitoring agency and holding company structure offers multiple advantages that stem from centralization and economies of scale, but it also has disadvantages. That is why, overall, the centralized monitoring agency model is more effective in controlling smaller SOEs from industries that do not require sophisticated technical expertise. It is advisable to leave the control of complex SOEs outside the purview of these agencies.

### ***Why Large SOE Are Usually Left Out of Centralized Monitoring Agencies***

Given the disadvantages of centralized agency monitoring, it follows logically that large SOEs are usually better monitored if they are outside the purview of these agencies. There are at least two main reasons to keep large SOEs outside these agencies. First, large SOEs are usually more politically sensitive or more politically important than smaller SOEs. Governments usually keep large SOEs because they are in key infrastructure sectors such as electricity, they generate revenue, in the case of oil and gas companies or mines, they are too geopolitically strategic to be left to the private sector to operate (e.g., the Panama Canal Authority), or a combination of these factors (e.g., Itaipu Binacional generates a large amount of revenue for Paraguay, it is geostrategic, and is a key infrastructure company). These firms are, therefore, more likely to be subject to political intervention and quasi-fiscal operations (e.g., they are used to employ people or control prices of key inputs). Centralized SOE monitoring agencies, in these cases, may be incapable of isolating these firms from politics. Think of what happened to Brazil's DEST, in 2014 and 2015, when Petrobras had to restate its financials due to irregularities in its contracts (i.e., due to corruption and over-invoicing of projects and acquisitions). DEST is the agency in charge of collecting the financials of all SOEs in Brazil and is also legally empowered to punish those that submit their financials late. Yet, the Petrobras scandal showed that the agency had little political clout to demand action from Petrobras. There was no penalty DEST could impose that would be harsh enough to expedite the process or prevent it from happening again.

Second, large SOEs usually operate in industries that require greater technical expertise and a larger number of monitors (given their technicality). This may overstretch the resources of centralized monitoring agencies, requiring them to specialize in specific industries and eliminating some of the economies of scale in monitoring. In this case, the expertise of line ministries may be more relevant for monitoring. This kind of capability needs to be accompanied with more controls, monitored by external analysts and rating agencies. Investors could also monitor these large SOEs if they were partially privatized.

## Differences between Centralized and Decentralized Monitoring of SOEs

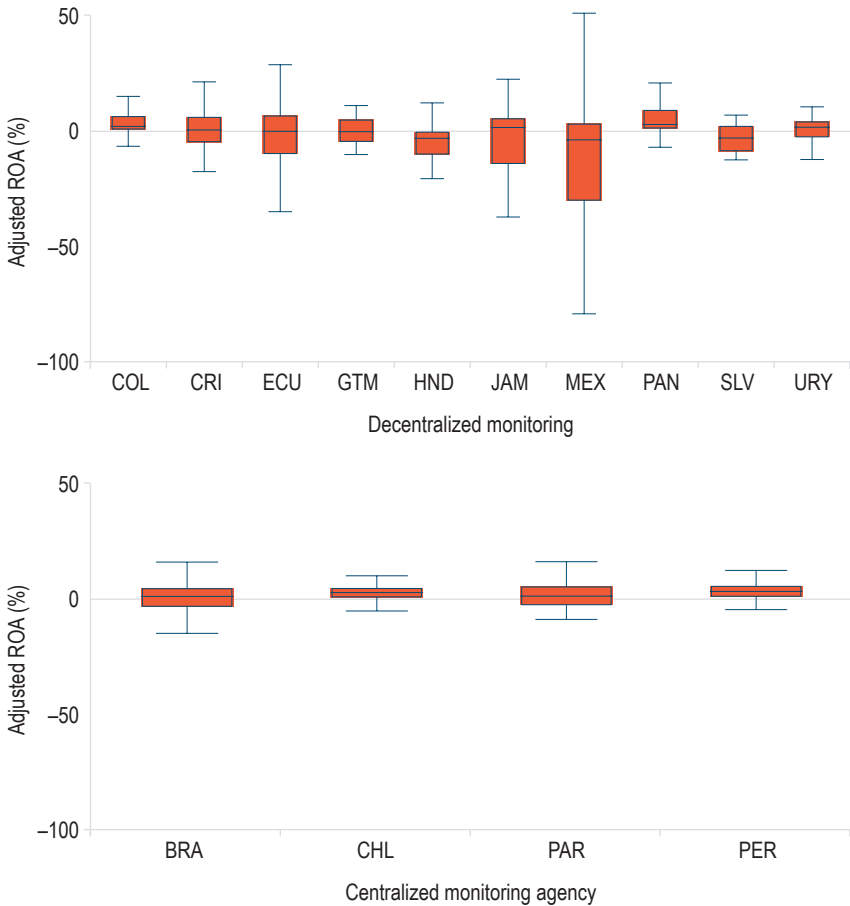
In this section, the database of Latin American SOEs was used to detect any significant differences in the fiscal risks generated by SOEs under centralized and decentralized monitoring models. First, the section points out general patterns followed by some of the differences using multivariate regression analysis, controlling for a variety of firm-, industry-, time- and country-level factors that may affect performance. The pattern that emerges from these analyses suggests that in countries with centralized monitoring agencies, SOEs have less volatile performance and lower fiscal risks, proxied by SOE liabilities to gross domestic product (GDP).

The first piece of evidence pertains to the financial performance in SOEs under central SOE monitoring. Figure 5.1 separates the volatility in performance (measured using return on assets (ROA)) of firms by country, keeping to the bottom half those firms that are part of the centralized monitoring system in Brazil (under DEST), Chile (under SEP), Paraguay (under CNEP), and Peru (under Fonafe). In Figure 5.1, all adjusted net income is added up by country by year and divided by the sum of all assets by country by year. The graph is a condensed summary of volatility in performance by country over time. The ROA is less volatile and usually positive in countries with centralized monitoring. In countries with bureaucratic monitoring, there is more dispersion of ROA, and it is more frequent to find the median in negative territory, even if there is less volatility in some countries.

The exercise is repeated in Figure 5.2, but only adjusted income to GDP is plotted. The picture is similar to the previous figure. In countries with centralized SOE monitoring, there is less dispersion in income and fewer losses, on average, while adjusted income to GDP shows more dispersion when there are no central agencies. In countries such as Panama and Peru, the figures are large because their largest SOE is driving the results for most of the year. Still, there are many countries for which adjusted net income is consistently negative.

It may be easier to gauge the difference in the monitoring of SOEs by looking at liabilities to GDP in the two systems (Figure 5.3). Overall, the liabilities to GDP of countries without centralized SOE monitoring are higher than in countries with centralized monitoring, excluding Brazil, where the centralized regulatory agency has less control over SOEs. In fact, in Chile, Paraguay, and Peru, where a centralized agency that mimics a holding company (or is a holding company in the case of Fonafe) does the monitoring, liabilities to GDP are systematically among the lowest in the region. In Brazil, DEST does

**Figure 5.1. Volatility of Return on Assets in Countries with Bureaucratic Monitoring vs. Central Monitoring Agencies (average 2010–2016)**

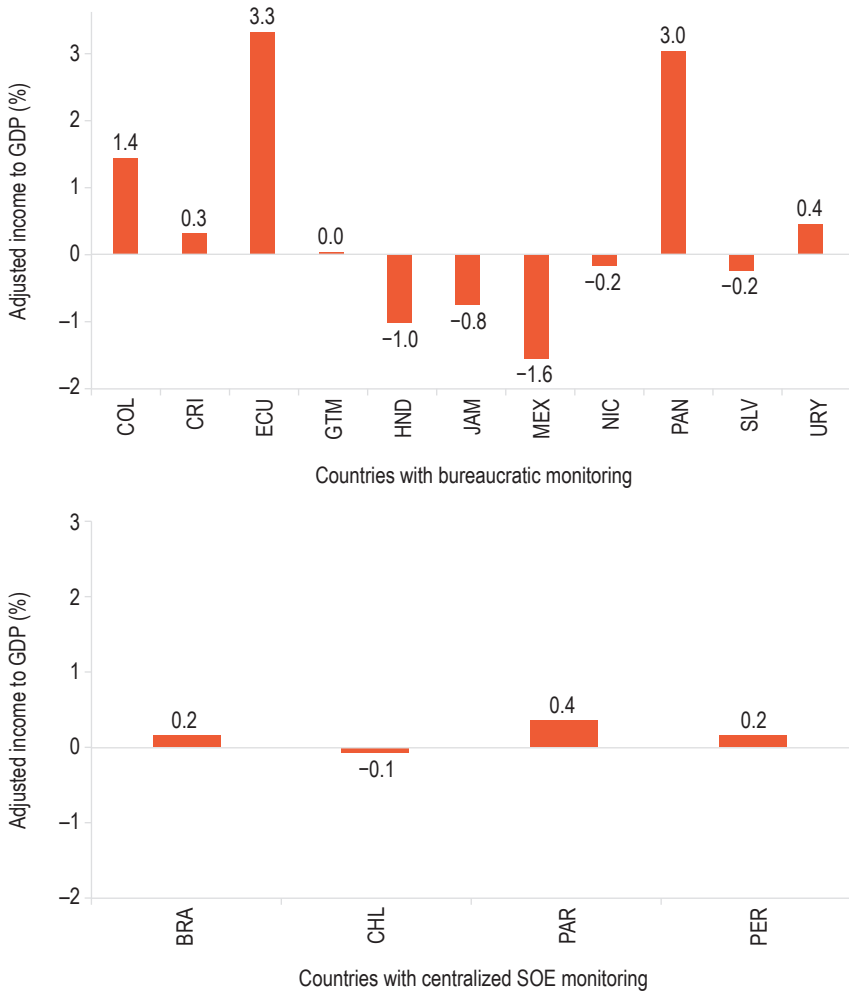


Source: Authors' elaboration.

have centralized monitoring albeit with less power to control the debt issued by SOEs.

The other striking piece of evidence is the percent of firms with losses, on average, under the two different systems of monitoring (Figure 5.4). It is clear that Chile, Paraguay, and Peru have more control over losses than most of the countries with decentralized monitoring (except Colombia and Panama). This graph plots losses using adjusted net income, which is the net profit minus the fiscal transfers the SOE received in that year. Thus, the figure in part may be showing that under-centralized SOE agencies, SOEs depend less on fiscal transfers to survive year to year.

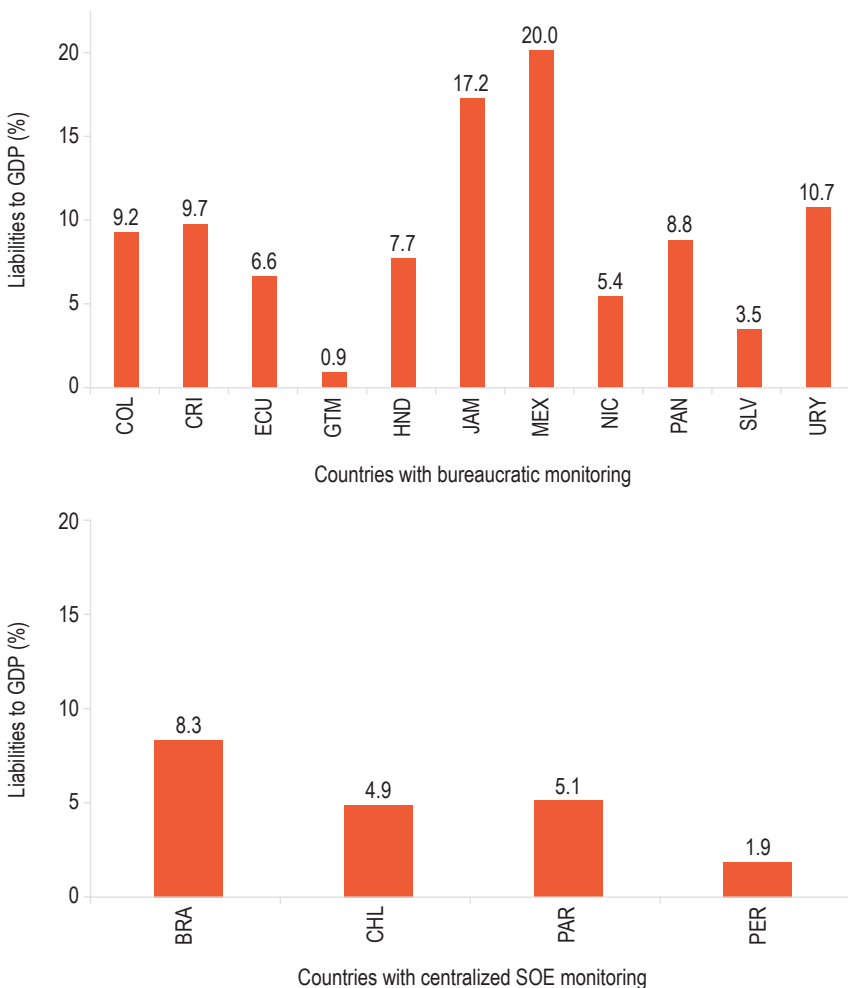
**Figure 5.2. Average Return on Assets in Countries with Bureaucratic Monitoring vs. Centralized Monitoring Agencies (average 2010–2016)**



Source: Authors' elaboration.

All the figures in this chapter highlight the clearly visible differences in the performance of SOEs in countries that use centralized agency monitoring. Still, it is important to control for a variety of factors that may be driving the differences in results across monitoring systems, such as the industry, leverage, and size of the SOE, or the macroeconomic context and quality of the bureaucracy at the country level. The following section uses multivariate regression to try to disentangle these differences using a variety of controls and fixed effects.

**Figure 5.3. Liabilities of SOEs to GDP in Countries with Bureaucratic Monitoring vs. Centralized Monitoring Agencies (average 2010–2016)**

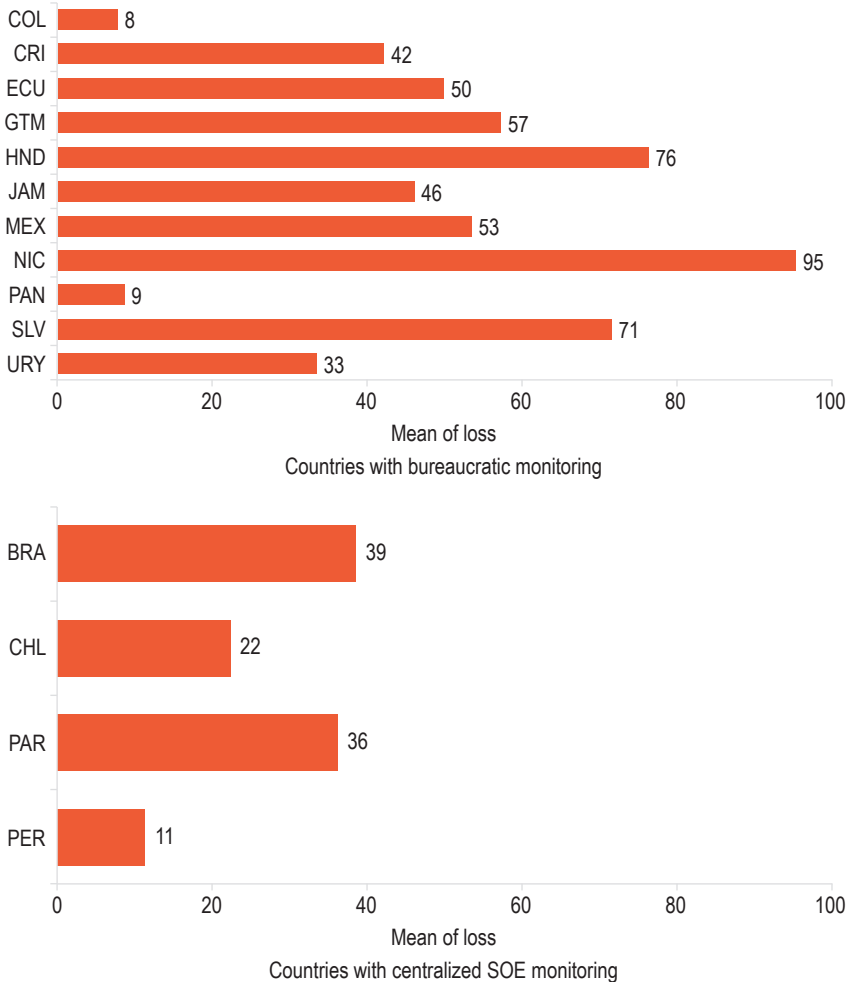


Source: Authors' elaboration.

### ***Centralized Agency Monitoring and its Effects: Ordinary Least Squares Estimates***

Table 5.2 depicts the effect of centralized agency monitoring in a multivariate regression with panel data. The regression specifications examine the correlation between a variety of variables that proxy for fiscal risk and the variables that code for the type of SOE monitoring regime in the country. It shows the effect of these different monitoring mechanisms on financial performance—return on equity (ROE), ROA, net margin—and on the two types of fiscal risk: cash flow

**Figure 5.4. Percent of SOEs with Losses in Countries with Bureaucratic Monitoring vs. Centralized Monitoring Agencies (average 2010–2016)**



Source: Authors' elaboration.

Note: Bars represent the number of company-year observations in which adjusted net income was negative in a year, averaged over 2010–2016.

risk (i.e., payroll to revenues and financial expenses to revenues) and contingent liabilities (i.e., the leverage ratio and SOE liabilities to GDP). The firm-level controls are size (log of assets), leverage (for the financial performance regressions), and returns in some of the regressions. A variety of fixed effects are also included to control for important unobservables and trends. All the regressions have year dummies to control for any regional or global macroeconomic conditions that may similarly affect all firms in the sample. Industry dummies and



**Table 5.2. Effects on Performance and Fiscal Risk of Having a Centralized SOE Monitoring Agency, 2010–2016**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Variables	Adjusted ROE	Adjusted ROA	Net margin	Payroll to revenues	Financial expenses to revenues	Leverage ratio	Liabilities to GDP
Country has centralized SOE monitoring	17.43** [7.144]	10.02*** [2.639]	-0.336 [0.837]	-0.284 [0.333]	-0.790 [3.550]	0.962 [0.661]	-0.635* [0.358]
SPE or PPP	19.50** [9.480]	1.656 [4.020]	0.982 [0.836]	-0.0786 [0.154]	-10.52 [10.02]	-0.421 [0.875]	0.327 [0.220]
Listed SOE	24.53* [13.58]	-1.747 [3.560]	-0.688 [0.667]	0.377 [0.633]	-2.165 [1.734]	0.791 [1.274]	-0.214 [0.360]
<b>Controls</b>							
Firm size (log of assets)	Y	Y	Y	Y	Y	Y	Y
Control for leverage (firm)	Y	Y	Y	Y	Y	N	Y
GDP lagged, GDP growth, quality of government, constant and dummy for small economy	Y	Y	Y	Y	Y	Y	Y
Dummies for year, industry and ind. x year	Y	Y	Y	Y	Y	Y	Y
Observations	773	773	771	424	394	821	821
Number of SOEs	186	186	186	116	93	188	188
Num. of clusters (countries)	13	13	13	12	12	13	13
R2 overall	0.873	0.625	0.406	0.525	0.989	0.200	0.522

Source: Authors' estimations using the IDB Database of State-Owned Enterprises in Latin America and the Caribbean (for sources, see Appendix 1.1 on page 43).

Notes: Some of the observations are lost because of lack of data on quality of government. Central SOE monitoring dummies are equal to 1 when the country has a central agency or holding that exercises monitoring and has at least some control of SOEs (such as Brazil, Chile, Peru, and Paraguay). Colombia and Ecuador created a centralized agency in 2015; thus, the study looked at whether including those two countries for 2016 as having central SOE monitoring makes a difference and the results are extremely similar. Robust standard errors in brackets. Errors clustered at the country level. Statistical significance at 1, 5, and 10 percent denoted with \*\*\*, \*\*, and \*, respectively.

industry\*year dummies are included as a way to control for industry-specific effects that may explain differences in performance and industry trends, such as changes in prices. There is also a dummy for whether the country is a small economy (for Central America and Uruguay) as well as one for whether the SOE in question is listed in the stock exchange or is configured as a company with participation from private investors (a sort of special investment vehicle or public-private partnership).

Country fixed effects cannot be included because there are not enough firms included in the centralized monitoring system in Chile, Paraguay, and Peru (and none for Brazil). Thus, if ordinary least squares (OLS) with random effects is used, it may confuse the effect of centralized SOE agency monitoring with country characteristics like the quality of the bureaucracy or country-specific macroeconomic conditions. Therefore, in all regressions, lagged GDP, GDP growth, and an index of the quality of the bureaucracy are included (Dahlberg et al., 2015) to control for country-specific institutions that may be determining the quality of SOE management. Standard errors are clustered at the country level to control for other country-specific variation.

After including all of these controls in an OLS regression, the effects of three monitoring mechanisms are examined. First, Table 5.2 illustrates the effect of having a centralized SOE monitoring mechanism at the country level. In this table, having a centralized SOE monitoring agency is correlated with higher adjusted ROE and adjusted ROA; it is not correlated with higher or lower net margins or higher or lower payroll to revenues or financial expenses to revenues, and it seems to be correlated positively with leverage, but negatively with the size of liabilities to GDP. The results are robust to adding a dummy for oil companies (yet Pemex was excluded from the sample as it has a negative ROE).

The effects seem to be large and economically relevant. The ROA for SOEs in countries with central agencies is 10 percent higher, on average, than in countries without such agencies. This is a large and relevant figure, given that average ROA for the sample is -6 percent. This means that countries with centralized agencies tend to have profitable SOEs, on average. In terms of liabilities to GDP, in countries with central monitoring, the average SOE has liabilities to GDP -0.635. This is lower than the average SOE in the region, which has liabilities to GDP of 0.69.

The findings in Table 5.2 suggest that in countries with centralized monitoring agencies, SOEs have better performance and fewer liabilities relative to GDP (one measure of fiscal risk). Yet, they also suggest that there is still more to do, since the agencies are not reducing other sources of fiscal risk, such as the size of the payroll, the size of interest payments, and the leverage ratio. In other words, governments not only need to improve central monitoring by introducing or using centralized agencies; those agencies and the mechanisms of control within the government also need to control the size of the debt of SOEs and the expansion of debt and operating costs (e.g., payroll expenses).

Table 5.2 also shows that there does not seem to be a significant correlation between having an SOE listed in the stock exchange and having better

performance or lower fiscal risk, except for the first specification which shows that listed SOEs have higher ROE, on average. This result, however, does not hold for ROA and other performance variables, which is somewhat puzzling given the large literature on the importance of corporatization and listing to improve the monitoring of SOEs, especially those in complex industries. The finding could also indicate some overlap in the use of centralized agencies and listing SOEs in the stock exchange and that the stronger effect seems to come from the centralized agencies.

### ***Centralized Agency Model: Chile's Public Enterprise System***

Chile is an interesting case because the function of the government as owner has a hybrid structure. On the one hand, it has large SOEs, such as the mining company Codelco, the oil company ENAP, the state bank Banco Estadal de Chile, the national mining company ENAMI, and the national television network TVN, under the direct control of the government through the line ministries. On the other, it has a network of 20 SOEs under the direct control of the centralized monitoring agency (Table 5.3).

Chile created the Public Enterprise System (Sistema de Empresas Públicas, or SEP) in 2001 as a continuation of the State Management System (Sistema de Administración Estatal, or SAE), which was it created in 1997 after the Chilean Economic Development Agency (Corporación de Fomento de la Producción, or Corfo), one of the development financial institutions of the Chilean government, had taken over a group of SOEs that were facing financial difficulties. That is, in 1997, Corfo created the SAE to oversee the operations of a variety of SOEs, with enough autonomy to appoint board members in these firms. The MoF of Chile also gave the SAE a variety of legal powers to monitor and control the SOEs under its purview.

The SEP, which exists today, has a legal personality that allows it to exercise more control over the SOEs it monitors.<sup>1</sup> Its mission is to represent the government of Chile in its role as owner and maximize the economic value of the SOEs it monitors. Part of its mission is the promotion of efficient management and transparency.

Today, SEP monitors 20 companies, mostly in the port, transport, and services sectors. There are 10 port companies under its supervision, as well as the state railway company EFE, the Santiago Metro, and a variety of services firms that range from the national mint (Casa Moneda), the postal service (Correos Chile), the lottery (Polla Chilena), the Free Trade Zone of Iquique, two water and sewage companies, and agricultural product distribution firms (Table 5.3).

---

<sup>1</sup> See the Corfo Agreement 1879, of January 1997.

**Table 5.3. SOEs Monitored by the Public Enterprise System in Chile**

Industry	Company
National mint	Casa de Moneda de Chile S.A.
Free trade zones	Zona Franca de Iquique S.A.
Urban transportation	Empresa de Transporte de Pasajeros Metro S.A.
Lotteries	Polla Chilena de Beneficencia S.A.
Postal service	Empresa de Correos de Chile
Ports	Empresa Portuaria Antofagasta Empresa Portuaria Arica Empresa Portuaria Austral Empresa Portuaria Chacabuco Empresa Portuaria Coquimbo Empresa Portuaria Iquique Empresa Portuaria Puerto Montt Empresa Portuaria San Antonio Empresa Portuaria Talcahuano San Vicente Empresa Portuaria Valparaíso
Railways	Empresa de los Ferrocarriles del Estado
Water and sewage	Empresa Concesionaria de Servicios Sanitarios S.A. Empresa de Servicios Sanitarios Lago Peñuelas S.A.
Commodities trading and marketing	Comercializadora de Trigo S.A. Sociedad Agrícola y Servicios Isla de Pascua Ltda.

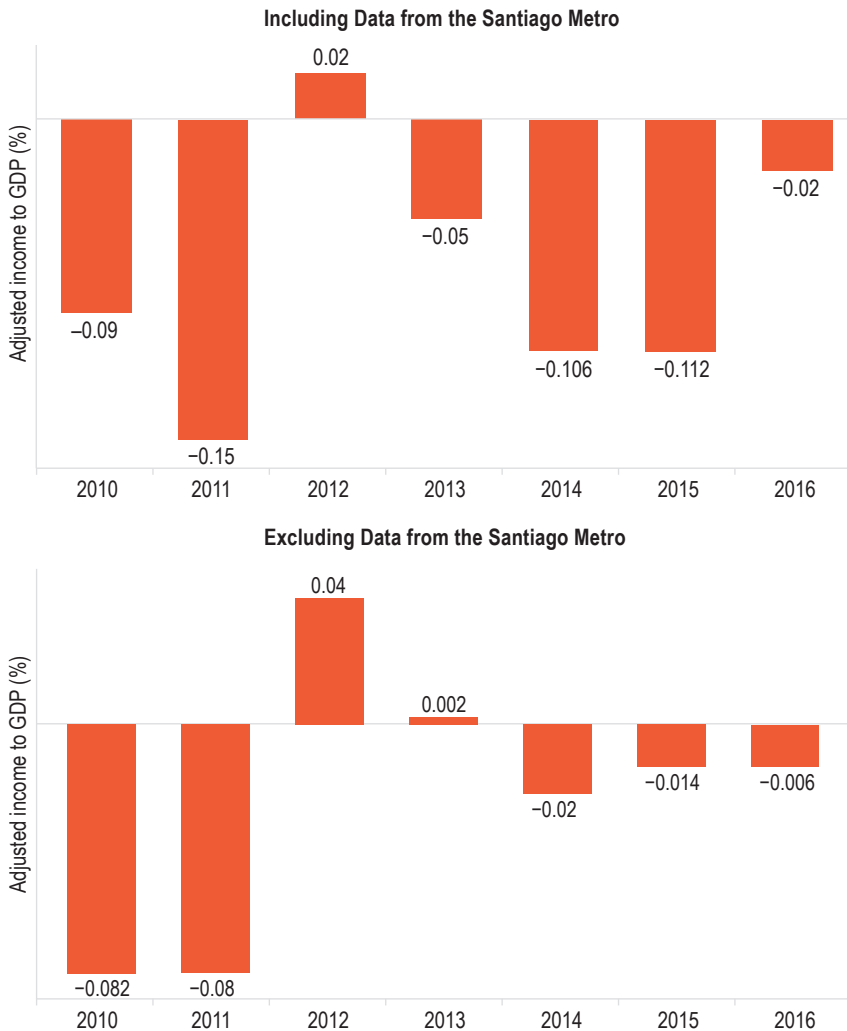
Source: [www.sepchile.cl](http://www.sepchile.cl).

The performance of the companies under SEP's supervision has been improving over time. Yet, losses of the Santiago Metro offset most of these improvements. Figure 5.5 shows the sum of the adjusted net income of all of SEP's firms with and without the metro. It is clear the Santiago Metro incurs on the bulk of the losses for the SEP-affiliated firms and, for that reason, increasing the tariffs for the riders became a priority for the Chilean government in the fall of 2019. Unfortunately, these adjustments were met with strong resistance and mass demonstrations in the streets of the Chilean capital.

Officially, the SEP is charged with the following:

- Representing the government of Chile as an owner in the SOEs in which it is directly a shareholder or controller.
- Nominating members of the SOEs' board of directors.
- Approving and revising the strategic and development plans and mission of the SOEs it monitors.
- Approving and revising the annual budgets before they are presented to the MoF.

**Figure 5.5. Adjusted Net Income of the Chilean Public Enterprise System's SOEs 2010–2016 (with and without data from the Santiago Metro)**



Source: Authors' estimations using the IDB Database of State-Owned Enterprises in Latin America and the Caribbean (for sources, see Appendix 1.1 on page 43).

- Approving quarterly financial reports, which include the physical progress of the projects included in their development plans, progress in their key performance indicators and goals.

The SEP has a board of directors and an executive director in charge of monitoring and providing guidance to the SOEs under their purview. The board has nine members, three nominated by the president, one nominated by the

chairman of the board, two members nominated by the MoF, one nominated by the Ministry of the Economy, Development and Tourism, two nominated by Corfo and two more who can be nominated by the Ministry of Mines or the Ministry of Transportation and Telecommunications.

As part of its mission, the SEP gathers a variety of reports and plans from the SOEs it monitors. These include the following:

- Strategic plans (yearly at the end of August); the plan should include an evaluation of the previous year plan by the board of directors, including whether the company met the objectives, investment goals, and other goals set out the year before.
- Annual management plans; the plan also includes an evaluation of the previous year's plan.
- An annual budget.
- A monthly management report, sent on the 20th day of each month, both to the board and SEP.
- A detailed plan for the use of funds for firms that issue debt with government guarantees.
- Port statistics; port companies send a variety of statistics for this report on the 20th day of each month.
- Annual reports that have to be submitted during the first quarter of the year covering the previous calendar year.
- External auditor reports that all firms need to send by June 30th at the latest.

The selection of external auditors by each SOE is decided in coordination with the SEP. Each year, before March 15, SOEs send a proposal with three external auditors and a table explaining the criteria used in the selection, which is approved by the shareholders or the board in coordination with the SEP. The SEP also requires a variety of other reports on legal issues, hiring of executives, board meeting minutes, and a letter from the chairman of the board to the SEP.

The SEP has also used management plans for the port companies it monitors. In these plans, the SEP sets out goals and commitments for the company and the board of directors for 12 months. The goals include financial and operational goals. The plan is proposed by the company but has to be approved or amended by the SEP (DECREE 96, 2013). The management plan goals are then sent to the Ministry of Transportation and Telecommunications. For each of the indicators set out in the plan, the SEP and the ministry evaluate the accomplishments of the goals annually, and managers and directors receive bonuses when such goals are met or exceeded.

**Table 5.4. SOEs Monitored by Peru's Fonafe (2017)**

Industry	Companies
Electricity generation	Egasa, EGEMSA, ELECTROPERU, Egesur, San Gaban
Electricity distribution	Electrocentro, Electronorte, Electronoroeste, Hidroandina, Adinelsa, Electro Oriente, Electro Puno, Electro Sur, Electro Sur Este, Electro Ucayali, Seal
Oil and gas	Perupetro
Finance	Banco Agropecuario, Banco de la Nacion, Cofide, Fondo Mi Vivienda
Infrastructure	Sedapal, Corpac, ENAPU, SIMA Peru, SIMA Iquitos, FAME
Diverse services	EsSalud (Social security-healthcare), Activos Mineros, ENACO (Coca commercialization), FAME (weapons manufacturing for the Army), Serpost (post office), Editora Peru (Printing), Ecsvicsac (security services), Silsa (janitorial services), Seman Peru (airplane maintenance)
Minority shareholdings	18 firms
SOEs in liquidation	Banmat, BANVIP, Etecen, Enace, Enafer, Centromin Peru

Source: [www.fonafe.gob.pe](http://www.fonafe.gob.pe).

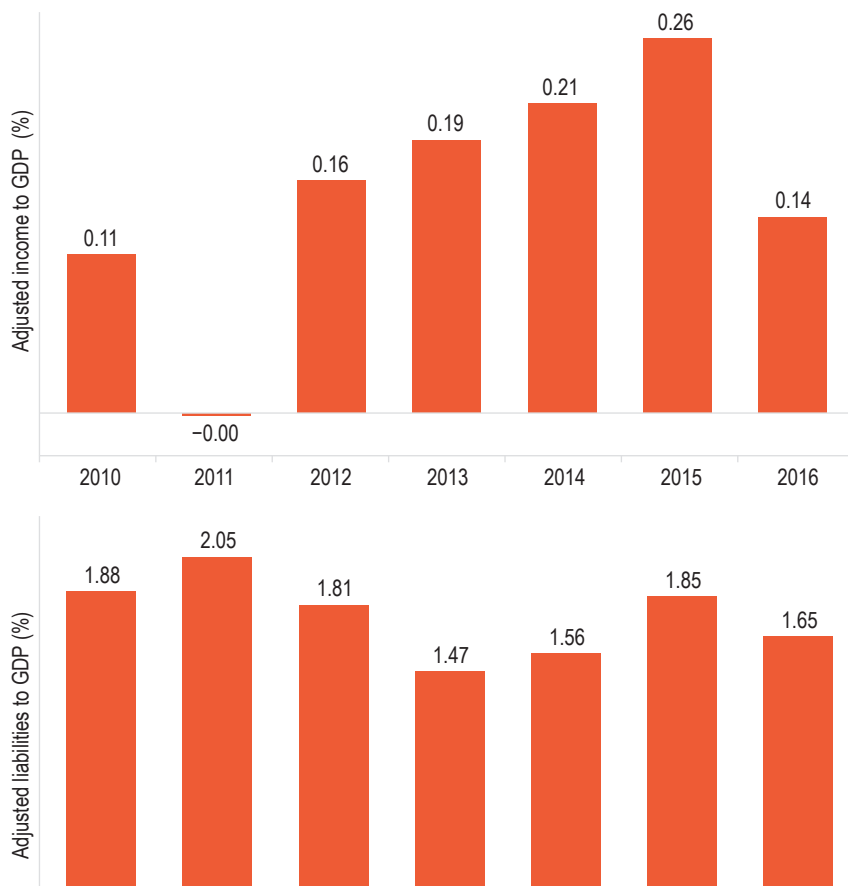
### **Corporate Holding: The Case of Peru's Fonafe**

Fonafe is a holding company that monitors the performance of 37 Peruvian SOEs (34 nonfinancial), except Petroperu. It was created in 1999 to represent the government as an owner and to implement best practices in corporate governance and management in these enterprises. It also controls the government's minority shareholding positions in 18 firms and oversees the liquidation of 6 more SOEs (Table 5.4).

Fonafe controls firms in electricity, oil and gas, water and sewage, infrastructure, transportation and financial services. It serves as the holding company for the electricity sector (both generation and distribution). Fonafe also controls Perupetro, a company that oversees and manages oil concessions, the state-owned banks, the airports (Corpac), the three SOEs in ports (ENAPU, SIMA Iquitos, and SIMA Peru), a variety of companies that include printing, security, janitorial services, airplane maintenance, and weapons manufacturing for the Army of Peru (Table 5.4).

The main characteristic of Fonafe, especially in contrast to all other centralized monitoring agencies in the LAC region, is that it is operated as a holding corporation. Fonafe's mission is to operate modern SOEs recognized for providing high-quality services and goods responsibly. Its strategic mission includes the creation of economic value, provision of high-quality services, fostering of social and environmental value, training of human capital, and improvement of corporate governance. All these objectives are part of a complex set of scorecards with clear performance indicators and goals. Fonafe tracks progress year to year, at both the company and holding levels.

**Figure 5.6. Performance and Fiscal Risk in Fonafe's SOEs (ratios of adjusted income and liabilities to GDP), 2010–2016**



Source: Authors' estimations using the IDB Database of State-Owned Enterprises in Latin America and the Caribbean (for sources, see Appendix 1.1 on page 43).

Note: Both graphs include nonfinancial firms only, except for the data for weapons manufacturer FAME, which were not available.

Figure 5.6 shows the sum of adjusted net income of all of Fonafe's nonfinancial firms. Their performance has been improving, and the total income is consistently positive. The bottom half of the graph shows that Fonafe has also done a good job at keeping the size of the liabilities of the firms it oversees constant and at low levels relative to GDP.

To accomplish such consistent results, Fonafe is charged with the following objectives:

- Guiding the SOEs in drafting five-year strategic plans, annual management plans, and annual operating plans.



- Striving to operate profitable SOEs that are socially responsible.
- Streamlining the management of SOEs by introducing state-of-the-art processes at all levels of the holding and affiliated firms.
- Following the Code of Best Practices of Corporate Governance.
- Centralizing procurement when possible.

Part of Fonafe's effectiveness stems from the fact that it makes its SOEs report a variety of detailed plans and that it then follows up on the execution of such plans on a quarterly basis. The SOEs monitored by Fonafe are required to submit the following plans and reports:

- Five-year strategic plans: in these plans, the management and directors of the firm set out the objectives of the firm and the performance indicators that will be used to measure progress on these objectives. The board approves the plans and submits them to Fonafe in October (every five years). Fonafe can make modifications to the plan annually as long as they are approved by the board.
- Annual management plan: this plan outlines the progress of the firm for the year and includes a strategic plan progress report that tracks whether the firm is making progress in accomplishing the goals set out in the five-year strategic plan.
- Annual operating plan: this plan outlines how the objectives set out in the strategic plan will be accomplished year by year. It is submitted before the end of December every year. The plan outlines the goals and the scorecards and key performance indicators used for the evaluation of progress in that year. The evaluation of the operating plan is also sent in with the annual management plan.
- Budget plan: the specifics of the budget have to be submitted for approval to Fonafe and have to be approved by the board before December 31 every year. The budget has to follow the strategic and operating plans and should be consistent with the fiscal objectives of the government (e.g., helping to prevent deficits).
- Quarterly management reports: these include detailed financials and track the execution of the operating and strategic plan.
- Annual report: details the implementation of the code of best practices of corporate governance.
- Semi-annual report on the implementation of the internal system of control: a report on system of controls designed to facilitate the monitoring of performance in all companies in the Fonafe holding. This internal system of controls also includes a series of risk management controls, information security protocols, and a system to prevent corruption.

- Semi-annual report on corporate social responsibility plans: sent as part of the second and fourth quarter management report.

Monitoring the progress of these plans regularly allows Fonafe to avoid surprises in the execution of the budget or of large capital projects. In many countries, these surprises allow SOEs to request funds from the government in an ad hoc fashion. That is, rather than monitoring SOEs purely on an ex post basis, Fonafe uses detailed ex ante planning and the frequent reports to monitor the execution of those plans and to avoid deviations. This minimizes the need to fund SOEs throughout the year and also reduces cash-flow and contingent liability risks.

Fonafe's financial reports are so detailed that they should be the benchmark for reporting in the LAC region. They include balance and profit and loss statements, a statement of budget execution, a report of the execution of capital projects, and cash flow statements. They are publicly available on the pages of each SOEs on Fonafe's website, and they follow international financial reporting standards.

### *The Case of CNEP in Paraguay*

Paraguay provides a good example of a centralized agency that monitors the operations and functioning of SOEs within a heterogeneous set of state firms. The National Council of Public Enterprises (Consejo Nacional de Empresas Públicas, or CNEP) was created in 2008 and was given full power to monitor and track the performance of most of the SOEs in the country.

The only company that was left outside the purview of this agency was Itaipu Binacional, a hydropower generation company, a joint venture of the Brazilian and Paraguayan governments that operates as a semi-autonomous entity. The fiscal importance of this firm and the sensitive nature of its binational ownership make it a logical candidate to be left outside the CNEP purview.

As Table 5.5 shows, the entities that are monitored by CNEP in Paraguay vary in terms of their corporate structure and the role they play in the markets in which they operate. CNEP controls all the shares of four corporations and five autonomous autarkies or decentralized SOEs. Some of these firms are monopolies. In telecommunications, Copaco has faced intense competition in cell phone service. Paraguay's National Electricity Administration (Administración Nacional de Electricidad, or ANDE) shares a small part of the market with a private competitor, and its National Navigation and Ports Administration (Administración Nacional de Navegación y Puertos, or ANNP) competes directly with a variety of private port terminal operators and logistics companies. Additionally, the quality of the services provided by these SOEs is not necessarily high (Kaufmann, 2017).

**Table 5.5. SOEs Controlled by National Council of Public Enterprises, Paraguay**

Company	Industry	Corporate form (shares)	Are there private competitors?	Notes
ANDE	Electricity	No	Yes	Controls close to 90% of distribution
ANNP	Ports	No	Yes	Suffering with private competition
Capasa	Alcoholic beverages	Yes	No	Re-nationalized
Copaco	Telecommunications	Yes	Not in fixed lines	Created after failed privatization
DINAC	Airports	No	No	Also regulator and air traffic controller
ESSAP	Water and sewage	Yes	No	Quality of service is low
Fepasa	Railways	Yes	No	Railway is not in operation, so mostly a real estate company
INC	Cement	No	Yes	Controls 60% of the market
Petropar	Oil & gas	No	No	Imports oil to commercialize it in Paraguay

Source: Authors' elaboration with information from Kaufmann (2017).

Since its inception, CNEP (and its predecessor organization, CEP) have improved the performance of the SOEs that it controls, stopping the losses in its National Cement Industry (Industria Nacional del Cemento, or INC), National Oil Company (Petróleos Paraguayos, or Petropar), and National Water Utility (Empresa de Servicios Sanitarios del Paraguay, or ESSAP) and reducing them at its National Railway System (Ferrocarriles del Paraguay, or Fepasa). Since 2014, the losses in most companies have been eliminated, except for Fepasa and Paraguay's alcoholic beverage company (Cañas Paraguayas Sociedad Anónima, or Capasa). Fepasa operates the assets of the former railway monopoly, but since the actual railway is inoperable, the company operates as a real estate firm with a large payroll. Capasa, which produces alcoholic beverages from sugar cane, has been in turnover mode since the state rescued the firm from the private sector. Overall, the trend in performance since 2010 shows significant improvement. In 2011, there were four firms with significant losses, and by 2016, that number had been reduced to two per year.

Among the main attributes of CNEP is that it centralizes all the ownership function of the SOEs it monitors. It approves and monitors the execution of all strategic and investment plans in these firms. Additionally, CNEP intervenes and designs strategy for these firms and monitors and sets standards for the financial reporting of the SOEs under its purview.

CNEP has instituted performance contracts, annual external audits, ISO9001 certification, multi-annual planning, and a Code of Corporate Governance for its SOEs. The performance contracts instituted by CNEP measure quantitative and qualitative goals and are aligned with the overall strategic

goals of each firm. The quantitative goals include financial performance goals, while the qualitative goals pertain to improvements in management systems, such as the implementation of enterprise software or specific investment projects. These performance contracts were introduced in 2009 and are reviewed every three years. All the firms under CNEP monitoring, except for Capasa and Fepasa, have adopted these plans and have shown significant improvements in performance, consistently reducing losses (i.e., cash flow risk). To monitor the performance of firms according to these contracts, CNEP has a system that tracks performance indicators on a monthly and quarterly basis using a dashboard published on its webpage. SOEs that are part of the performance contract system are also audited by outside firms annually, and their financial results are published on the same webpage. In addition to improving performance, these firms have improved the execution of capital investments and reduced the number of employees (Kaufmann, 2017).

Before CNEP existed, it was common for government organizations to accumulate debts with SOEs, thus perpetuating fiscal governance problems of fiscal extraction that normally lead to losses. The losses were usually translated into requests for funding from the government, generating uncertainty (and ultimately fiscal risk). In 2012, CNEP (then CEP) started to quantify these debts, and a plan was implemented to collect them from the government. These debts were also negotiated so that they could be collected by the SOEs under CNEP's control.

In 2016, the government of Paraguay introduced the *Código Arandú*, with a series of commitments to improve the corporate governance of its SOEs. It outlines the duties of SOE officers, a code of ethics, and the rules for internal auditing and risk management. It also delineates the best practices for financial reporting (Kaufmann, 2017).

## Conclusions

This chapter has examined the advantages and shortcomings of centralized SOE monitoring agencies. In general, the evidence shows that these agencies are good at reducing fiscal risk, increasing the predictability of SOE results, and reducing surprises that arise from unforeseen shortages of funds in SOEs. This is done by introducing a strict set of administrative and reporting procedures that allow for close monitoring of SOE performance and expenses in a timely fashion.

The chapter provides empirical evidence from the experience of LAC countries that shows how countries that rely on centralized monitoring agencies tend to have SOEs with better fiscal performance (adjusted income to GDP) and lower liabilities to GDP. Although the experimental setting is not perfect,

the correlations are telling, especially because they are robust to the inclusion of a variety of industry and time fixed effects, as well as a variety of macroeconomic and bureaucratic quality controls.

It is hoped that this evidence highlights how politicians in other LAC countries can benefit from introducing centralized SOE monitoring bodies. Continuing with the status quo of decentralized monitoring carries with it the risk of having negative shocks to SOEs turn directly into negative shocks to the government budget. Centralized monitoring can be seen as a form of insurance for politicians in the executive and congress in the sense that reducing the fiscal risk of SOEs can shield other priority projects in the budget from having to bail out state enterprises. The chapter leaves open the question of whether the experience of LAC countries with centralized monitoring (and ownership) is unique relative to those of other developing countries.



# The Experience of State-Owned Holding Companies in East Asia

*by Hyungon Kim*

The history of state-owned enterprise (SOE) reforms has primarily involved privatization aimed at improving the corporate governance and efficiency of SOEs. Many countries have introduced such reforms over the past two decades, with varying degrees of success. Some studies have claimed that partial privatization has a positive impact on the performance of SOEs in competitive sectors when it is accompanied by proper policy and regulatory frameworks (Gupta, 2005; Kikeri and Nellis, 2004; Lazzarini and Musacchio, 2014). Others have concluded that privatization does not lead to significant improvements in the efficiency of SOEs (Boussofiane, Martin, and Parker, 1997; Kraft, Hofler, and Payne, 2006; Saygili and Taymaz, 2001).

The Organisation for Economic Co-operation and Development (OECD)'s Guidelines on Corporate Governance of State-Owned Enterprises (OECD, 2015) has served as the international benchmark of good practice. Many countries are also pursuing fundamental governance reforms aimed at shaking up the ownership function arrangements. These arrangements have been steadily moving toward greater centralization to resolve many of the problems associated with the governance of SOEs. Centralized arrangements aim to separate the state's ownership functions from its policymaking and regulatory functions to minimize political interference and potential conflicts of interest (World Bank, 2014a).

The main types of centralized systems found across countries involve ownership residing within a single ministry/department, a specialized government agency combined with (or without) sectoral holding companies, and a state-owned holding company (SOHC).<sup>1</sup> In a

---

<sup>1</sup> According to the World Bank (2014a) classification, centralized ownership model falls broadly into two categories: (1) government ownership agencies that

single ministry/department system, most SOEs that previously operated under different ministries are placed under the control of a single entity.<sup>2</sup> This centralization allows for the pooling of knowledge of different experts in decision making. A specialized government agency is an institution established under the direct ownership of the state<sup>3</sup> that is responsible for nominating directors, reviewing disclosures and reporting, implementing good governance practices, and developing the assets of its SOEs as owners enjoying equal equity rights (World Bank, 2014a). The agency functions like a shareholder of an SOE, but the state is not a stakeholder.

An SOHC can be defined as a parent company that either directly or indirectly controls the composition of the board of directors of its subsidiaries, or as a professionally managed institution owning a portfolio of stocks in public and private companies with the purpose of influencing them (Banerjee, Leleux, and Vermaelen, 1997; Murthy, 1988). It does not produce its own goods or services, and it oversees the management of SOEs by acting both as a financial intermediary and as an active stakeholder. In theory, SOHCs are free from any political influence and can act independently; they enjoy appropriate legal status and budgetary autonomy and are not regulated by any regulatory agencies. One of the main reasons for setting up an SOHC is the belief that it can lead to more effective management of the SOEs in its portfolio. Another reason is that an SOHC can prepare public companies for privatization and effectively manage the privatization process. The ownership of a large majority of SOEs is transferred to the SOHC, which typically operates under the purview of the ministry of finance (MoF). By serving as an intermediary between the government and the SOEs, an SOHC can limit political interference in the running of SOEs and provide more operational independence to their respective management boards.

Several countries have adopted the SOHC model. Some notable examples are Temasek (Singapore, 1974), the Austrian Industry-Holding Stock Corporation (Austria, 1986), Khazanah Nasional Berhad (Malaysia, 1994), The State

---

are under the direct authority of the government (China) and (2) company-type structures, such as holding companies (Bhutan, Hungary, Mozambique, Peru) or investment companies (Finland, Malaysia, Singapore), that have independent legal rights and more autonomy from the government.

<sup>2</sup> Some examples are the Ministry of Finance (Denmark, the Netherlands) and the Ministry of Industry (Norway and Sweden). In some countries, a special ministry is established, such as the Ministry of State-Owned Enterprises (Belgium, Indonesia) and the Department of Public Enterprises (South Africa).

<sup>3</sup> An example of this type of ownership is China's State-Owned Assets Supervision and Administration Commission (SASAC), which acts as a single authority exercising ownership rights and the SOEs in its portfolio operate independently under its supervision and management.



Capital Investment Corporation (Vietnam, 2006), Druk Holdings and Investments (Bhutan, 2007), Samruk-Kazyna (Kazakhstan, 2008), and the Hungarian National Asset Management Inc. (Hungary, 2008).

These SOHC models most closely resemble a single centralized holding company. Some countries have instead used sectoral holding companies to exploit industrial complementarities. For example, Hungary established the Hungarian State Holding Company to place all national assets under a single entity. Russia created several SOHCs and state corporations, such as the United Shipbuilding Corporation and the Joint Stock United Aircraft Corporation (Sprenger, 2011). Previous studies have not fully considered the relationship between an SOHC's structure and the performance of the SOEs in its portfolio. They often assume that the SOHC fully serves its intended purpose without facing any issues (Anwar and Sam, 2006; Sam, 2013; 2010). These findings are based solely on the study of Temasek Holdings (Singapore), which has received much attention precisely because of its success. It is important to analyze other cases to fully understand the relational dynamics among the government, the SOHC, and SOEs as well as how they impact firm performance.

This chapter examines the government-SOHC relationship and the extent of government intervention under each type of SOHC in South Asia (along with references to China). SOHCs are categorized based on the government's role, market capitalization, and the prevailing corporate environment. The chapter analyzes empirical evidence to draw conclusions about how the SOHC structure affects the performance of SOEs. It is important to note that the analysis focuses on countries with limited democracies. Thus, any of the lessons of this chapter have to be adapted to the Latin American and the Caribbean (LAC) region considering that there are significant differences in the political landscape.

### **Advantages of State-Owned Holding Companies**

An SOHC has many similarities with the centralized ownership model that aims to separate the state's role as the owner of the SOEs from its policy making and regulatory functions. The SOHC is given authority over the SOEs on behalf of the state and is responsible for improving their fiscal governance and financial performance. Such a structure limits the government's ability to impose social objectives on the SOEs, thereby allowing them to make decisions with the sole aim of maximizing profits and sustaining good financial performance. Having an SOHC also mitigates the multiple principal problem, as there is no room for various agents to pursue conflicting objectives. With SOEs now having the freedom to make day-to-day operational decisions, the state can more

easily maintain an arm's-length relationship with its enterprises (World Bank, 2014a). Another advantage of centralized management is the increased transparency resulting from the adoption of a single set of financial and accounting standards by all SOEs.

The establishment of an SOHC provides a degree of separation between the state and the SOEs. This hierarchical structure makes it difficult for the government to intervene in the daily affairs of the SOEs, as the political costs are then substantially higher. By acting as an intermediary, the SOHC ensures that the SOEs operate like corporate entities and not like government subsidiaries that can rely on state support and subsidies during times of financial distress. The SOHC often reorganizes various SOEs along strategic, operational, and financial lines to achieve better efficiency through economies of scale and industrial synergies. The new structure allows the SOEs to exploit internal linkages; they can potentially obtain financing internally at lower rates and benefit from economies of scope by awarding procurement contracts to other public enterprises. The SOHC itself must operate like a company in the private sector by following good corporate governance practices, using robust performance evaluation measures and generally operating to maximize profits. In its role as principal, the SOHC forces the SOEs to raise their management and operational standards (Fan, 2012). Furthermore, with all the SOEs now operating under a single entity, they must follow a standardized set of financial guidelines and pass SOH audits. These factors ultimately incentivize the SOEs to hire better skilled workers to raise their performance across the board.

However, these benefits can only be realized if the SOHC is able to shield its SOEs from political interference and if the ownership of the SOEs is not highly concentrated with the SOHC itself. The latter can lead to minority shareholders suffering due to decisions being made solely to further majority interests.

### **Relationship between the Government, State-Owned Holding Companies, and SOEs**

The ability of an SOHC to improve performance hinges on its relationship with the government. Establishing an SOHC necessarily introduces a two-tiered principal-agent relationship (Sam, 2007): the government-SOHC relationship and the SOHC-SOEs relationship. The majority of the literature on SOHCs focuses on the ideal set of relationships with the government that will yield the highest performance gains: the allocation of the ownership function for operation and maintenance, investment planning, and financing functions when responsibility cannot be transferred to a private operator, the ability to ensure better cost coverage than the government, and the best suited entity to assume regulatory

responsibilities while maintaining public ownership (Vagliasindi, 2008). This chapter investigates the mechanics of this two-tiered relationship.

## **Government-State-Owned Holding Company Relationship**

### ***Desocialization and Fiscal Governance***

When a government has direct ownership and control of enterprises (a direct relationship between the principal and the agent), its tendency to impose social objectives upon them hampers their ability to function efficiently (Kerf, 2000). This inevitably leads to poor financial performance as the SOEs attempt to pursue conflicting commercial and social objectives simultaneously. The government, mindful of the social and political repercussions of failure, often provides financial support to the SOEs in case they suffer losses. Soft budget constraints increase budgetary pressures and foster inefficiency within the enterprises and are a feature of all government-SOE relationships. The government can potentially solve this problem on its own by partially privatizing SOEs; this will subject their performance to market scrutiny, enable access to diverse sources of financing, and prevent the mispricing of any debt (Sam, 2011).

However, there is another more effective method for dealing with soft budget constraints. The government can draw a sharp line between its ownership and regulatory roles by creating an SOHC for its enterprises. The SOHC assumes the role of owner representative as an external institutional investor while different governmental agencies assume regulatory responsibilities (Sam, 2011). Under this framework, the SOHC focuses on improving the SOEs' corporate and fiscal governance by desocializing their operational objectives, and the government ensures there is no financial misappropriation at any level. The government appoints the board of the SOHC, and the MoF typically oversees its performance. This ensures the SOHC has budgetary autonomy and does not have to make decisions that sacrifice economic efficiency for state objectives (Sam, 2011), thereby allowing it to operate privatized and publicly listed SOEs profitably and limit politically motivated resource extraction.

### ***Reduction of Input Controls***

SOEs typically suffer from multiple and potentially competing goals that are subject to social and political objectives (World Bank, 2014a). Governments naturally have a strong incentive to maintain complete control of SOEs through direct ownership. The SOEs often have to march to different beats as the government's ministries try to use them to further their own agendas. They can have multiple principals meddling in their operations, resulting in an increase in input controls. In extreme cases, the SOEs' respective boards may come to

represent an extended executive division of the government. To avoid such a scenario, the government can establish an SOHC to resolve the multiple principal issue and limit the involvement of line ministries in controlling enterprises (Verhoest, 2005). Two conditions must be satisfied for an SOHC to be effective in this regard: it must have a large proportion of independent board members and there must be a separation between the roles of the chairman of the board and chief executive officer (CEO).

First, having independent directors on the SOHC's board ensures that the SOEs are run efficiently and not manipulated by political actors. Agency theory emphasizes the positive correlation between the proportion of independent directors on the board and a firm's profitability (Pombo and Gutiérrez, 2011). Firms with politically connected managers might underperform and are more likely to appoint other bureaucrats to their boards rather than directors with the relevant professional background (Fan, Wong, and Zhang, 2007). Second, separating leadership roles in corporate governance can mitigate the principal-agent problem. Many corporate governance studies have indicated that having the roles of the CEO and the chairman of the board performed by different people (Jensen, 1993; MacAvoy and Millstein, 2004) improves managerial and oversight efficiency (Fama and Jensen, 1983). Some empirical studies show that firms opting for independent leadership consistently outperformed those relying upon CEO duality (Rechner and Dalton, 1991).

## **Relationship between State-Owned Holding Companies and SOEs**

### ***Input and Result Controls***

Input controls are broadly used to mitigate the principal-agent problem. There are two types of input controls: *ex ante* (before) and *ex post* (after). *Ex ante* measures, such as performance-based compensation, are used prior to budgetary allocation, whereas *ex post* measures focus on evaluating past performance. These can include performance evaluations, parliamentary hearings, and shareholder meetings (if partially privatized). Agency theory views performance-based compensation as an effective control device as managers are more likely to make decisions to improve the enterprise's financial performance if their own income depends on it (Dixit, 2002; Frant, 1996). Result control measures are used to evaluate actual performance against the targets set and can often temper opportunistic behavior by the public agency and enhance its performance (Verhoest, 2005). The goals of both parties are aligned more closely because clear objectives and targets are negotiated beforehand. A robust result control measure should be linked to the SOHC's ability to not interfere with the day-to-day running and managerial affairs of the

SOEs. Chile's Public Enterprise System (Sistema de Empresas Públicas, or SEP) is a good example as the government has instructed the SOHC to not duplicate the work of the SOEs' boards. Estonia has put in place specific legislation forbidding the boards of SOEs from taking instructions from the government (World Bank, 2014a).

### *Reduction in Tunneling*

When a firm has more than two shareholders, which is often the case with SOEs operating under an SOHC, the controlling shareholders can use their influence to control the firm's operations. An increase in the degree to which ownership is concentrated with a few shareholders can improve performance via increased accountability, as the majority owners can then be held responsible for the results. Nevertheless, any further increases might allow the SOHC to exploit minority shareholders as the line ministries lose control. The separation of ownership and control in pyramidal governance structures generates strong incentives for the controlling shareholders to tunnel resources between companies within the group (Buysschaert et al., 2008). The "tunneling problem" involves the transfer of assets and resources between related firms for the benefit of controlling parties (Johnson et al., 2000). This can be achieved through either self-dealing transactions or by discriminating against minority shareholders. A self-dealing transaction is one in which a controlling shareholder uses company resources for its own interests Jian (2004). Typical self-dealing transactions include theft and fraud, trading of assets, transfer pricing, excessive management compensation, loan guarantees, occupation of investment opportunities, and others. Discriminatory moves against minority shareholders include dilutive share issues, minority freeze-outs, insider trading, creeping acquisitions, and other financial moves.

Governments typically tunnel away resources from their SOEs to finance their budget deficits. Having a SOHC can allow SOEs to take advantage of internal capital markets as surpluses can be used to help finance the expansion of other enterprises (Khanna and Yafeh, 2007; Lin, 2011). In reality, internal capital markets lead to the misallocation of capital within the group as controlling shareholders transfer funds from well-performing enterprises to those performing poorly. In a tunneling process, the SOHC injects assets, absorbs unprofitable units, or writes up the value of the enterprise's assets when an acquisition occurs. The relationship between firm value and ownership concentration is depicted by an inverse U-shape (Bai and Xu, 2004). For example, a local government will be inclined to subsidize a local SOHC and to require profitable local firms to acquire those that are incurring losses (Guest and Sutherland, 2010). Such arbitrary acquisitions are indicative of the local government's political goals and

interests as they do not yield any financial or efficiency improvements (Guest and Sutherland, 2010). The controlling shareholders can either inject low-quality assets into the listed companies (Guest and Sutherland, 2010) or overstate the values of assets that were previously injected. Such behaviors ultimately harm the performance of the SOEs and lead to reductions in shareholders' wealth.

Although an SOHC is not a panacea for the government-SOE problem, it can nevertheless reduce tunneling by preventing the ownership of SOEs from being concentrated with a few shareholders. It can help to improve the corporate governance and operational transparency of SOEs, which can increase firm value and lower the cost of external financing in the future. Having an SOHC can also protect investors in countries with weak legal systems and limited investor protection safeguards. Ultimately, the government should implement robust internal and external monitoring mechanisms to ensure that the SOHC does not deviate from its intended purpose.

### Typology of State-Owned Holding Companies

In view of the success of the Temasek Model in Singapore, many countries in Asia followed suit by adopting and modifying it to suit their own respective economic environments. This chapter provides three categories—or types—of SOHCs based on their idiosyncratic role as an institutional investor mediating the relationship between government and SOEs: the corporate investor, shadow investor, and submissive investor.

A corporate investor-type SOHC is akin to a private institutional investor whose primary objective is profit maximization, and social or political objectives are not a part of their mandate. As underperforming SOEs cannot rely on price subsidies or politically motivated bailouts, the corporate investor type has important implications for the fiscal governance of SOEs. Typically, the fiscal governance of an underperforming SOE is characterized by discretionary fiscal transfers (a soft budget constraint), which incentivize managers to take on excessive risk. In contrast, the corporate investor type avoids these issues by having hard budget constraints and transparent resource transfers. Even if transfers are discretionary, they are primarily aimed at maximizing performance. In addition, while benefiting from the SOHC system, the corporate investor type also incurs fewer political and agency costs. A reduction in input controls is achieved through a large number of independent board members, increased autonomy of the SOHC, and a separation of the roles of chairman and CEO. There is a strong incentive for improved performance as the SOHC-SOE relationship relies heavily on the evaluation of critical performance metrics. The corporate investor is also

immune to the tunneling problem because ownership is not concentrated entirely within the SOHC.

A shadow investor-type SOHC, like the corporate investor type, focuses on operational efficiency but is not concerned solely with profit maximization. For this type, the government often indirectly imposes social objectives and, as a consequence, hard budget constraints designed to improve efficiency might soften as the enterprise seeks to achieve its social aims. The government looks after the planning, sets objectives for each subsidiary, and allows them to make operational decisions. The shadow investor type has some room to manage these SOEs, but it largely acts as a facilitator by ensuring the government's stated social objectives are met through efficient resource utilization. Government officials make up a large majority of the board of directors. For the shadow investor type, performance metrics are not clearly defined and need further development. There is potential for tunneling as different state subsidiaries might be under an active privatization phase or subject to strategic maneuvering by the government.

At the other end of the spectrum is the submissive investor-type SOHC, under which the government has almost complete control of the subsidiaries. The submissive SOHC runs companies like government agencies, with the government taking an active role in setting social objectives and running the organization. Submissive SOHCs have little autonomy to manage the SOEs, and their boards are packed with politically appointed public officials. They also have weak corporate governance, as there is no clear separation between the roles of chairman and CEO. The submissive investor type makes the least use of performance measures in determining compensation, and tunneling is highly likely to occur as ownership is concentrated within the SOHC. Table 6.1 summarizes the differences between the three types of SOHCs with respect to fiscal governance, input control, result control, and the tunneling problem.

Today, most developing countries are transitioning from the submissive investor type to the shadow investor type. For instance, in Peru, while the social objectives of SOEs are strongly emphasized and political interference in bureaucratic institutions remains high, there has been an effort to grant more autonomy to Peru's National Fund for the Financing of the Public Sector Companies (Fondo Nacional de Financiamiento de la Actividad Empresarial del Estado, or Fonafe), in appointing the board members and CEOs of SOEs. Similarly, The Hungarian National Asset Management Inc. has distinct non-commercial objectives. Although political interference still exists, independent directors from the private sector are now on the boards of their SOEs.

**Table 6.1. Types and Features of Stated-Owned Holding Companies**

Dynamics	Characteristics	Corporate investor	Shadow investor	Submissive investor
Government–SOHC	Fiscal governance	Hard budget constraint, transparent resource transfers	Likely soft budget constraint (although hard budget constraint on the surface), discretionary resource transfer	Explicit soft budget constraint, discretionary resource transfer
	Reduction in input controls	Board members are mostly outsiders	Mixed boards of public officials and some outsiders	Boards packed with public officials
		High SOHC autonomy for appointing SOE managers	Likely guaranteed SOHC autonomy for appointing SOE managers but occasionally violated	Limited authority
SOHC–SOEs	Increase in result control	Separation of the role of chairman and chief executive officer	Separation of the role of chairman and chief executive officer	No separation of the role of chairman and chief executive officer
	Reduction in tunneling	Concrete performance measures and strong link between performance and pay	Performance measures linking performance and pay exist, but these may have some gaps in practice	Not yet adopted or under development
		In general, low ownership concentration with the SOHC and existence of external monitoring agents	Degree of ownership concentration varies	Ownership is highly concentrated with the SOHC
Examples		Temasek (Singapore)	Kontena Nasional Berhad (KNB) (Malaysia), State Capital Investment Corporation (SCIC) (Vietnam)	State-owned Assets Supervision and Administration Commission (SASAC) (China)

Source: Author's elaboration.

The next section provides case studies for each investor type within the Asian context. In addition to elaborating on the dynamics of each investor type, it also presents data to illustrate the framework and provides a good starting point for establishing empirically verifiable models.

## Case Studies

### *Temasek Holdings (Singapore)*

Because of its long history and proven financial success, the Temasek model has been the reference for countries in Asia and has been implemented to varying degrees by various countries. Temasek Holdings Limited (THL), which was established in 1974 under the Singapore Companies Act, took over from



Singapore's Ministry of Finance as the monitoring arm of state investments in businesses. The process of corporatization and privatization of SOEs during the 1980s and early 1990s significantly enhanced the role of THL in contributing to Singapore's economic development. In 1986, the Singaporean government set up the Public-Sector Divestment Committee for the privatization of SOEs, under which THL had divested more than 60 companies either partially or completely by 2001 (Lam, 2003).

THL is now the 11th largest sovereign wealth fund in the world, with assets worth US\$177 billion in 2014, up from US\$285 million in 1975 (Sovereign Wealth Fund Institute, 2014; Temasek Holdings, 2013). Although it originally invested only domestically, Temasek has diversified its holdings by investing more and more abroad. Since 1975, investment in foreign assets grew from 48 percent of total assets (US\$43.2 billion) to 70 percent of total assets (US\$121.1 billion) in 2013. As of 2013, Temasek's funds were invested in financial services (31 percent), telecommunications, media, and technology (24 percent), and transportation and industrials (20 percent). It also holds more than 50 percent of the total shares of most of its subsidiary SOEs (Temasek Holdings, 2013). The government does not use Temasek to further its social objectives, thereby allowing Singaporean SOEs to pursue profitability and efficiency in a way similar to private corporations (Singh and Siah, 1999). Input controls by the government are constrained and minimized in many aspects of corporate governance. Although public officials use to make up a large proportion of the boards of Temasek and its portfolio companies, today highly competitive businessmen and entrepreneurs from the private sector make up about two-thirds of the boards of these companies.

THL looks after the stewardship matters of companies in which it has at least a 20 percent ownership stake (Ang and Ding, 2006). THL makes it clear publicly that it is not involved in the companies' commercial or operational decisions and that neither the President nor the government of Singapore is involved in its investment, divestment, or business decisions (Temasek Holdings, 2004). This not only strengthens THL's status as a professional corporate investor but also addresses the notion that Temasek's investments may be politically motivated. Eva Ho, Director of THL Corporate Communications, stated that:

The relationship of Temasek-Linked Companies with Temasek is not very different from their relationship with any other institutional investor. Temasek Linked Companies receive no favors from the government. They make their own investment and business decisions based on their best interests. They are subject to market discipline and strive to deliver value to their shareholders.

The original Temasek charter, published in 2002, conveyed the message that Temasek's mission is to achieve sustainable economic returns for its shareholders. It can be safely assumed that the government imposes a hard budget constraint on Temasek as it explicitly states that it does not guarantee the company's debt. THL is also in favor of separation between the roles of the chairman and CEO. Its current chairman, Dhanabalan, believes that it is very difficult for directors to question decisions when the chairman also represents the management (Balan, 1999).

THL is accountable to both the MoF (to monitor the management and performance of Temasek) and the president of Singapore (to approve the appointments, reappointments and/or removal of board members or the CEO). Information asymmetry is the primary reason for the occurrence of agency problems as principals have imperfect knowledge of the agents' abilities (Sam, 2010). The agency problem may be moderated with the MoF serving as the principal. If it is true that Temasek operates independently of the government, the president and MoF have a better chance of uncovering any improper practices, since they have access to more information than external monitoring agents, such as the general public and credit rating agencies (Sam, 2010) although most privatization programs begin with a period of partial rather than full divestment of state-owned enterprises (SOEs). Whereas credit ratings and public agencies monitor the company's practices and regulatory compliance, the MoF monitors its performance.

Temasek's rigorous use of concrete performance measures helps with enhanced result control. It uses the economic value-added (EVA) method to assess the financial performance of SOEs under its portfolio. Dhanabalan mentioned that Temasek encourages companies in its portfolio to employ compensation schemes that are based on the EVA, so that management's compensation depends on the firm's performance (Australian Financial Review, 2002). Tunneling is not an issue because of Singapore's long history of privatizing enterprises. Further, a well-functioning judiciary along with an independent anti-corruption agency, the Corrupt Practices Investigation Bureau, ensure that THL does not expropriate investors' funds.

In sum, THL has the characteristics of a corporate investor-type SOHC. It pursues pure profit maximization without the soft budget constraints commonly afforded to SOEs. Regardless of the government's fiscal position, SOEs cannot rely on bailouts to compensate for poor financial performance and must operate efficiently. There is very little room for direct government intervention because of the presence of many independent board members, considerable autonomy of the SOHC, and separation of the roles of chairman and CEO. THL's use of performance-based compensation schemes mitigates the typical

principal-agent problem. Lastly, tunneling is not an issue as THL does not have significant ownership stakes in any enterprise.

This discussion inevitably raises questions about the performance of SOEs under different holding company structures relative to the performance of private companies. A rigorous comparison is not possible due to methodology problems and the paucity of useful data. It is difficult to analyze externality effects or a particular firm's idiosyncratic factors over time and establish a clear counterfactual. Given these constraints, three measures are used to evaluate the performance of SOEs: return on equity (ROE), return on assets (ROA), and the debt ratio obtained from the Thomson Reuters Datastream database.<sup>4</sup> No financial data are available for THL prior to its founding in 1974. Similarly, no data are available for Vietnam's State Capital Investment Corporation (SCIC) after its founding in 2005. For all countries except China, one SOE was chosen from each from major industry in which the SOHC has an ownership stake of more than 30 percent. This ensures that the holding company has the ability to significantly influence decision making within the firm. These SOEs are then compared against all the firms in a country's stock market that belong to the same sector.<sup>5</sup>

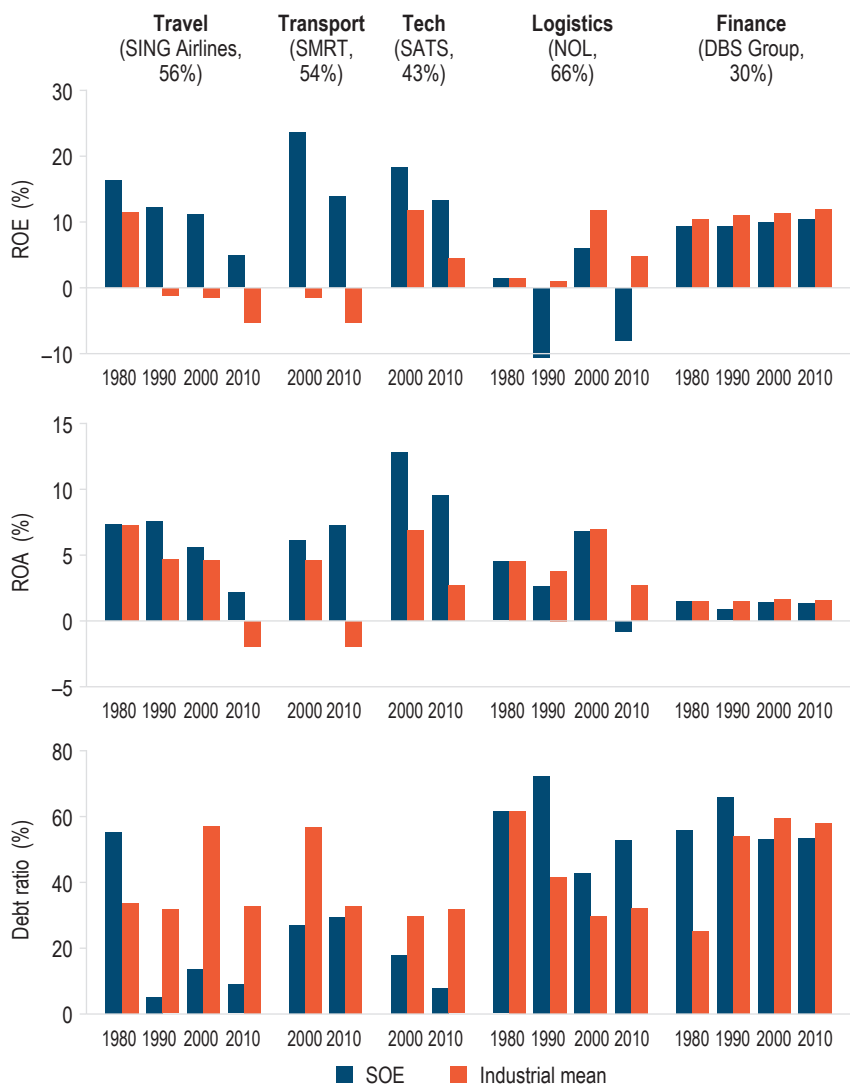
As shown in Figure 6.1, the performance of SOEs under THL has been competitive across most industries. For example, for travel, transport, and technology, Temasek's ROA and ROE are generally higher than the industrial average. This is particularly impressive given that these industries are susceptible to macroeconomic shocks. It is usually argued that SOEs have preferential access to credit markets and starve the private sector of credit as they seek to grow (Ramírez and Tan, 2004). This is not the case in Singapore, however, as the SOEs have also had lower-than-average leverage ratios over several decades. Temasek's financial performance has been robust, and the net portfolio value has consistently risen over time. With the exception of 2009, other equity and value indicators (group net profit, group shareholder equity) have risen steadily whereas debt has remained fairly stable. In addition, the total shareholder return<sup>6</sup> has outperformed the risk-adjusted hurdle

---

<sup>4</sup> Datastream is a global financial and macroeconomic database covering equities, stock market indices, currencies, company fundamentals, fixed income securities, and key economic indicators for 175 countries and 60 markets.

<sup>5</sup> The financials industry includes a number of sectors such as banks, life insurance, and real estate. Each sector contains a representative sample of major stocks within that classification. Datastream uses these constituent stocks when calculating an index for a sector. SOEs are excluded in cases where they are the only firm in a sector.

<sup>6</sup> Total shareholder return is a measure of a company's performance that accounts for appreciation in share price as well as dividends paid to shareholders.

**Figure 6.1. Performance of SOEs Under Temasek Holdings**

Source: Thomson Reuters Datastream.

rate.<sup>7</sup> In its 2010 annual report, THL stated that it has earned an average annualized rate of return of 17 percent since its inception. Despite its efforts to expand its holdings throughout Southeast Asia, THL's portfolio remains heavily concentrated in Singapore (Balding, 2012).

<sup>7</sup> The risk-adjusted hurdle rate measures the risk and soundness of the investment.

### *The Khazanah Nasional Berhad (Malaysia)*

The Khazanah Nasional Berhad was set up as an investment holding company of the Malaysian government in 1993. It is wholly owned by the Ministry of Finance Incorporated pursuant to the Minister of Finance (Incorporation) Act, 1957. The company reports directly to the prime minister,<sup>8</sup> who serves as the chairman of the board and sets out the investment policy. The Khazanah's operations have been characterized by two objectives: (i) to manage the federal government's commercial assets and (ii) to make strategic investments on behalf of the government that would contribute to nation building and the nation's long-term economic interests. The Khazanah has ownership stakes in more than 50 companies within and outside Malaysia, with its portfolio growing from only US\$2.14 billion in 1994 to US\$41.3 billion in 2013. Its early holdings consisted mostly of privatized government companies in the utilities, infrastructure, and financial services sectors. Since then, it has grown to include interests in both communications and high-tech industries.<sup>9</sup>

Although the Khazanah officially maintains that it does not interfere with the management of the SOEs, a report by Standard & Poor's stated that it had actively engaged in restructuring SOEs (Lai, 2012). This is in contrast to its Singaporean counterpart, Temasek Holdings, which takes a less hands-on approach. The Khazanah's mandate to further social objectives can hinder the commercial success of the companies in its portfolio. Tenaga Nasional,<sup>10</sup> the national power generator and distributor, has suffered commercially as government oversight and political influence have prevented it from raising electricity tariffs. Another example is Petroliaam Nasional Berhad (Petronas), Malaysia's fully integrated petroleum company, which has been used as a financing vehicle in the past (Kirkpatrick, 2014).<sup>11</sup>

These examples show that government intervention is a feature of the Khazanah Nasional Berhad. Discretionary transfers are possible as political influence could be used to divert resources away from public use. The Khazanah's board consists of seven private sector executives and three former and current government officials.<sup>12</sup> The prime minister of Malaysia serves as the chairman of the board, while the CEO heads the management team. The Khazanah usually appoints a number of directors (including the chairman) and the CEOs of the SOEs

<sup>8</sup> The prime minister is also the MoF.

<sup>9</sup> Investments by sector: media and communications (27 percent), finance (18 percent), power (11 percent), healthcare (11 percent), property (11 percent), infrastructure (6 percent), transportation and logistics (5 percent), tech (1 percent), others (2 percent), and cash (6 percent).

<sup>10</sup> The Khazanah Nasional Berhad had a 36 percent ownership stake in 2011.

<sup>11</sup> Khazanah has had to deal with the Proton car company championed by a previous prime minister.

<sup>12</sup> Current prime minister, second finance minister, and former second finance minister.

in its portfolio. Each SOE is required to come up with its own key performance indicators. In addition, each manager is judged against sales and profitability targets (FinanceAsia 2004). The extent of the Khazanah's ownership varies by SOE and tunneling is unlikely to be an issue. The managing director pointed out that "divesting an asset is not done in small rooms; it is actually done through inviting key players, putting out the key criteria very clearly, and then staying the course to execute that properly" (Tan Sri Dato' Azman Hj. Mokhtar, 2011).

In sum, even though the Khazanah Nasional Berhad conducts its operations like a corporate investor type SOHC, it is classified as a shadow investor type due to the possible imposition of social objectives by the government. This type usually exercises some autonomy in the management of the SOEs but ultimately yields to governmental directives. It has nascent performance measures which require further development because they can be manipulated. In an effort to avoid tunneling issues, the Minority Shareholder Watchdog Group (MSWG) plays an active role in protecting minority shareholders' rights from unfair corporate practices. As opposed to Singapore, where minority shareholder protection groups are membership-driven by investors, the MSWG is a government initiative aimed at guaranteeing good corporate practices and the presence of independent directors.<sup>13</sup>

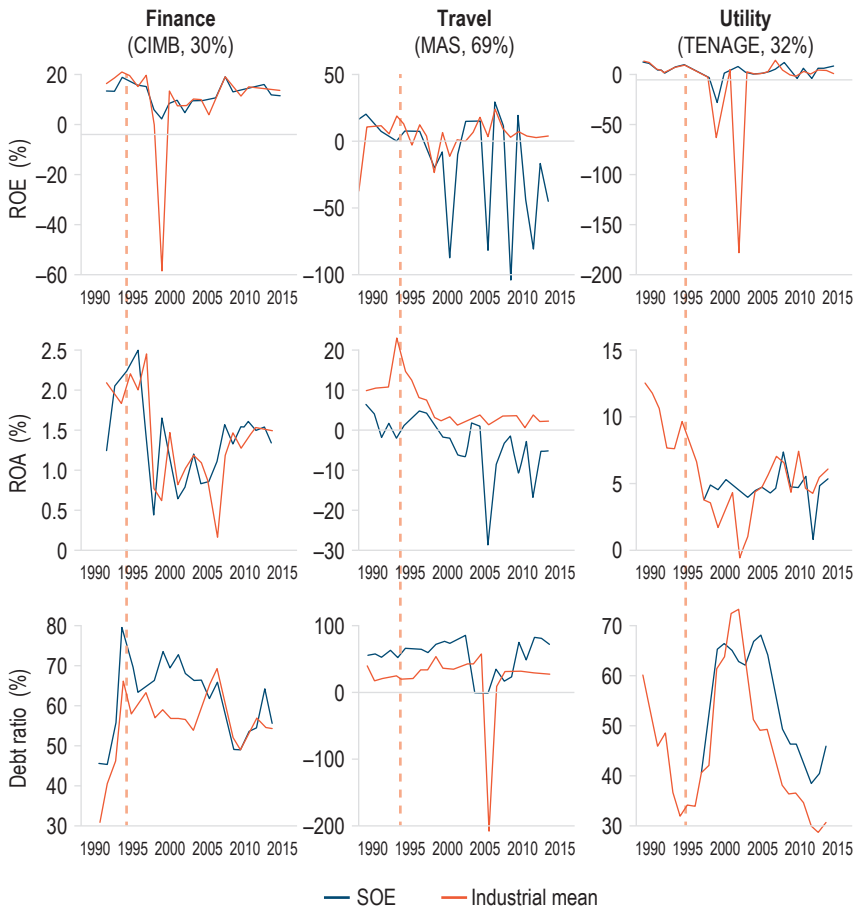
SOEs under the Khazanah's control have not improved much since its inception in 1994 (dashed red line, Figure 6.2). Performance measures appear to show considerable growth over the years; realizable asset value, net worth adjusted, and total assets have doubled from 2004 to 2014. However, this growth is being financed by either the government directly or through higher leverage as the SOEs are able to obtain financing at lower rates (Menon, 2013). On the whole, this picture is not surprising, as the Khazanah is often forced to pursue social objectives, and its fiscal governance is susceptible to government influence.

### ***State Capital Investment Corporation (Vietnam)***

The SCIC was incorporated under the Prime Minister's Decisions No. 151 and 152 in 2005 and began official operations in 2006. It is a major player in the Vietnamese economy, as 40 percent of its portfolio is invested in the manufacturing sector, which contributed 20.3 percent to the country's gross domestic product (GDP) in 2004. Its assets grew in value from US\$28 million in 2006 to US\$310 million in 2012. The SCIC has played a major role in the

---

<sup>13</sup> The MSWG (<https://www.mswg.org.my>) was established as a government initiative in 2000 as part of a broader capital market framework to protect the interests of minority shareholders through shareholder activism. It is one avenue of market discipline to encourage good governance among publicly listed companies with the objective of raising shareholder value over time.

**Figure 6.2. Performance of Some SOEs under the Khazanah Nasional Berhad**

Source: Thomson Reuters Datastream.

privatization of a large number of SOEs; 418 companies were divested completely between 2006 and 2010, reducing the number of companies in its portfolio by more than half.

The SCIC is unofficially expected to cooperate with the government by pursuing policy and social objectives that may conflict with the aim of profit maximization. For example, a recent policy intended to limit inflation resulted in SOEs suffering significant losses because they could not raise prices to cover their costs. Such contrasting objectives make performance evaluation challenging and discourage the management from improving operational efficiency (Kim, Nam, and Cuong, 2010). As with the Khazanah Nasional Berhad, the SCIC may have fiscal governance issues as it can be susceptible to discretionary

resource transfers and resource extraction by connected individuals. SOEs in its portfolio are reluctant to be listed on the stock exchange due to the greater transparency requirements. Many large SOEs receive subsidies and funding from state institutions such as the Vietnam Development Bank and preferential loans via some commercial banks. The SOEs are a source of significant financial risk as their total liabilities exceed even the Vietnamese government's own debt (OECD, 2013).

The government has ample room for exerting its influence over the SCIC. The prime minister appoints the board of directors. currently, the vice minister of finance is the chairman of the board, and both the vice minister of industry and trade and the vice minister of planning and investment are board members. Government ministries can influence the appointment of managers in the SOEs,<sup>14</sup> as vaguely defined qualification requirements for board members put the robustness of the appointment process in doubt<sup>15</sup> (Kim, Nam, and Cuong, 2010). The chairman of the board must not serve concurrently as the CEO because the latter is appointed by the board following the prime minister's approval (Nguyen, Nguyen, and Nguyen, 2012).

Vietnam introduced performance—and target completion-based compensation for the managers of its SOEs, but the performance measures are structured in a way that may distort the managers' incentives. They might be encouraged to take on more and more debt as compensation is often tied to self-mobilized capital, which includes debt. Furthermore, the managers might make myopic decisions as their compensation is only tied to how the company performed in the previous year (Kim, Nam, and Cuong, 2010). Tunneling is not an issue for the SCIC because of the vast number of privatizations that have occurred since its inception. Like the Khazanah Nasional Berhad, the SCIC can be classified as a shadow investor type. The performance of SOEs in the SCIC's portfolio has not improved significantly over the years, possibly due to political intervention weakening fiscal governance (Figure 6.3). The ROA and the debt ratio have not changed much since 2000. Although the ROE rose between 2008 and 2014,<sup>16</sup> the overall returns were still below the economy's nominal growth rate and the ROE of foreign firms. The current increase in assets, revenues, and shareholders' equity is likely to be a consequence of the privatization process. In 2018, the

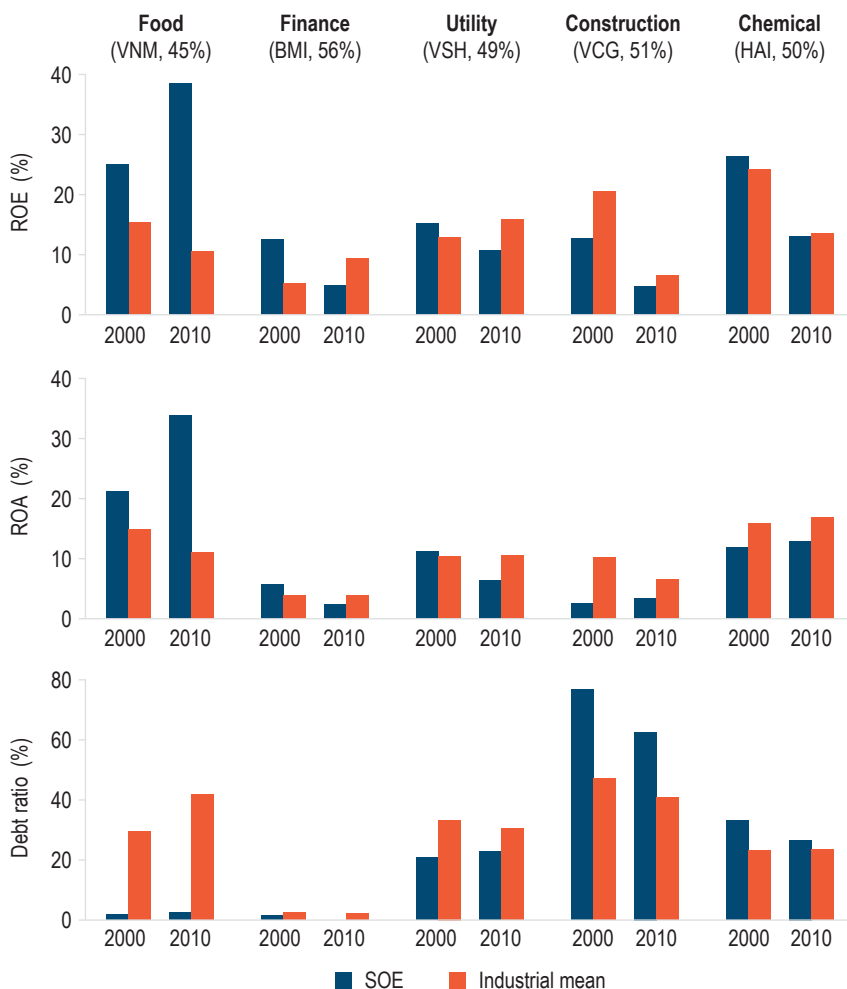
---

<sup>14</sup> A line ministry recommends the appointment, dismissal, and any disciplinary action against board members (including chairman) and the senior executives.

<sup>15</sup> The SOE Law of 2003 stipulates that a board member should (i) be a Vietnamese citizen permanently residing in Vietnam; (ii) have a university degree; (iii) have managerial experience; (iv) be healthy with high morale; (v) be honest, incorruptible, and knowledgeable; and (vi) have a law-abiding spirit.

<sup>16</sup> For numbers see SCIC (2014).



**Figure 6.3. Performance of SOEs under the SCIC**

Source: Thomson Reuters Datastream.

Vietnamese government created new centralized agency to oversee the management of SOEs to ensure sound fiscal governance and efficient operations.

### ***State-Owned Assets Supervision and Administration Commission of the State Council (China)***

The State-Owned Assets Supervision and Administration Commission of the State Council (SASAC) is not a financial entity, but its structure is similar to the holding companies discussed above. The SASAC is important for this analysis as it owns various sector-specific holding companies and many SOEs. It was

established in 2003 as a special ministerial-level institution authorized by the State Council in accordance with the Company Law of the People's Republic of China, among other administrative regulations. The SASAC is a controlling shareholder of approximately 100 sector-specific holding companies, with US\$3 trillion in assets and US\$3.4 trillion in sales. It directly or indirectly has a majority stake in virtually every leading firm in critical Chinese industries, from telecoms and energy to autos and steel. The SASAC has strategically formed holding companies to exploit industrial and regional linkages. It is also responsible for the formulation of rules and systems for the supervision and administration of non-financial SOEs (Decree of the State Council of China, Article 13).<sup>17</sup>

It is imperative for China to have an investment company that oversees the corporate governance of its SOEs to ensure the profitable use of its considerable foreign currency reserves (in excess of US\$1 trillion). The China Investment Corporation (CIC) is the largest state-owned investment company in Asia, with a US\$200 billion sovereign wealth fund. This is greater than Temasek's US\$107 billion and second only to Norges, Norway's US\$327 billion global pension fund. Having started its operations in 2007, the investment agency is under the direct supervision of the nation's cabinet, the State Council. China's two-pronged strategy is similar to the Vietnamese approach and is based on the principle of "grasp the large, let go of the small" (Romer and Wolfers, 2016). The country has employed a differentiated policy for dealing with firms of different sizes and strategic importance and has helped its largest SOEs expand overseas. The State usually intervenes in the running of SOEs as the fulfilment of social objectives is an explicit part of their operations.<sup>18</sup> Overemployment is common as the companies

---

<sup>17</sup> The main responsibilities of a state-owned assets supervision and administration authority are as follows: "(1) perform the responsibilities of investor for the invested enterprises in accordance with the Company Law of the People's Republic of China; (2) guide and push forward the reform and restructuring of state-owned enterprises and state-owned holding enterprises; (3) dispatch supervisory panels to the invested enterprises [...]; (4) appoint or remove the responsible persons of the invested enterprises and evaluate their performance in accordance with the statutory procedures, and grant rewards or impose punishments based on the evaluation results; (5) supervise and administer the preservation of and increases in the value of State-owned assets of enterprises [...]."

<sup>18</sup> The Guidelines to the State-owned Enterprises Directly under the Central Government on Fulfilling Corporate Social Responsibilities states that "state-owned enterprises (SOEs) directly under the central government (referred to as CSOEs hereafter) to earnestly fulfill corporate social responsibilities (CSR), so as to realize coordinated and sustainable development of enterprises, society and environment in all respects." For instance, in Article 15, "Participating in social public welfare programs. CSOEs ought to encourage their employees to volunteer for social services, and actively participate in community and social welfare program, such as charity, donations, CSOEs also need to provide financial, material and manpower support."

must accept new appointments recommended by the Chinese government. Such a policy is unsurprising given that China has the largest labor force in the world. Compared to other companies, SOEs are less likely to fire workers during economic downturns as they must protect jobs and provide stability to their workers. For example, Daqing is a new city where the Daqing Petroleum field, which is owned by the State, generates the jobs of almost all its inhabitants. In such a case, layoffs can easily cause huge social instability and unrest (Du and Wang, 2012).

There is little reduction in input controls as the SASAC exercises its power under complete party control. The State Council of the Communist Party appoints the SASAC's leadership, with all nine members coming from the current or past Central Committees of the Communist Party of China. Unlike the other countries discussed here, political association is essential for the appointment of any SOE's manager. The case of China National Petroleum Corporation (CNPC), the world's fourth-largest oil producer by market capitalization, with revenues of US\$432 billion in 2013, shows that such appointments can easily backfire. Jiang Jiemin ran both the CNPC and its subsidiary, PetroChina, from 2007 to 2013, when he briefly headed the SASAC. He is facing accusations of using his position and the CNPC's massive budget to help his patron buy political favors and maintain his network of supporters across China. Qing Yi, a Beijing-based independent economist, pointed out that "the scale of the probe into CNPC is unprecedented, but perhaps the severity of corruption at the company is also unprecedented" (Lague, Zhu, and Lim, 2014). The SASAC has limited autonomy in appointing the managers of SOEs. In 53 out of 117 central enterprises, the Organization Department of the Party's Central Committee evaluated and appointed the chairman, CEO, and party secretaries for each enterprise. The SASAC also rotates senior corporate members and party leaders among its business groups and sets executive compensation in SOEs. On a more general level, one-third of the employees in national SOEs are party members. This political dynamic, established from a legacy of related appointments, means that success in the business world leads to promotion and rewards in the political realm, and vice versa. It is not surprising to know that there is no separation between the roles of chairman and CEO within the SASAC itself.

Despite the fact that China is the world's second largest economy and has the second largest stock market by market capitalization, its firms have low cash reserves because they have always had access to easy credit (Megginson, 2012). SOEs enjoy government subsidies, non-cash benefits such as low-interest bank loans, and discounts on purchases of land, water, and electricity. Privatization is not an option because the government believes that SOEs can be improved by maintaining a tight grip on their operations. It also encourages

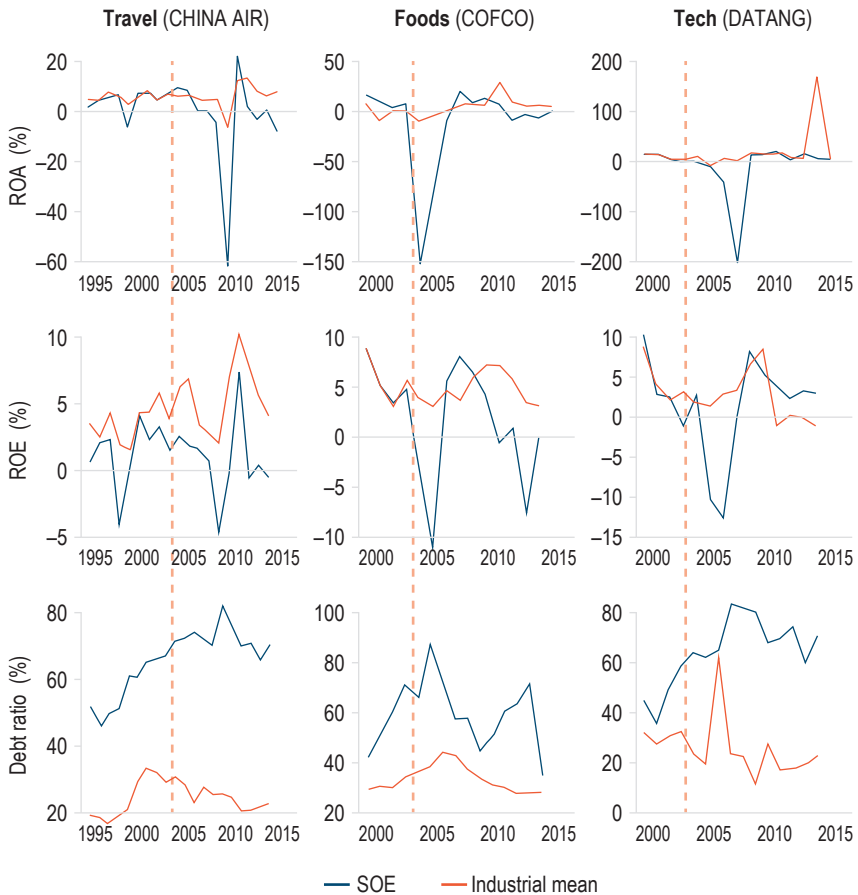
mega-mergers between corporations to avoid detrimental competition and exploit any potential economies of scale. Since the decentralization of the 1980s, local governments have increasingly tried to maximize their tax revenues by casting a wider net. Local tax authorities can have a significant impact on credit allocation by state-owned banks as well as on government subsidies (Yu and Pan, 2010). Although the “big four” state-owned banks<sup>19</sup> became publicly traded companies, the central government still maintains majority ownership through the CIC and the MoF. Local governments tend to influence the allocation of credit and subsidies to the SOEs in their jurisdictions in a bid to increase local tax revenues.

Starting in 2010, the SASAC initiated a three-year Performance Assessment Policy to evaluate the compensation of senior management including the CEOs, CFOs, and vice presidents of all SOEs. The three-year term of the policy reflects the three-year contracts (2010–2012) in place with each of these executives. Under the policy, EVA is used as the basis for evaluating bonuses, promotions, or dismissals. These changes in performance measurement have failed to effect behavioral and cultural changes during the first year; however, the SASAC indicated that it is committed to ensuring successful implementation (Stern, 2011). The tunneling problem is likely to exist as the ownership of SOEs is highly concentrated with the SASAC. Most of China’s publicly listed companies were once branches of SOEs; the well-performing units were separated and listed while the remaining parts then constituted the parent company. Consequently, a parent company commonly uses the resources of the listed company whenever it encounters financial difficulties (Gao and Kling, 2008).

In sum, the SASAC can be classified as a submissive investor-type SOHC, as the government has nearly full control of its operations and it is structured like a governmental agency. It owns holding companies in many different sectors of the Chinese economy and explicitly pursues social objectives. Its board is staffed by politically appointed public officials, and it has little authority in appointing the management of the SOEs. There is no separation between the roles of chairman and CEO, and there is little use of performance measures in determining compensation. Since ownership of the SOEs is highly concentrated with the SASAC, resource extraction for individual or political gain is a distinct possibility. The concerted bureaucratic efforts to make SOEs strong are intended to maintain the current monopoly-profit model, and the SASAC will continue to exist to manage government assets unless the government wants to privatize those assets (Sam, 2007).

---

<sup>19</sup> The Bank of China, the Construction Bank of China, the Agriculture Bank of China, and the Industrial and Commercial Bank of China.

**Figure 6.4. Performance of Some SOEs under SASAC**

Source: Thomson Reuters Datastream.

The performance of SOEs under SASAC has been disappointing. The ROA and ROE of SOEs are no better or more stable than the industrial averages, whereas the debt ratio of most SOEs is significantly higher than the industrial average. Despite growth in assets, profits have fallen and the percentage of SOEs losing money has increased drastically since the global financial crisis of 2008 (Figure 6.4) (Wildau and Mitchell, 2016).

### Lessons and Challenges

The cases discussed here provide lessons learned from the experiences of four Asian countries for the further development or initiation of SOHCs in other

countries. A significant challenge with any SOHC is shielding it from political and bureaucratic pressures. Although no definitive conclusions can be drawn due to the paucity of data, this analysis suggests that the efficiency of an SOHC suffers as political interference increases. Consequently, there is significant room for improvement in cases where there is a high level of government intervention. The performance of SOEs operating under a corporate investor type SOHC (such as Temasek) compares favorably with that of their private industrial competitors, as they are not hampered by having to further government-mandated social objectives. They also demonstrate sound fiscal governance due to the presence of hard budget constraints. In addition, there is little room for discretionary resource transfers, as the ownership of SOEs is not concentrated within a corporate investor-type SOHC. On the other hand, SOEs under a shadow investor-type SOHC (e.g., the Khazanah Nasional Berhad and SCIC) or a submissive investor-type SOHC (e.g., SASAC) perform poorly compared to private firms. Their operational decisions are often governed by political interference, and they usually rely on government bailouts and discretionary resource transfers to alleviate budgetary concerns. On the whole, their efficiency suffers because they have to pursue conflicting social and corporate objectives and are managed by politically appointed public officials.

An SOHC must have operational autonomy and be staffed with people who have the requisite managerial and technical skills. Singapore has brought in private sector representatives on the boards of THL and its portfolio companies to add technical, financial, and legal skills. In Malaysia, the Khazanah has recruited experienced professionals from the financial and corporate sectors, and government officials have been removed from the boards of SOEs (World Bank, 2014a). Governments understand the need to curb bureaucratic and political intervention, but the process takes time.

There are two principal-agent stages with an SOHC: the first is between the government and the SOHC, and the second is between the SOHC and the SOEs. To simultaneously reduce both political and agency costs, it is imperative to have external and internal monitoring mechanisms such as an anti-corruption agency, an auditing agency, and a performance-based compensation system. Fiscal governance also plays a key role in the performance of SOEs, and reforms are often needed to make the budgeting and resource transfer process more transparent. Both Vietnam and Malaysia would benefit from such measures, as their respective holding companies have had to deal with discretionary resource transfers. Fiscal governance reform remains a high priority for SOHCs in all countries except Singapore.

Although the Temasek model has proven to be successful, it is not that difficult for a holding company to have significant control over major industries

or certain companies. The choice of model also needs to account for both the structure and the characteristics of the SOEs, the government culture, and the political environment. The Temasek model may not be suitable for economies with central planning, an unstable political environment, and/or a weak financial market. A sectoral holding company or a regional/local government may be more appropriate than an SOHC in cases where there is a large country (China), a high degree of industrial complementarity, and/or the potential to maximize economies of scale/scope throughout the region. No single ownership model is universally applicable or inherently better, as different starting points require different approaches and sequencing. Moving to a fully centralized model may not always be possible in the short term because of political opposition, vested interests, or the lack of institutional capacity. In short, ownership arrangements should be tailored to the political, economic, and institutional realities of a country.

It is important to consider certain factors with respect to the empirical analysis. Given the exclusive use of Asian examples, the findings may not be applicable to SOHCs in countries outside of Asia. The link between SOHC type and SOE performance might be driven by a particular country's political system; none of the holding companies used in our analysis come from a democratic nation. It is also possible that the performance of an SOHC depends on foreign investment rather than the degree of political control and intervention. These concerns can be tested by running a multivariate regression with variables controlling for region, regime type, years since the SOHC's inception, and foreign investment.

Policymakers and the academic community can benefit from further research in a number of areas. While most studies look at the State-SOHC-SOE relationship separately, there is little literature on the dynamics of the relationship as a whole. This analysis assumes that the SOHCs remain static, whereas countries regularly shift from one type to another. For example, both Peru and Hungary appear to be shifting from the submissive investor type to the shadow investor type. Although no conclusions are drawn regarding the SOHC structure-performance relationship, this analysis sheds light on a number of avenues for further research.





# Bureaucratic Quality and Reform of SOEs

*by John Huber*

This chapter reconnects the discussion of state-owned enterprise (SOE) reform with politics, and in particular with bureaucratic quality. The connection with the ultimate decision makers (e.g., politicians and bureaucrats) is key because most of the reforms suggested so far in the book depend on the buy-in of these actors. Moreover, a large part of the literature on the reform of corporate governance of SOEs emphasizes giving SOEs more autonomy as a way to improve performance. The first recommendation of the Organisation for Economic Co-operation and Development (OECD) Guidelines, for instance, involves isolating SOEs from the inefficient pressures brought to bear by politics. The OECD encourages governments to “allow SOEs full operational autonomy to achieve their defined objectives and refrain from intervening in SOE management” and that the state should “let SOE boards exercise their responsibilities and should respect their independence” (OECD, 2015: 1-3).

The second set of reforms focuses on improving internal structures of SOEs in ways that allow them to operate transparently and efficiently. The goal for SOE governance is often to create management structures that mirror as closely as possible the structures used in private companies in an effort to encourage maximal efficiency. The recommendations therefore typically involve adopting corporate governance guidelines; fulfilling responsibilities toward shareholders; adopting high quality accounting, disclosure, compliance, and auditing standards; and structuring governing boards appropriately, among other things.

This book, in contrast, emphasizes how to use bureaucratic structures such as the centralized agencies and a variety of administrative rules to improve not only the performance of SOEs, but also the delivery of high-quality public services. That is, sitting alongside the OECD’s

emphasis on isolating SOEs from politics and on structuring them to operate like private companies is the recognition that the “ultimate purpose of state ownership of enterprises should be to maximize *value for society* through an efficient allocation of resources” (OECD, 2015: 29, emphasis added). Defining value for society requires a conversation about the distribution of resources. SOEs provide jobs directly and indirectly (through the awarding of contracts), and employment is an important value for society. SOEs also provide crucial services, at times in sectors where market competition is weak. Thus, when the state owns enterprises, they will inevitably be subject to political forces that push them in directions that the market would not.

Once an enterprise becomes state-owned, it essentially becomes akin to a government bureaucracy, and all the problems associated with managing a bureaucracy become relevant to managing an SOE. There are problems associated with incentives for politicians, who might value efficient SOE operation less than other political objectives, such as jobs for constituents or improved welfare for particular sectors of society. When politicians with opportunities to influence SOE behavior do not have incentives to encourage efficient operation, no structural solutions internal to SOEs themselves are likely to produce efficient SOE operation. Nevertheless even if politicians have an incentive to achieve good SOE performance, there are myriad factors inherent to the agency relationship between politicians and SOEs that can limit the capacity of politicians to exercise effective control. For instance, there can be multiple-principal problems that are absent when an enterprise has a clear line of accountability to owners and shareholders who care about profit. There are problems of soft budget constraints that can invite SOEs to extract resources from the state, and there are all the standard principal-agent problems associated with effective oversight of political bureaucracies.

This chapter focuses on what one might call the “political market” for effective governance of SOEs. Political markets are markets where different political actors have different objectives. The goal is not to imagine how SOEs can be insulated from public interference so that they must respond to market incentives. Indeed, this is often impossible, either because the SOEs operate in sectors without strong market competition (and in fact may be monopolists), or because politicians want to push SOEs in non-market directions. Instead, the point of departure is to recognize that SOEs are by definition the subjects of political control. Thus, to achieve effective SOE performance, the realities of political markets that influence SOE performance must be understood and addressed. To this end, it is useful to think of SOEs as state bureaucracies.

At the outset, it is important to be clear about the types of outcomes that reforms should achieve. One problem is that there are almost always

divergent preferences among politicians. They may disagree, for example, on where electricity should be provided, making it difficult to describe the quality of performance by an electric utility. Moreover, the preferences of politicians themselves may not be particularly commendable or normatively desirable. Politicians, for example, may wish to use SOEs to reward their supporters with good paying jobs, and if an SOE responds by providing such jobs for the politician, this hardly seems like good operation of an SOE.

This chapter therefore views SOE performance through the lens of good governance. This implies SOEs should operate in a way that enhances state capacity and citizen confidence in state institutions. The dimensions of good governance include efficiency, where SOEs operate with as little waste as possible, as well as neutrality and honesty. SOEs are expected to be unbiased in their provision of goods and services, and they should not divert state resources to private ends. That is, they are supposed to operate honestly. The central question then is, how can political markets encourage good governance?

The following sections situate the performance of Latin American and Caribbean (LAC) bureaucracies in comparative perspective. Is there a deficit of good governance in LAC countries? That is, do LAC countries perform worse than should be expected given their economic, social, and political contexts? The main finding is that LAC countries almost uniformly underperform. Thus, if SOEs are subject to the same political forces as ordinary bureaucracies, there should be substantial room for improvement.

To improve governance, it is helpful to know why LAC countries underperform. One possibility is that particular types of bureaucratic structure are related to good bureaucratic performance. Scholars of bureaucracy have emphasized, for example, personnel structures that are insulated from politics, structures that improve transparency, structures that ensure adequate, merit-based compensation, and structures that influence the capacity to sanction bureaucrats for underperformance. This chapter provides evidence that each of these structures is in fact associated with good performance. However, LAC countries do not uniformly underperform across these different types of structures. Among the different dimensions of bureaucratic structure that have a strong relationship with good governance, the one where LAC countries perform worse is related to the politicization of personnel. Personnel costs represent a large component of SOE budgets, and personnel management represents an opportunity for unwelcome politicization of hiring processes. Thus, it is reasonable to keep personnel management as a central focus of SOE reform.

What are the obstacles to successful reforms of personnel processes (or other aspects of SOE governance) that must be taken into account when considering possible reforms? The first is political incentives for good governance.

It is important to understand what influences the priority that politicians will place on effective governance of SOEs. The second type of problem stems from the agency relationship that SOEs have with politicians. This relationship creates standard opportunities for moral hazard, which in turn can influence incentives for political reform.

A clear statement of the political barriers to good governance helps guide recommendations for reform. These recommendations include (i) creating an SOE personnel agency that reports to the finance minister; (ii) dedicating revenues for local public goods in a way that links SOE performance to citizen welfare; (iii) creating other avenues for informing interest groups and citizens about the quality of SOE performance, along with avenues for bringing political pressure to bear for low performance; and (iv) creating legislative structures that improve political capacity for SOE governance. The present study concludes that without aligning the incentives of bureaucrats, SOE reforms are simply not going to work out, and aligning the incentives of bureaucrats may require that citizens are more informed about the quality of SOE performance and service provision. Thus, this chapter reinforces the main recommendation of the book: SOEs in the LAC region need more transparent reporting of results and quality of service, and whatever bureaucratic structures that are created to monitor and control SOEs, they need to have bureaucrats with incentives aligned with the provision of high-quality services.

### **The Low Levels of Good Governance in Latin American and Caribbean Countries**

Three dimensions associated with good governance are efficiency, neutrality, and honesty. Each is influenced by the behavior of the individuals who are employed by SOEs. Efficiency is harmed when personnel exert little effort, fail to show up for work, or suffer limitations in their ability to get things done. Bias occurs if SOE personnel favor some groups over others, irrespective of policy or the preferences of elected officials, and dishonesty occurs when bribes are extracted for providing services or when state funds are embezzled. No matter which politicians control power at a given moment, or which party wins an election, SOEs should be run in an efficient, unbiased, and honest manner: for example, consumers need electricity and water; airlines need to be cost competitive and produce a product that consumers want to buy; and energy companies need to produce as much profit as possible without harming the environment.

This section provides an empirical assessment of the performance of LAC countries on the different dimensions of good governance. Ideally, information from SOEs themselves would be used to make this assessment, but such

comparative information does not exist for all countries. Thus, the working assumption in this section is that measures of bureaucratic performance in general are reasonable proxies for SOE performance. The goal is to understand how well LAC countries perform on these different dimensions, considering the social and political context that also affects bureaucratic performance. The central finding of this section is that across different dimensions of good governance, LAC countries typically perform poorly.

The *quality of government* data (QOG) from Dahlström et al. (2015) provides useful information for measuring efficiency, neutrality, and honesty. The QOG data are based on a survey of experts in a wide range of countries that occurred in 2014–15.<sup>1</sup> These data make it possible to measure bureaucratic efficiency in 15 LAC and make comparisons with other countries around the world.

This study uses three variables from the data set to measure bureaucratic efficiency. The first, *skip work* (*q4\_e*), takes a higher value when workers do not skip work without permission. The second, *striving*, (*q5\_k*), taps the extent to which bureaucrats strive to be efficient.<sup>2</sup> The third, *helpful* (*q5\_l*), takes a higher value when bureaucrats strive to be helpful. The mean of these three variables is used to create a new variable, *efficiency*.

The study creates a variable called *neutrality* by taking the mean of two variables. The first, *group bias*, (*q5\_f*) takes a higher value when public sector workers are least likely to treat some groups in society differently than others. The second, *licensing bias* (*q5\_g*), takes a higher value when public sector workers are least likely to base licensing decisions on personal contacts. Finally, the study creates a variable called *honesty* by taking the mean of two variables: *bribes* measures whether public employees accept bribes and *embezzle* measures their propensity to embezzle funds.

In addition to these QOG variables, other measures of corruption that have a clear link to the bureaucracy are employed. The Economist Intelligence Unit is a measure related primarily to fiscal malfeasance by the state. It utilizes a global network of in-country specialists to produce reports. For the measure used here, the specialists answer questions related to procedural accountability, the professionalism of the civil service, and independent auditing. The International Country Risk Guide (ICRG) focuses on actual or expected corruption that is due to patronage, nepotism, and job reservations, among other

---

<sup>1</sup> The experts were asked to place their bureaucracies on a scale of 1 to 7 on a variety of different dimensions. Using data from Dahlstrom et al. (2015), all variables have been recoded so that a higher number corresponds to better civil service or better government.

<sup>2</sup> The relevant survey questions are found at <https://qog.pol.gu.se/data/datadownloads/qogexpertsurveydata>.

things. Finally, Transparency International's Corruption Perceptions Index (CPI) is an amalgam or a wide range of corruption-related measures. Each of these variables is coded so that a higher number represents a higher quality of governance. Given their different scales, a measure called *corruption* was created, which is generated by conducting a factor analysis on these three variables and then using the factor scores to create the variable. To facilitate comparisons, all these and other variables used in the analysis have been standardized to have a mean of zero and a standard deviation of one.

Table 7.1 provides information about each of these variables for LAC and comparison countries. Since the variables are standardized, each cell describes how the value in a country relates to the mean level in sample, with a negative (positive) number indicating that a country is below (above) the mean. The table shows that LAC countries are consistently below the mean. Indeed, the only country that is consistently above the mean on the good governance variables is Chile, which is at least one standard deviation above the mean on all the measures of good governance. A few other countries have positive scores on at least one measure, but most LAC countries have negative scores on all four. When the mean of the LAC countries is compared with the mean from the 55 other countries (see the bottom two lines of the table), LAC countries are about one-half of a standard deviation worse than the other countries.

The inferences that can be drawn from these simple sorts of comparisons are limited by the fact that the quality of governance is influenced by the broader economic, social, and political context. If the quality of governance increases, for example, as a country becomes richer, this would need to be taken into consideration in the comparisons. To this end, the variables on the right side of Table 7.1 are suggestive. Scholars have argued that good governance is facilitated by wealth and democracy and is hindered by ethnic diversity. Table 7.1 shows that LAC countries have roughly the same level of wealth and have higher levels of democracy than other countries. Thus, the low levels of government quality are doubtfully attributable to the levels of economic or political development in LAC. Similarly, LAC countries are typically more ethnically homogenous than other countries, and thus poor performance with respect to quality of governance is doubtfully attributable to this aspect of the social context. One distinctive feature of LAC countries is the structure of their political institutions: all LAC countries use proportional electoral laws (PR) and all have presidential executives. It is therefore helpful to understand the extent that these institutional variables are negatively related to quality of government.

A straightforward strategy to take the broader context into account when situating LAC countries in comparative context is to estimate simple ordinary least squares (OLS) regression models using a measure of good governance

**Table 7.1. Measures of Good Governance by Country in Latin America and the Caribbean**

Country	Efficiency	Neutrality	Honesty	Corruption	Polity2	GDP	ELF	PR	Presidential
Argentina	-0.86	-0.29	-0.82	-0.60	0.72	0.74	-0.87	1	1
Bolivia	-0.65	-0.56	-0.60	-0.56	0.57	-0.19	1.04	1	1
Brazil	-0.30	-0.20	0.11	-0.20	0.72	0.45	0.28	1	1
Chile	1.13	1.25	1.36	1.34	1.03	0.79	0.08	1	1
Colombia	-0.22	0.03	-0.69	-0.42	0.57	0.36	0.70	1	1
Dominican Republic	-1.35	-0.87	-0.92	-0.73	0.72	0.33	-0.35	1	1
Ecuador	0.72	-0.12	-0.73	-0.66	0.27	0.30	0.69	1	1
El Salvador	-0.51	-0.90	-0.14	-0.42	0.72	0.04	-1.09	1	1
Guatemala	-0.97	-1.35	-0.89	-0.77	0.72	-0.22	0.06	1	1
Mexico	-0.79	-0.90	-0.80	-0.56	0.72	0.64	0.25	1	1
Nicaragua	-0.21	-0.60	-0.33	-0.98	0.88	-0.39	-0.29	1	1
Peru	-0.60	0.31	-0.46	-0.45	0.88	0.38	0.63	1	1
Uruguay	-0.29	1.25	1.40	1.27	1.03	0.69	-1.01	1	1
Venezuela	-1.40	-1.77	-1.38	-1.37	-0.95	0.55	0.02	1	1
LAC (mean)	-45	-0.34	-0.35	-0.37	0.62	0.32	0.01	1	1
Other countries (mean)	0.16	0.18	0.14	0.21	0.42	0.39	-0.15	0.7	0.37

Source: Author's elaboration using data from Dahlström, et al. (2015) and the World Bank World Development Indicators (WDI) (<https://datacatalog.worldbank.org/dataset/world-development-indicators>).

as the dependent variable, and to also include, for the right-hand side variables, each of the control variables in Table 7.1 (Polity2, GDP, ELF, and dummies for proportional representation and presidential systems), as well as a dummy variable for LAC. The coefficient on the LAC indicator measures how well LAC countries perform, on average, relative to other countries in the world, when these other factors that influence the quality of government are controlled for (Table 7.2).

Across the four measures of good governance, LAC countries, on average, perform considerably worse than the other countries, about one-half of a standard deviation (which is similar to the average differences in Table 7.1). The estimated underperformance is greatest on *efficiency*, where LAC countries are 0.56 standard deviations worse than would be expected given their social and political characteristics.

These results mask variation across LAC countries. Figure 7.1 shows the results for each country on each measure. To create these scatter plots, the same good governance regressions are estimated as above, but without the

**Table 7.2. Ordinary Least Squares (OLS) Models of Good Governance**

	Efficiency	Neutrality	Honesty	Corruption
Latin America	-0.562** (0.030)	-0.512** (0.038)	-0.426* (0.079)	-0.515*** (0.006)
Polity2	-0.040 (0.740)	0.319*** (0.002)	0.170 (0.155)	0.291*** (0.000)
GDP	0.701*** (0.000)	0.596*** (0.000)	0.659*** (0.000)	0.766*** (0.000)
ELF	-0.038 (0.749)	-0.054 (0.632)	-0.058 (0.617)	0.034 (0.677)
PR	0.091 (0.563)	-0.130 (0.447)	-0.080 (0.622)	-0.158 (0.286)
Presidential	-0.045 (0.811)	0.051 (0.781)	-0.077 (0.667)	-0.068 (0.701)
Constant	-0.131 (0.384)	-0.132 (0.396)	-0.080 (0.588)	-0.115 (0.460)
R <sup>2</sup>	0.521	0.546	0.574	0.642
Obs	98	97	98	98

Source: Author's elaboration using data from Dahlström, et al. (2015) and the World Bank World Development Indicators (WDI) (<https://datacatalog.worldbank.org/dataset/world-development-indicators>).

Notes: The results are from a cross-section of countries and are based on OLS models, with p-values given in parentheses based on robust standard errors. \* p<.10, \*\* p<.05, \*\*\* p<.01.

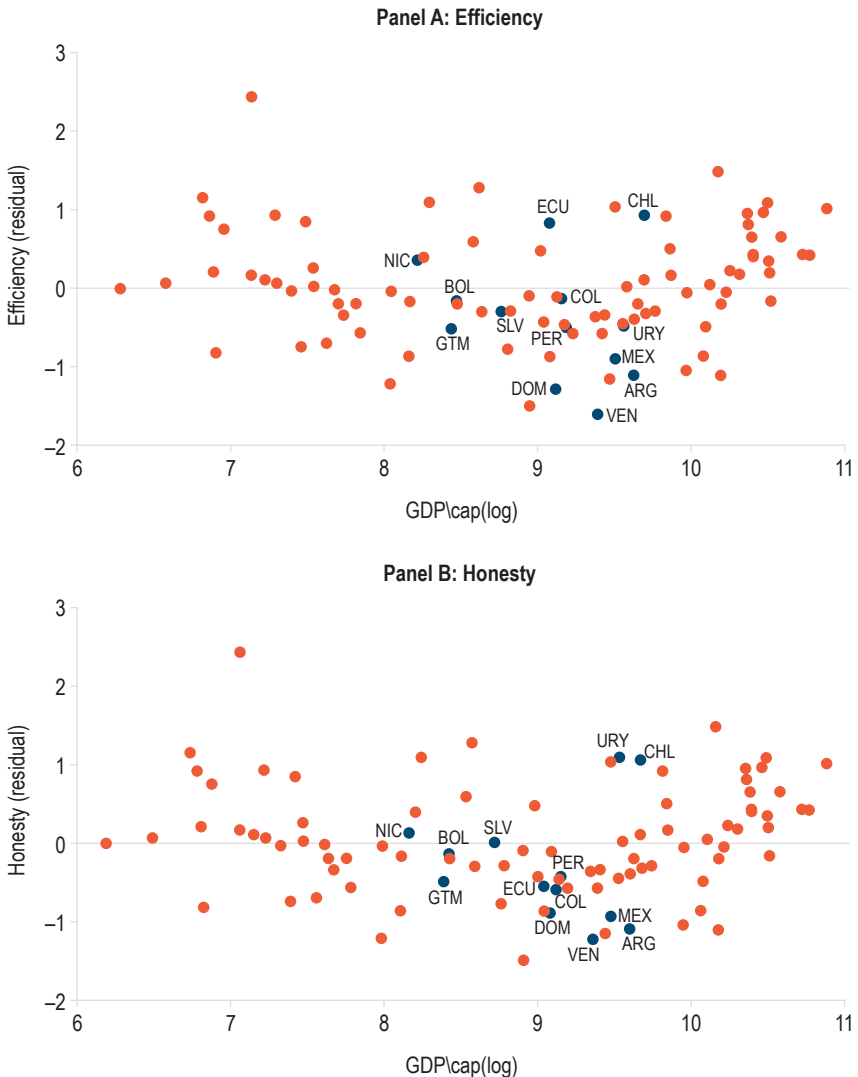
LAC indicator. The residual from this regression for each country was then calculated—that is, the difference between the actual and the predicted value. A positive number indicates that a country is performing better than expected giving its social and political context, while a negative number suggests a country is performing worse. These residuals were plotted against gross domestic product (GDP). It is important to bear in mind that since GDP is included in the regression, there is no relationship between the residuals and GDP. Panels A, B, C, and D of Figure 7.1 show the results for *efficiency*, *honesty*, *corruption*, and *neutrality*, respectively.

Several results stand out from the scatter plots in Figure 7.1. First, only Chile has a positive score across all four dimensions. Uruguay has a positive score on all dimensions except *efficiency*, where it is about one-half a standard deviation below expectations. Second, nine countries have a negative score on all four dimensions. Venezuela performs particularly poorly: its best score is more than one standard deviation below what should be expected. Panama is not far behind in underperformance. Finally, the performance of the LAC countries is quite similar across the different dimensions of performance, with the average of the country scores ranging from -0.25 for *honesty* to -0.33 for *efficiency*.

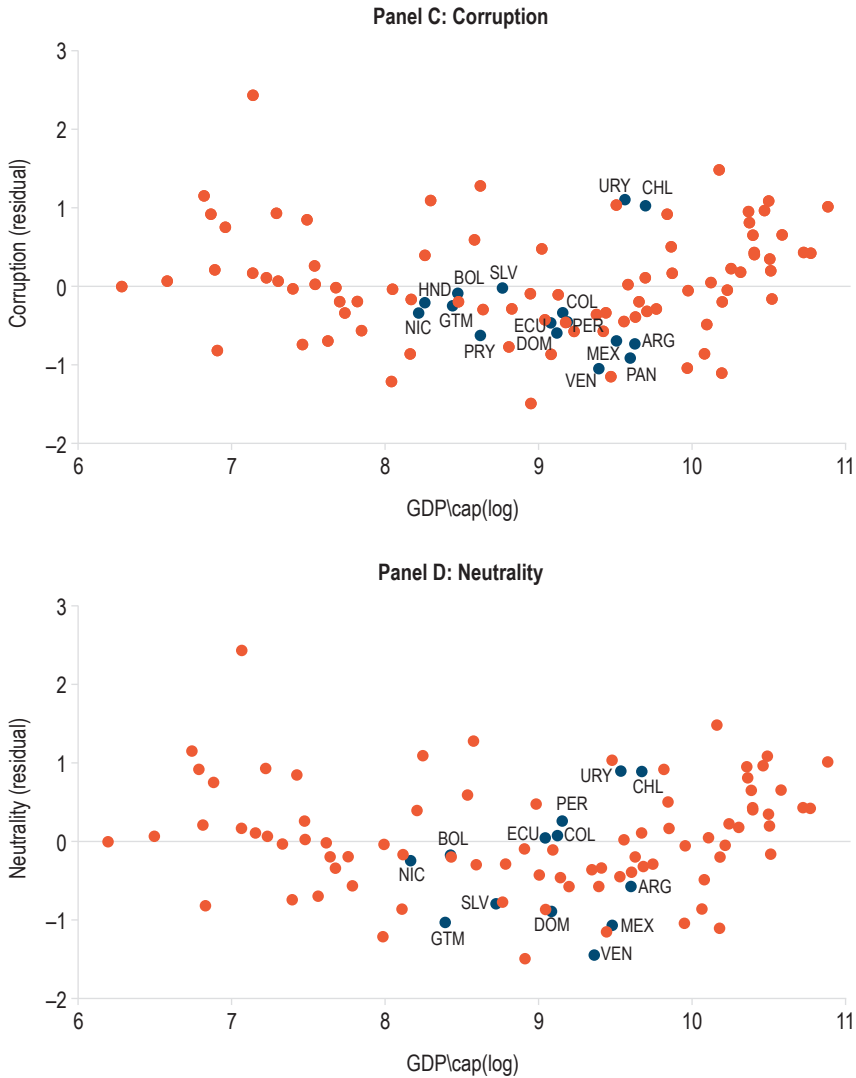


According to these data, LAC country bureaucracies are producing less good governance than should be expected, given their economic, political, and social conditions. The next question is why this should be the case. This question is answered by considering the link between bureaucratic structures and good governance. Are there particular features of one that are associated with the other? If so, how do LAC countries perform with respect to these features?

**Figure 7.1. Good Governance in Latin American and Caribbean Countries**



(continued on next page)

**Figure 7.1. Good Governance in Latin American and Caribbean Countries** (continued)

Source: Authors' elaboration.

## Bureaucratic Structure and Good Governance

Several types of structures can improve bureaucratic performance. One important dimension is personnel. Jobs in the bureaucracy should be related to merit, not political patronage or personal connections. Structures should therefore insulate many of the jobs in the bureaucracy from influence by the governing

politicians of the day. Similarly, promotion and advancement within the bureaucracy should be linked to performance, not to other considerations unrelated to how employees do their job. Therefore, a variable called *personnel* was created that is based on the following five QOG variables:

- *Merit selection* (variable name in data set is q2\_a), which takes a higher value when obtaining a job in the bureaucracy depends most heavily on skills and merit.
- *Political connections* (q2\_b), which takes a lower value when political connections are central to obtaining public sector positions.
- *Personal connections* (q2\_c), which takes a lower value when personal connections are central to obtaining public sector positions.
- *Exam* (q2\_d), which takes a higher value when some form of exam is central to hiring decisions
- *Hiring process* (q2\_e), which takes a higher value when the rules for hiring, firing, promoting and paying public sector employees follows the relevant legal procedures.

A factor analysis was conducted on these six variables using data from all countries in the dataset. Then, the factor scores were used along with the country scores on the five variables to create a new variable, *personnel*, which increases as the country has bureaucratic employment practices that are more meritocratic.

Good performance requires skilled personnel, and to attract skilled personnel firms must offer competitive salaries and pensions. The level of pay within the bureaucracy should also been linked to bureaucratic performance. Therefore, the same factor analysis approach was used to create a variable call *pay*, which takes a higher value when pay is more competitive. The specific variables from the QOG data set are the following:

- *Senior pay* (q4\_a), which takes a higher value when senior managers receive pay that is competitive with the private sector.
- *Good pay* (q4\_b), which takes a higher value when public service salaries are deemed adequate for a sustaining daily life.
- *Good pension* (q4\_d), which takes a higher value when public service pensions are deemed most adequate.

Attracting talented individuals to public service, promoting them based on performance, and paying adequate compensation are not sufficient for achieving good bureaucratic performance. In some societies, positions in the bureaucracy

might provide one of the best avenues for self-enrichment, for example through bribes or kickbacks, and thus attract the most capable individuals, but ones motivated by outcomes unrelated to good governance. Even when bureaucratic behavior is not nefarious, regardless of the talent level in the bureaucracy, bureaucrats may act in ways that are inconsistent with efficient governance, either by working inefficiently or producing unwanted outcomes. Both nefarious and lazy behavior may have roots outside the bureaucracy, with politicians complicit in corruption or using bureaucratic positions as patronage payoffs rather than to promote the public good. Thus, to promote efficiency, bureaucratic structures should promote transparency both within and outside the bureaucracy. To create a variable called *transparency*, the factor analysis approach with four variables was used.

- *Whistleblower* (q11\_a) takes a higher value when there are low risks of revealing misconduct by others.
- *Open access* (q11\_b) takes a higher value when there is better access to government records.
- *Media* (q11\_c) takes a higher value when the media are more likely to expose abuses of power.
- *Money flows* (q11\_d) takes a higher value as it becomes easier to track the flow of government revenues and expenditures.

Finally, there must be means of sanctioning bad behavior. *Transparency*, after all, will be of limited value if effective mechanisms do not exist for sanctioning bureaucrats or politicians who fail to act in accordance with their responsibilities for producing good governance. Thus, high bureaucratic capacity should be related to structures that attract and promote talented individuals, impose transparency on state actions, and punish state actors when appropriate. To measure *punishment*, the present study uses one available variable in the dataset, (q11\_h), which takes a higher value when there are effective means for punishing bureaucratic misconduct.

To assess how bureaucratic structure and good governance are related, for each measure of good governance, four regressions are estimated. The regressions include each of the control variables included in Table 7.2 and one of the four measures of bureaucratic structure. Table 7.3 summarizes the results for these bureaucratic structure variables.

The first column reports the results for the bureaucratic structure variables from the four regressions where *efficiency* is the measure of good governance. The model estimates that controlling for the other factors that can influence bureaucratic structure, a one standard deviation increase in *personnel* is associated with a 0.694 standard deviation increase in *neutrality*.

**Table 7.3. Bureaucratic Structure and Good Governance**

Structure variable	Good governance variable			
	Efficiency	Neutrality	Honesty	Corruption
Personnel	0.731	0.694	0.646	0.662
Pay	0.695	0.634	0.611	0.608
Transparency	0.545	0.567	0.465	0.332
Punishment	0.651	0.664	0.586	0.493

Source: Author's elaboration using data from Dahlström, et al. (2015).

Notes: Results are OLS regression coefficients for the bureaucratic structure variables in the left-most column from models where the dependent variable is the good governance variable listed at the top of each column. All coefficients are significant at the .001 level.

A number of observations about bureaucratic structure are worth making. First, for each measure of good governance, all measures of bureaucratic structure have positive and precisely estimated coefficients. The data suggest, then, that all four dimensions of good bureaucratic structure are associated with good governance. Second, some dimensions of have larger estimated coefficients than others. Across all four dependent variables, *personnel* has the largest estimated coefficient, suggesting a crucial pathway to good governance may be to have structures for hiring and promotion that are linked to merit. *Pay* and *punishment* are not far behind *personnel* in the size of their coefficients, and *transparency* typically has the weakest association with the good governance variables, but it too has a non-trivial positive coefficient.

It is important to bear in mind that the measures of good governance in the first three columns are taken from the same expert survey as the measures of bureaucratic structure. Measurement error might be an issue in these models if the expert respondents to the survey tend to systematically assign high values to structures when they perceive high values of good governance. For this reason, the fourth column, which focuses on *corruption* measured using non-survey sources, deserves special attention. The results reveal a strong association between each of the four measures of good governance and the independent measure of corruption, with *pay* having the largest coefficient and *transparency* the smallest coefficient.

### Bureaucratic Structure in Latin American and Caribbean Countries

One explanation for the relatively low level of bureaucratic performance described in the previous section is that LAC countries do not have the types of bureaucratic structures associated with good governance. To explore this possibility, the analysis in this section begins by estimating the same sorts of

models estimated in Table 7.2, using the measures of bureaucratic structure (rather than the measures of good governance) as the dependent variables. These models can provide a sense of whether the relatively poor performance of LAC countries on the good governance variables may be due to particular dimensions of bureaucratic performance. The results are in Table 7.4.

The results suggest that the average quality of bureaucratic structures in LAC countries is lower than should be expected on two of the four dimensions of bureaucratic structure: *personnel* and *punishment*. On average, the predicted level of both of these variables in LAC countries is about 0.7 standard deviations lower than in other countries, controlling for the other variables in the model. Equally suggestive is that for *pay* and *transparency*, LAC bureaucracies seem to perform as well as other countries. Thus, looking at LAC countries in the aggregate, these data suggest that the best way to improve the structures is to focus on personnel management and sanction unwanted bureaucratic behavior.

How does the quality of bureaucratic structures vary across LAC countries? Again, the same strategy is followed that was used in Table 7.2, but using the bureaucratic structure variables as the dependent variables. That is, each of the measures of bureaucratic structure is regressed on the control variables (except the LAC indicator), and the difference between the predicted and

**Table 7.4. Ordinary Least Squares Models of the Quality of Bureaucratic Structures**

	Hiring	Pay	Transparency	Punishment
LAC	-0.688*** (0.007)	-0.204 (0.317)	-0.276 (0.276)	-0.716** (0.015)
Polity2	0.272** (0.013)	0.057 (0.505)	0.542*** (0.000)	0.061 (0.560)
GDP	0.527*** (0.000)	0.872*** (0.000)	0.410*** (0.000)	0.606*** (0.000)
ELF	-0.084 (0.834)	0.489 (0.171)	-0.034 (0.927)	0.220 (0.662)
Presidential	-0.091 (0.649)	-0.002 (0.991)	0.230 (0.272)	-0.018 (0.932)
PR	-0.200 (0.202)	-0.033 (0.790)	0.010 (0.947)	-0.026 (0.880)
Constant	0.194 (0.359)	-0.273 (0.148)	-0.268 (0.217)	-0.063 (0.819)
R <sup>2</sup>	0.527	0.686	0.511	0.418
Obs	95	96	96	97

Source: Author's elaboration using data from Dahlström, et al. (2015).

Note: Results from OLS models with p-values given in parentheses based on robust standard errors. \* p<.10, \*\* p<.05, \*\*\* p<.01.

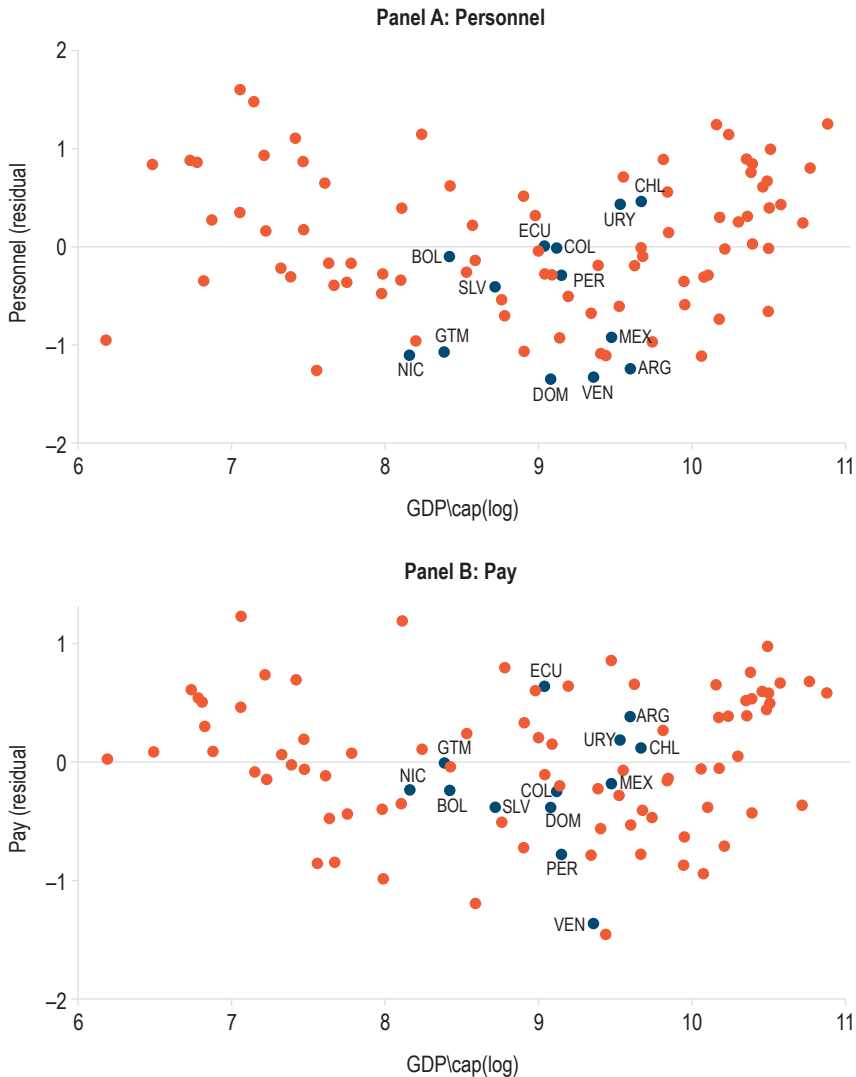
actual value of the dependent variable is calculated for each LAC country, with positive (negative) results suggesting better (worse) structures than should be expected given country values on the control variables. The results are plotted in Figure 7.2, where panels A, B, C, and D show the results for the *personnel*, *pay*, *transparency*, and *punishment* variables, respectively.

The figures suggest that the poor performance in LAC countries on the *personnel* variable is not being driven by a few outliers. On the contrary, all but three countries have personnel structures that are weaker than one should expect. The story is essentially the same for *punishment*, the other aspect of bureaucratic structure where Table 7.4 suggests that LAC countries perform poorly. The figure also suggests a positive correlation within LAC between bureaucratic structure and performance (good governance). Chile and Uruguay, for example, are consistently strong on both, while Mexico, Argentina, Venezuela, and the Dominican Republic have low levels of performance and low-quality bureaucratic structures. The one country that stands out for its disconnect between the two is Brazil, which scores relatively well on its structure but not on performance.

When bureaucracies underperform, scholars often look to institutional fixes within the bureaucracy. For example, if personnel policies become politicized, one solution is to institutionalize hiring procedures that isolate decisions from political influence. Merit-based exams for personnel hiring are advocated as such an institutional response that is internal to the bureaucracy (Rauch and Evans, 2000). As others have emphasized (e.g., Grindle, 2012 on LAC and Dahlström, Lapuente and Teorell, 2012 examining a broader cross-section), the internal procedures for bureaucratic practice can be quite different on paper and in practice, and to get bureaucracies to work well, it is not enough to adopt particular procedures and ask bureaucracies to follow them.

This is evident in the data here. In the factor analysis that creates *personnel*, four of the five variables have a scoring coefficient that is greater than 0.24 (in absolute value) whereas one—the use of merit exams—has a scoring coefficient of only 0.05. Thus, a country's score on the *exams* variable is largely unrelated to its scores on other variables measuring perceptions of how well personnel policies operate in practice. Variation in the presence of exams also has no relationship to variation in good governance. See, for example, Table 7.5, which estimates models identical to those in Table 7.4 above. Each model contains as its measure of bureaucratic structure one of the variables used to construct hiring. In four of the five models, the *hiring* variable is large (a one standard deviation in the *hiring* variable is associated with at least a one-half standard deviation increase in corruption). The one exception is specification 4, where exams is the measure of hiring. It has a very small and very imprecisely measured coefficient.

**Figure 7.2. The Quality of Bureaucratic Structures in Latin American and Caribbean Countries**

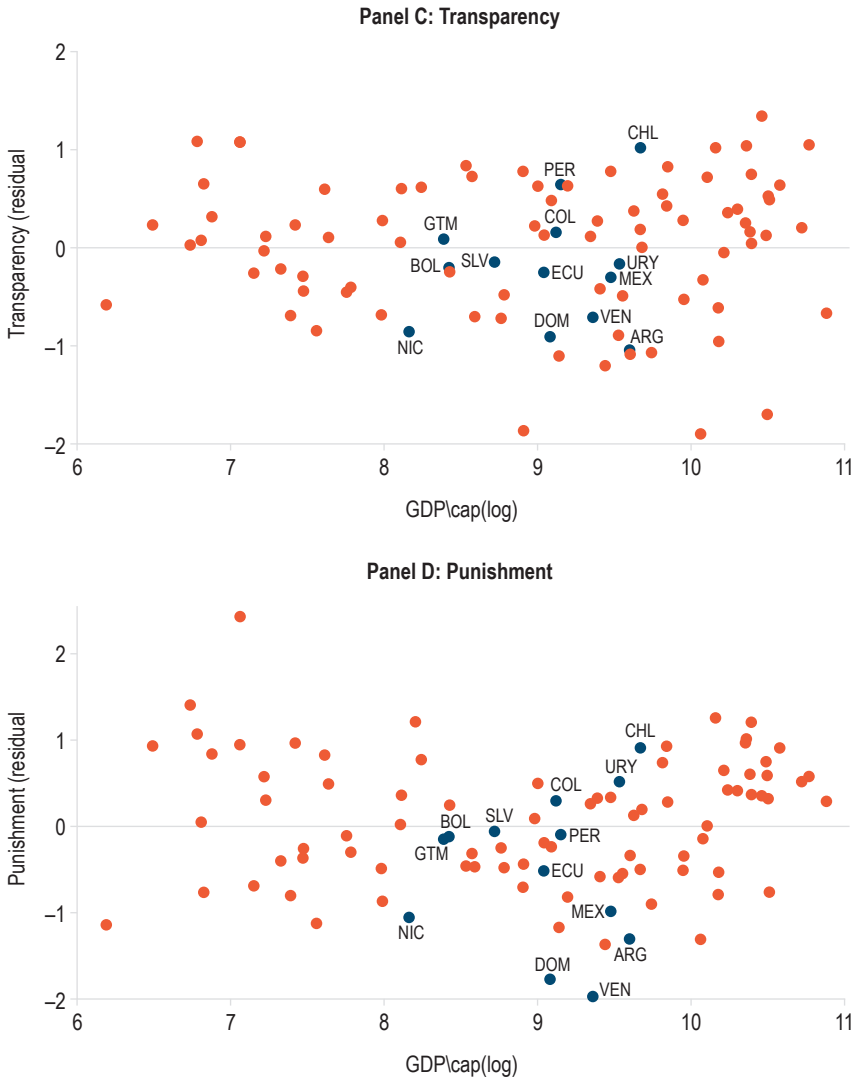


*(continued on next page)*

The empirical analyses, then, lead to a number of insights that can influence how improving SOE performance is conceptualized. First, if the performance of SOEs is believed to mirror the performance of bureaucracies more generally, it should be expected that LAC SOEs are underproducing good governance; that is, they are operating in a way that is less neutral, more corrupt, less efficient,



**Figure 7.2. The Quality of Bureaucratic Structures in Latin American and Caribbean Countries** (continued)



Source: Author's elaboration using data from Dahlström, et al. (2015).

and less honest than is the case in comparable countries. Second, the structures within bureaucracies that are associated with good governance are not uniformly absent in LAC countries. Pay is not particularly subpar, and there is not a particularly low level of transparency. However, LAC countries perform markedly worse than similar countries when it comes to the depoliticization of

**Table 7.5. Hiring Variables and Corruption**

	(1) Merit	(2) Political connections	(3) Personal connections	(4) Exam	(5) Procedures used
Merit selection	0.606*** (0.000)				
Political connections		0.544*** (0.000)			
Personal connections			0.600*** (0.000)		
Exam				0.054 (0.509)	
Procedures used					0.508*** (0.000)
GDP	0.513*** (0.000)	0.459*** (0.000)	0.510*** (0.000)	0.826*** (0.000)	0.588*** (0.000)
Polity2	0.081 (0.298)	0.140* (0.098)	0.054 (0.515)	0.205** (0.034)	0.085 (0.267)
ELF	0.068 (0.286)	0.025 (0.719)	0.034 (0.631)	0.096 (0.306)	0.086 (0.253)
PR	-0.075 (0.486)	-0.156 (0.137)	-0.082 (0.448)	-0.376*** (0.008)	-0.296** (0.015)
Presidential	0.021 (0.881)	-0.048 (0.735)	0.054 (0.712)	-0.236 (0.182)	-0.007 (0.960)
Constant	-0.113 (0.309)	0.007 (0.945)	-0.067 (0.539)	0.130 (0.355)	0.060 (0.609)
R <sup>2</sup>	0.820	0.782	0.791	0.636	0.745
Obs	85	85	85	84	85

Source: Author's elaboration using data from Dahlström, et al. (2015).

Note: \* p<.10, \*\* p<.05, \*\*\* p<.01.

their personnel policies, and to a somewhat lesser extent, to the effectiveness of their ability to sanction and punish poor performance in their bureaucracies. Finally, it is highly unlikely that better performance can be achieved by reforming institutional rules and procedures within the bureaucracy. As the discussion of merit exams illustrates, the intent of particular institutions can be circumvented unless there is political will to achieve the goals of the institutions. Thus, reforms need to ponder political incentives outside SOEs to the same extent that they ponder structural incentives within SOEs.

### The Political Market and Barriers to Good Bureaucratic Processes

There are two distinct reasons that the political market for good governance might be weak. The first is that there exist political incentives to use

bureaucracies and SOEs for ends other than good governance. This political temptation is obvious when it comes to personnel, where politicians might be tempted to use SOE employment to reward constituents or address social issues regarding employment in a way that undermines SOE efficiency (e.g., in small SOEs in LAC countries). While it may be quite daunting to imagine that one can fix SOEs by fixing politics, unless the political incentives are right, it is difficult to imagine that satisfying results can be achieved using institutional structures, as the analysis of merit exams illustrates. It is therefore crucial to keep the politics of SOEs front and center in debates about their reform.

The second reason is related to the standard agency problems that exist between politicians and bureaucrats. Even if politicians wish to achieve good governance, there are obstacles to obtaining desired outcomes that are highlighted in theories of delegation. In canonical models of bureaucracy, the standard problem is that the agents (the bureaucrats) have more information than their principals (the politicians). This information might concern the link between policies and outcomes, the level of effort needed to achieve particular outcomes, the level of effort actually exerted on particular tasks, the policy preferences of bureaucrats, or the level of skills of the bureaucrats themselves. These advantages make it possible for the bureaucrats to work against the interests of the politicians. The challenge politicians face is how to induce bureaucrats to act in the politicians' interest given the informational advantages that bureaucrats enjoy.

The optimal strategies for the politicians in these situations are well theorized and documented and include a mix of *ex ante* controls (where politicians specify actions that bureaucrats should take) and *ex post* monitoring (where politicians uncover and punish bureaucrats for bad behavior). These are discussed in more detail in Chapter 1 of the book. There are several factors that can make it difficult to employ or benefit from these strategies, however, such as the multiple principals problem, the soft budget constraint problem, fast political turnover, and the fact that governments can get into a low capacity trap.

Effective operation of state bureaucracies requires efficient oversight, given the standard moral hazard problems present in such bureaucracies. One feature of politics that makes it difficult is that responsibility for such oversight can be spread across multiple political principals, including more than one minister (e.g., the finance, labor, and relevant policy minister) and more than one institutional arena (e.g., executive departments and the legislature). The problems created by multiple principals are diverse and can include the fact that the political actors have different goals for particular bureaucracies (or SOEs). A central problem is undermonitoring due to free riding. Each principal might reasonably hope that some other actors invest the time and effort needed to

obtain enough information for effective oversight. The result is underperformance of the bureaucratic entity (Gailmard, 2009). Thus, effective governance of SOEs requires that the collective action problem is acknowledged and addressed in monitoring SOE performance.

Despite efforts to make SOEs operate as if they are private firms in the market, they often have incentives to operate inefficiently, spending more than they should, because they understand that the state will bail them out financially if necessary. This soft budget constraint stems from the difficulties that states have in credibly committing not to bail out SOEs that need additional support to cover revenue shortfalls. One reason for overspending can be political pressure: politicians may ask the SOEs to undertake activities in hiring or service provision that are inefficient, driving up costs. But information is also a problem: bureaucrats can claim that providing services cost more than imagined, and politicians may lack the information necessary to refute such an argument. Reforms for improving SOE performance must therefore contemplate strategies for making credible commitments to hard budget constraints.

In any political system, the politicians in charge at a particular moment understand that they can be out of power in the future, which can influence incentives to invest in the effective operation of SOEs. For example, SOEs, like any bureaucracy, can be used as a source of patronage, where jobs are handed out not based on skills and performance but based on political incentives to preserve power. If a politician endeavors to create good governance, where bureaucracy is insulated from patronage pressures, he or she foregoes this opportunity to use the state apparatus for private political ends, and since the effects of reforms take time to take hold, the rewards of reform are typically realized in the future. Since any future politician can undo efforts by current politicians to create good governance, current politicians will have less incentive to do so when they believe that their future replacements will not sustain it. For future politicians to sustain reforms, they must have both the incentive and capacity to do so. Thus, political challenges associated with effective governance must consider expectations regarding the incentives and capacity of future politicians to sustain reforms (Huber and Ting, 2017).

Finally, there is the low-capacity trap, that is, the problem that the capacity of both the politician and the bureaucrat affects the efficacy of their intended policies. Politicians are best positioned to influence bureaucratic behavior when they have the capacity to reduce the bureaucrats' information advantages, and politicians can more easily control bureaucrats who have high capacity than they can control those with low capacity. This is true not simply because high-capacity bureaucrats are better at what they do, but also because when

they try to comply with political dictates, they are likely to succeed, avoiding punishment. On the other hand, when low-capacity bureaucrats try to comply with such dictates, they will often fail, simply because they are bad at what they do. Thus, it is much more difficult for politicians to control low-capacity bureaucrats than high-capacity ones because low-capacity bureaucrats are less sensitive to the threat of punishment (Huber and McCarty, 2004).

Low-capacity bureaucrats can therefore create a chronic problem. Politicians benefit the most from high-capacity bureaucrats when politicians themselves have the capacity to exercise control over bureaucratic actions. If bureaucratic capacity is low, however, the incentives of politicians to invest in capacity are diminished because low-capacity bureaucrats are difficult to control. This leads to a trap, where low bureaucratic capacity reduces incentives to create the political capacity—in the legislature or executive—that would encourage legislators to invest in bureaucratic capacity. In summary, achieving good bureaucracy cannot rely solely on focusing within the bureaucracy itself, but must also focus on the capacity of politicians themselves.

## Reform Proposals

To improve the efficiency of SOE personnel management, one must consider how difficult it is to achieve changes in personnel practices by mandating particular structures within bureaucracies themselves, as the intent of institutions—like the merit exams discussed above—can often be easily circumvented. Instead, the incentives of political principals who can influence SOE personnel policy must be to improve personnel management. It is therefore unlikely that improvements in personnel policies can occur without changing political arrangements for SOE governance. One pathway for improving SOE performance, therefore, starts by acknowledging the realities of political incentives, and then contemplating how political governance—that is, governance outside the SOEs themselves—can be reformed in ways that vest institutional control in the hands of politicians who have the strongest incentives for efficient personnel policy and the ability and authority to shape it.

### *Develop an SOE Personnel Agency Reporting to the Minister of Finance*

The preceding analysis suggests that improving SOE performance requires reforms personnel policies. Such reforms, however, invite each of the problems discussed in the previous section. Political actors may actually prefer inefficient personnel policies (if SOE personnel can be used to other political ends); there is a clear soft budget constraint, where SOEs can claim that personnel costs are higher than anticipated for reasons beyond the control of SOEs; any incumbent

politician that contemplates reforms to personnel management must worry that there will be short-term political costs to be paid for uncertain future benefits; and the current low capacity of LAC bureaucrats undermines incentives to invest in the very capacity that will enable reforms that improve capacity. One solution would be to develop a centralized personnel agency that oversees personnel policies across SOEs and reports directly to the MoF.

One central benefit of this reform would be to address at once the soft budget constraint problem and the multiple principals problem. Labor ministers, ministers in charge of state administration, or relevant line ministries might seem the logical place to locate personnel policy for particular SOEs. Given the soft budget constraint problem, however, it is important to ask how to improve the possibility of credible commitment to hard budgets. One way to do this is to vest budgetary authority in the hands of the minister with the greatest incentive and opportunity to limit excessive spending, which is typically the finance minister. Vesting authority in a single actor also addresses the problem of free riding that can occur when multiple principals are charged with monitoring an agency.

A second benefit of this reform would be to improve capacity by improving the information about personnel costs that is available for policymaking. Comparative employment information from across and within SOEs should inform policy decisions regarding appropriate levels and pay of SOE personnel. The centralized monitoring agency could reduce the possibilities of moral hazard by creating an opportunity for the careful collection of the comparative personnel data that is necessary for responding to budgetary requests. The data could be comparative in two respects: (i) across SOEs within the same sector that operate in decentralized fashion across different areas of a country (e.g., patterns of personnel management for an electric utility company in one part of a country could be compared with these same patterns in another part of the country) and (ii) across SOEs from different sectors (e.g., the cost of employees with a particular level of skills in the utility sector could be compared with the cost of such employees in the transportation sector). Such comparative data would be a tremendous management resource for effective policymaking on personnel decisions. The agency could potentially use this information in collective bargaining processes and could work toward standardizing agreements across SOEs from different sectors, allowing global bargaining on benefits and pay. A centralized agency would help create valuable opportunities for organizing and gathering appropriate data, improving the capacity for effective cost controls.

The third agency problem is created by the prospect of political turnover. Any incumbent finance minister might worry that implementing reforms will create short-term political costs on the way to longer-term benefits. If a minister has reason to believe that reform efforts today will be undone in the future,

it is reasonable to expect the minister not to undertake reforms in the first place. It is thus also important to work to reduce concerns about future undoing, which involves engendering an interest that transcends parties in achieving good governance and creating capacity among nonincumbent political actors to manage the politics of SOEs. To this end, it would be helpful if the personnel agency reporting to the finance minister had enough independence to have an executive committee with multiple parties involved.

For important decisions to have legitimacy, debates preceding the decisions must provide meaningful opportunities for diverse interests to express their views through the prism of relevant information. Unions, for example, will often express different goals than SOE managers. Parties representing certain segments of society (such as the poor without electricity) will have different goals than parties representing others (such as the rich who have electricity). The structure of the agency should therefore include a small but inclusive executive committee that includes representatives of SOEs, relevant union organizations, political parties, and institutional arenas, including the legislature. The executive committee would not only create a forum for debating the objectives vis-à-vis SOE operation but it would also address the political turnover problem. To the extent that policy debates in the executive committee can help build some forms of consensus on policy goals, concerns that the politicians of tomorrow will prefer to undo the policies of today will be reduced. Moreover, by including a range of political actors on the committee, the committee can serve as an institution where individuals from outside the current government can develop the knowledge and capacity for future oversight of SOEs.

Of course, diverse committees can also function as fora for logrolling. To address the problem of soft budget constraints and ensure that discussion in the executive committee maintains a focus on effective fiscal management, the finance minister must have final authority over any budgetary decisions. Indeed, this is perhaps the most important feature of the proposal.

One way to explore the feasibility of the SOE personnel agency would be to begin incrementally, with a smaller pilot agency that includes a reasonable subset of SOEs. The SOEs could represent a (limited) diversity of enterprises in an effort to understand the opportunities and challenges associated with learning about personnel costs across SOEs. The pilot executive committee would provide an opportunity to explore issues regarding membership and structure.

### ***Dedicate Revenue for Public Goods***

In a private enterprise, shareholders exert the pressures necessary for it to function efficiently. These shareholders do not need to know how to run the business of the enterprise; they simply need to understand the value of their

investment, as reflected in dividends and share prices. In an SOE, rather than shareholders exerting pressure for profits, there are varied political demands resulting in pressures to produce outcomes that may be unrelated to efficient operation. Thus, to make SOEs operate more efficiently, it is important to create a political market for efficient operation, which requires that an SOE's bottom line affect the well-being of citizens who can exert pressure on politicians.

For certain types of SOEs, one possibility to this end is to link funding for popular public services, such as education or public infrastructure, to the efficiency of SOE operations. Suppose, for example, that at the beginning of a fiscal year, it were possible to establish a benchmark for a reasonable expectation for the difference between revenues and expenditures of an electric utility company. This benchmark might be set at 0 (so revenues could reasonably be expected to exactly equal expenditures). The benchmark could then be used to establish a baseline,  $Y$ , that is used to determine the public benefits from efficient SOE performance. The baseline, for example, might be the benchmark itself, or might be the benchmark minus  $X$ . Actual performance would then establish a pool of benefits that contribute to the funding of popular public programs. That is, if actual performance is  $Z$ , the "supplemental" public funding of the designated popular programs would be  $Y-Z$  (which would be negative if SOE performance was poor).

A structure of this sort could help address the problem that the political benefits of inefficient SOE operation are concentrated (e.g., individuals get jobs and companies get contracts), whereas the costs of these inefficiencies are essentially invisible to the citizens who indirectly pay them. The structure could address this problem by at once changing the perceptions of costs and benefits. If citizens could link net performance of SOEs to outcomes in their lives, they would have incentives to reward politicians for good performance, increasing political interest in effective operation of SOEs. To achieve this goal, it would be important for the reporting of "net performance" of SOEs be done in a way that is not too diffuse. For example, if the performance "bonus" were reported at the community level, with outcomes affecting roads or wells or schools in the community, it would have a greater disciplining effect than if the performance were reported at the national level. The structure, then, could allow citizens to act like shareholders, with the profits of the SOEs being linked to concrete projects in communities about which clear information is provided, and with citizens or local interest groups punishing or rewarding politicians for the size of the community profit.

### ***Provide Citizens Information about Service Provision***

For some SOEs, it may be impossible to dedicate performance-related revenues to specific public goods. This may be particularly true for SOEs with a



monopoly on the provision of a particular public service that needs substantial state subvention to meet political goals. In these situations, there remains the identical problem that political benefits of inefficient operation are concentrated and public costs are diffuse.

One pathway for creating political incentives that are analogous to those of shareholders could be to provide comparative information to citizens about the quality of services. For example, an electric utility needs to provide electric power to homes and businesses, but there can be great spatial variation in how effectively such power is provided, with some neighborhoods receiving much better service than others. The question then becomes how neglected neighborhoods could exert pressure that leads to improved SOE performance.

Such effective pressure requires that at least two conditions be satisfied. The first regards information about the quality of services. While a given citizen knows better than anyone else whether his or her electrical supply works well, he or she may not know how this supply relates to the situation in other neighborhoods. There is therefore a risk that those who receive poor treatment from SOEs will simply resign themselves to their fate. One way to mobilize such citizens is to provide comparative information on service provision in other geographic locations, which would allow voters to determine if things are particularly bad in their own areas. For example, the information might state that 60 percent of homes in Area 1 have electricity compared to 80 percent in Area 2. This knowledge should motivate voters in Area 1 to pressure politicians to improve electricity provision. However, although politicians and bureaucrats have the greatest ability to provide this information, they have the least incentive to do so. In some cases, it might be possible to crowd-source the information (e.g., voters could text a number to report poor service).

The second condition is that citizens, armed with information about the relative performance of SOEs in their neighborhoods, have an avenue for pursuing change. That is, information about the relative quality of SOE outputs is useful if there is no way to pressure SOEs for change. The process of change must then work through politicians. One possibility is to create a political committee linked to the geographic areas on which reporting is based, with all parties invited to name elected individuals (most likely from congress but perhaps from subnational government) who are informed of the voters' concerns. The committee would not have institutional authority over SOEs, but instead would be an informational conduit between voters and politicians that do have such institutional authority. If the committee reported its findings to political principals that voters could hold accountable, this could increase incentives for parties to respond to areas receiving poor service.

Continuing the example of the service-oriented SOE, one crucial aspect of capacity is knowledge of outputs. A robust system for understanding outputs and reporting them to politicians is a crucial component of building capacity. If the proposed committees are linked to geographic areas as well as specific types of SOEs, the institutionalization of relevant knowledge will begin to build through these committees and across parties. The executive committee of the personnel agency could represent another venue for building capacity across different types of political actors.

An additional way to build capacity would focus on members of congress. In the United States, differing interests in the legislature and executive are a key impetus for exercising political controls. The United States has a robust organization, the National Council of State Legislatures, that supports the activities of state legislatures through dissemination of information (including model legislation and training programs). Information sharing can greatly reduce the costs of legislative control. It would be useful to explore pilot projects for SOEs where such institutions—perhaps as parts of existing ones—were created in ways that mapped to particular types of SOEs. For example, if there are many SOEs across LAC countries that deal with electricity, the institution would promote cross-national accumulation and sharing of information that is relevant to such SOEs.

It is also important to encourage the use of low-cost instruments of political control that have been highlighted in studies of delegation of low-capacity bureaucracies (e.g., Huber and Shipan, 2002). One way to think about pathways to controlling bureaucrats is to distinguish between policy-based strategies and procedural ones. Policy-based strategies lay out the precise types of policies that bureaucrats must implement. Procedural details describe the process that bureaucrats must follow to make policies and other sorts of decisions. Making use of policy details takes considerable capacity in the political principal. Specifying procedural details is much less onerous. Such details can create “fire alarms” that ensure opportunities for constituents to understand and react to decisions and behavior by bureaucrats.<sup>3</sup>

Some procedures are implemented *ex ante*, ensuring opportunities for input before bureaucratic decisions are made. These include information requirements where politicians specify which groups must be consulted before particular decisions are taken, how groups are notified, and which proposals

---

<sup>3</sup> Fire-alarm oversight is analogous to the use of real fire alarms. Rather than looking for violations of legislative goals, Congress establishes rules, procedures, and informal practices that enable citizens and organized interest groups to examine administrative decisions, to charge executive agencies with violating congressional goals, and to seek remedies from agencies, courts, and Congress itself (McCubbins and Schwartz, 1984: 166).

(where SOEs must report to legislatures before they take particular kinds of actions) and studies (which require SOEs to gather particular types of information before taking action) are required. It is also possible to implement ex post controls through relatively low-capacity legislatures. These include reporting requirements (e.g., an annual report on number of customers with consistent power), appeals processes for clients of SOEs to air grievances, and authorized agents (e.g., agencies, legislative committees, oversight committees, or non-legislative entities) that have authority.

## Conclusions

This chapter contributes to the volume by reinforcing some of its main recommendations, while bringing politicians and bureaucrats to the forefront of the decision-making process. To improve SOE reforms in the LAC region (e.g., the corporate governance reforms proposed by the OECD and the centralized agency model proposed in this volume), it is critical to align the incentives of bureaucrats with the needs of the citizens (e.g., high-quality public services) and minimize fiscal risk. Such alignment requires that citizens be more informed about the quality of SOE performance and service provision. In turn, governments must improve both reporting by SOEs and the technical mechanisms to make the information more accessible. More transparency will allow citizens to know if bureaucrats are doing their jobs.



# Conclusions and Policy Recommendations

*by Aldo Musacchio and Emilio I. Pineda Ayerbe*

This book contributes to a now large economics and management literature on the reform of state-owned enterprises (SOEs) and a growing literature in public policy that provides toolkits to assist in identifying problems and reforming SOEs. Two overarching recommendations have dominated the public policy literature. The first is that corporate governance should be improved and boards of directors should be the ultimate controllers of the managers of the firm. Thus, the question has become one of optimal board design to create a system of checks and balances for the management of the firm. Having independent board members as well as having boards monitor performance and select managers are part of this equation. The second is that centralized agencies should oversee the monitoring of SOEs, rather than dividing up control among various ministries in an uncoordinated fashion. These centralized agencies should be autonomous enough to have authority over these SOEs, staffed by technocrats and professionals, and willing to participate in the reform of corporate governance of SOEs. Very little, however, has been written about the design of fiscal governance within the new scenarios of SOE reform. This book provides data to illustrate the weaknesses of SOEs in Latin America and the Caribbean (LAC), which clearly show that poor fiscal governance is their main challenge.

The book also argues that with weak or ad hoc fiscal governance, governments create a cycles of dependence between themselves and the SOEs: they need the SOEs to subsidize a group of voters or firms, the SOEs lose money, and they must continuously bail the SOEs out and guarantee issuance of debt to cover expenses. This ad hoc fiscal governance creates clear fiscal risk, or cash flow risk, along with risk stemming from the size of the stock of SOE liabilities. Governments often fail to

recognize these risks, and there are no studies of the scenarios under which these contingent liabilities can create a severe fiscal crisis.

The governance problem of SOEs is not limited to corporate governance. It is also a severe fiscal governance problem. That is, corporate governance reform alone is not sufficient to mitigate the challenges of SOEs. It is necessary to implement hybrid solutions that combine administrative controls with changes in incentives for SOEs, their managers, and the organizations that monitor them.

Chapter 2 outlines a simple framework for thinking about the main corporate and fiscal governance problems in SOEs, separating them into information asymmetry problems multiple principal problems, (i.e., information asymmetry problems) and the soft-budget constraint problem and the ad-hoc extraction of resources from SOEs (i.e., fiscal governance problems). These problems feed into each other and are difficult to disentangle. When seen as different problems that require specific solutions, however, governments can attack all of them at once, rather than focusing too much on one while leaving the other unchanged. Table 8.1 summarizes the problems described in Chapter 1 herein as well as a variety of solutions mentioned throughout the book.

There is enough qualitative and empirical evidence to recommend that governments create centralized agencies to monitor SOEs. This is particularly beneficial to control and monitor small SOEs, as any country in the LAC region should be able to access the technocratic capacity needed to create and operate such an agency.

Yet, the experiences of LAC countries that have run these centralized agencies until now show that it is advisable to leave large, complex firms outside of the purview of centralized agencies. The largest SOEs in the region are outside of the control of the governments that are experimenting with holding companies, for example *Petróleos del Perú S.A.* (Petroperu) in Peru, *Corporación Nacional del Cobre de Chile* (Codelco) in Chile, *Ecopetrol* in Argentina, and *Itaipu Binacional* in Paraguay. There are at least two reasons for this. First, large SOEs tend to be more politically and fiscally important for governments, which makes it challenging for a centralized agency to act as an intermediary between the government and the company, reduce fiscal extraction from the government and from the SOE, and prevent the government from using these large firms for quasi-fiscal operations. Second, SOEs that require specialized knowledge for their monitoring are better served by a combination of market monitoring and administrative controls. Complex firms complicate the functioning of diversified centralized agencies as they force them to have specialized teams to monitor them. That is why, in such cases, recommendations include a combination of monitoring by line ministries (where the expertise

**Table 8.1. Simplified Summary of SOE Problems and the Solutions Proposed**

Typology of problems	Main issues	Main solutions (in a simplified manner)
Asymmetries of information and corporate governance problem in SOEs	Misinformation and weak incentives Weak monitoring (multiple-principals problem)	<ul style="list-style-type: none"> <li>• Improve reporting of SOEs. Centralize reporting. Give the agency that collects information powers to impose penalties.</li> <li>• Develop contracts for managers that track performance.</li> <li>• Use synthetic instruments when SOE is not traded.</li> <li>• Design complex scorecards with multiple performance indicators, including quality of service.</li> <li>• Centralized agency with full-time professionals can monitor SOEs and collect financial information.</li> <li>• Centralized agencies can coordinate SOEs to centralize procurement and other items.</li> </ul>
Fiscal governance problem in SOEs	Soft budget constraint (SOEs extract resources from the government in an ad hoc fashion and at unexpected times.) Public benefits of control (The government extracts resources from SOEs in an ad hoc fashion by imposing quasi-fiscal operations on them.)	<ul style="list-style-type: none"> <li>• Formulas and strict timelines restrict when SOEs can request funding from the government.</li> <li>• Governments cannot commit ex-post not to bail out SOEs.</li> <li>• Restrict SOE debt issues. Be conscious that guaranteed SOE debt is the same as sovereign debt, so controls on debt issues are necessary.</li> <li>• Price SOE goods and service according to costs (and opportunity costs).</li> <li>• All uses of SOEs to provide subsidies or services below cost are explicit and are compensated by the ministry of finance annually.</li> <li>• SOEs pay dividends and taxes, no ad hoc extraction throughout the year.</li> <li>• Government approves strategic and investment plans for SOEs.</li> <li>• Centralized agency closely monitors budget execution, especially capital projects. SOEs must produce monthly information on cash flows to allow the monitoring of budget executions.</li> </ul>

Source: Author's elaboration.

often resides), tight administrative controls to oversee large capital expenditures and acquisitions, and market monitoring.

In the recent case of corruption in the Brazilian Petroleum Corporation, *Petróleo Brasileiro S.A. (Petrobras)*, more scrutiny and administrative controls over capital expenditures by the board of directors, the Department of Coordination and Control of State-owned Enterprises (*Departamento de Coordenação e Governança das Empresas Estatais*, or *DEST*), and the congressional auditing body would have prevented the two practices that facilitated corruption: large acquisitions of foreign assets at inflated prices and

cost overruns in its large capital projects at home. The most notable part of the corruption scandal was the scheme through which the collusion of large construction firms with political appointees at Petrobras allowed the former to inflate construction prices in large projects. Yet, the construction companies extracted profits not so much from inflating contract prices initially, but by renegotiating contracts to accommodate cost overruns (Campos, Engel, Fischer and Galetovic 2019). The congressional auditing bodies, along with the DEST and others, could have monitored these capital expenditures if there had been stricter oversight of large capital projects and frequent reporting on their progress.

Market monitoring of large, complex firms, however, has to be done preferably by increasing the scrutiny of large SOEs by investors, analysts, and rating agencies. There are two ways to invite this kind of monitoring: privatization or launching a state-contingent instrument. A partial equity privatization is not always politically feasible, but it is ideal in terms of optimizing the monitoring and control of SOEs while minimizing the political cost of privatization. Using the state-contingent, quasi-equity instrument described in Chapter 4 can also help to invite market monitoring without giving up control rights in SOEs. Moreover, the evidence presented in Chapter 3 shows that bond markets are not the best way to increase market monitoring or to harden the budget constraint of SOEs because bond investors end up softening the budget constraint of SOEs by pricing in the implicit (and explicit) bailout clauses. Thus, monitoring of firms such as large oil and gas companies will be better done by an army of analysts, rating agencies, and investors (e.g., shareholders). Moreover, governments should implement strict administrative controls that improve reporting, control debt issues, reduce ad hoc negotiations for funding, and avoid government interventions to set prices (by having prices follow transparent formulas).

Finally, there is another important limitation to the operation of centralized agencies. Their efficiency, to a large extent, depends on the size of the holding. Peru's National Fund for the Financing of the Public Sector Companies (Fondo Nacional de Financiamiento de la Actividad Empresarial del Estado, or Fonafe), the largest of the holdings studied herein, monitors almost 50 SOEs between majority- and minority-owned companies. Since the level of complexity of the firms is limited (i.e., they mostly operate utility companies), they have reached the upper bound in terms of efficiency and economies of scale. Larger holding companies may complicate the monitoring capacity of their full-time staff, as that would reproduce the busy boards problem described in Chapter 1 (i.e., the holding company would have to overstretch its resources to monitor a large number of firms).



## Policy Recommendations

The following are the most critical policy recommendations:

1. Governments must improve the transparency and disclosure framework of SOEs. SOEs should be subject to strict timelines and standards to disclose financial data, they should follow international financial standards, and they should be audited by both a capable internal body of rotating auditors and recognized international auditing firms. All their financial data should be public and easily accessible. SOEs should face sanctions for noncompliance and lateness.
2. Governments should use more sophisticated balanced scorecards that track the performance of SOEs and their managers and benchmark the quality of service of SOEs to improve performance monitoring in SOEs using financial markets with and without privatization.
3. For large firms or companies in complex industries, the best way to improve monitoring is to either partially privatize or to use state-contingent, quasi-equity instruments while adhering to the ex-ante controls and debt controls.
4. For smaller SOEs, there is overwhelming theoretical and empirical evidence that a centralized agency or holding company that monitors or controls SOEs improves their performance and reduces fiscal risk. Holdings with corporate structures do not necessarily produce better results than a well-staffed centralized agency within the ministry of finance (MoF). The findings herein concur with those of the recommendations of the OECD (2015) and World Bank (2014a), which defend the idea that a centralized agency is critical to reduce monitoring costs. The present study demonstrates this empirically and provides additional tools to improve the effectiveness of monitoring by such an agency or holding company.
5. The size of these centralized agencies should remain relatively small and exclude SOEs for which monitoring requires sophisticated technical skills. These centralized agencies are more effective when the industries they monitor are not complex or, in other words, do not require specialized knowledge to understand them. Also, central agencies should not monitor too many SOEs at once, as asymmetries of information and many of the monitoring problems described in Chapter 2 could arise if the agencies are overloaded. For that reason, the model provides benchmarks of the agencies' size in terms of number of full-time employees per SOE monitored.
6. The centralized agency should operate with tight ex ante controls for debt issues and capital expenditure plans to reduce the fiscal risk implicit in the operation of SOEs that are not directly controlled by the government.

7. For large firms whose privatization would be politically costly, quasi-equity instruments should be introduced to monitor and incentivize managers. In Chapter 4, Rodrigo Wagner develops a quasi-equity instrument that can track the market value of a firm, without having to privatize it, simply by allowing for the trading of financial instruments that are priced according to the payments that SOEs make to the government.
8. Governments should reduce the discretion of SOEs to issue debt and undertake large capital projects. SOE debts should be subject to rules and ceilings. The government should approve large capital projects, and their proposals should include details of contingent fiscal risks. Monitoring of such large projects should be undertaken by a centralized agency, the MoF, and the congress and should be conducted quarterly.
9. SOEs should prepare annual budgets following international accounting standards with detailed projections of revenues, operational expenditures and all financial requirements. In particular, these budgets should include sensitivity analyses using a variety of macroeconomic and operational scenarios and stress tests to facilitate the estimation of contingent liabilities for the government. Transfers should follow costs and formulas. Dividends should be clear and tied to results.

### **Initiating the Process of Identifying Problems in the SOE Sector**

An important question is how governments can begin the process of identifying problems in the SOE sector. The first step is to understand the way the SOE system works in a given country. The following steps are recommended:

1. Conduct questionnaires to map out the state of corporate governance in SOEs and to collect key financials. The questionnaires should ask about the legal status of SOEs, corporate governance, the administrative procedures to enforce the reporting of financials, the timelines for requesting funds from the government, and the kinds of reports and plans that SOEs must submit to the government.
2. Understand which SOEs are commercial (i.e., they sell goods and services for which there are market prices) and non-commercial (i.e., SOEs that provide public services that have no clear prices).
3. Map out who is in charge of monitoring which SOEs. Who sits on the board of each SOE? Is there a multiple principals problem? On how many boards must the MoF and its senior officials serve? How busy are these monitors? How many bureaucrats are monitoring each SOE in the MoF? How much time do they dedicate to that process?

4. Track the financial performance of SOEs with and without government transfers. Request balance sheets, profit and loss statements, cash flow statements, and statements of budget execution for at least the last five years. See if SOEs are able to comply with these requests. Difficulties producing this information are the first sign of trouble.
5. Separate large, complex firms from smaller firms that are going to be under the supervision of a centralized SOE agency.
6. Create a centralized agency to monitor SOEs. Staff it so that there is at least one full-time person monitoring one firm and tracking the reporting of each specific member firm. Choose experienced industry professionals for this job.
7. Design a structure that adapts to the capabilities of the country following the models of centralized agencies.
8. Create a website that has a central repository of all SOE financial information (annual balance sheet and profit and loss statement, and monthly or quarterly cash flow and budget execution statements). Design a system of incentives and penalties for timely and late reporting.
9. Introduce codes of best practices of corporate governance and standardize accounting standards for all SOEs.
10. Track the stock of debt of SOEs and their liabilities. Perform risk management analysis of these liabilities. Think of adverse scenarios like dramatic falls in the prices of output or dramatic increases in input prices. Build scenarios and calculate the fiscal impact these scenarios would have (follow the questionnaires included in Chapter 3).
11. Design administrative rules to moderate and mitigate these fiscal risks (such as limits or strict procedures for SOE debt issues).
12. Request that SOEs file the following reports in a timely fashion:
  - Five-Year Strategic Plans (with the firm's goals and the performance indicators that will be used to measure progress on those objectives)
  - Annual Management Plan outlining the progress of the firm for the year, including a Strategic Plan Progress Report that tracks whether the firm is making progress in accomplishing the goals set out in the Five-Year Strategic Plan.
  - Annual Operating Plan that outlines how the objectives set out in the Strategic Plan will be accomplished year by year.
  - Budget Plan that follows the Strategic and Operating Plans and is consistent with the fiscal objectives of the government (e.g., helping to prevent deficits).

- Quarterly Management Reports that include detailed financials and track the execution of the Operating and Strategic plan.
13. Select competent personnel who understand the reforms to guide the reform process within the government.
  14. Decide which SOEs should be kept, closed, partially privatized, or fully privatized once the data and reports are available and once the centralized agency has figured out which SOEs can achieve the goals set out in their strategic plans.
  15. Partially privatize large SOEs that are economically and politically powerful, while also strengthening their bureaucratic monitoring and regulation using regulatory agencies.

## References

- Abadie, A., D. Drukker, J. L. Herr, and G. Imbens. 2004. Implementing Matching Estimators for Average Treatment Effects in Stata. *Stata Journal*, 4(3): 290-311.
- Abadie, A. and G. W. Imbens. 2016. Matching on the Estimated Propensity Score. *Econometrica*, 84(2): 781-807.
- Ahroni, Y. 1986. *The Evolution and Management of State-Owned Enterprises*. Cambridge: Ballinger Publishing.
- Albagli, E., C. Hellwig, and A. Tsyvinski. 2011. *A Theory of Asset Pricing Based on Heterogeneous Information*. Cambridge, MA: National Bureau of Economic Research.
- Andres, L., J. L. Guasch, and S. Lopez Azumendi. 2008. *Regulatory Governance and Sector Performance: Methodology and Evaluation for Electricity Distribution in Latin America*. Policy Research Working Paper WPS4494. Washington, D.C.: World Bank.
- Ang, J. S. and D. K. Ding. 2006. Government Ownership and the Performance of Government-Linked Companies: The Case of Singapore. *Journal of Multinational Financial Management*, 16(1): 64-88.
- Anwar, S. and C. Y. Sam. 2006. Private Sector Corporate Governance and Singaporean Government Linked Corporations. *International Public Management Review*, 7(2): 66-82.
- Argentina, Government of. 2017. *Carta de Jefatura de Gabinete: empresas publicas para el crecimiento*. Buenos Aires, Argentina: Office of the Cabinet of Ministers.
- Bai, C.-E., and L. C. Xu. 2005. Incentives for CEOs with Multitasks: Evidence from Chinese State-Owned Enterprises. *Journal of Comparative Economics*, 33(3): 517-39.
- Balan, A. 1999. Temasek to be More Proactive (Winds of Change). *The Straits Times*, 25.
- Balding, C. 2012. *A Brief Research Note on Temasek Holdings And Singapore: Mr. Madoff Goes to Singapore*. HSBC Business School, Peking University, People's Republic of China.

- Banerjee, S., B. Leleux, and T. Vermaelen. 1997. Large Shareholdings and Corporate Control: An Analysis of Stake Purchases by French Holding Companies. *European Financial Management*, 3(1): 23-43.
- Barclay, M. J. and C. G. Holderness. 1989. Private Benefits from Control of Public Corporations. *Journal of Financial Economics*, 25(2): 371-95.
- Barella, Murilo. 2014. Title.
- Barrera-Osorio, F. et al. 2008. Privatization for the Public Good?: Welfare Effects of Private Intervention in Latin America. Washington, D.C.: Inter-American Development Bank.
- Bartel, A. P. and A. E. Harrison. 2005. Ownership Versus Environment: Disentangling the Sources of Public-sector Inefficiency. *The Review of Economics and Statistics*, 87(1): 135-47.
- Becker, G. S. 1983. A Theory of Competition Among Pressure Groups for Political Influence. *The Quarterly Journal of Economics*, 98(3): 371-400.
- Bertero, E. and L. Rondi. 2000. Financial Pressure and the Behaviour of Public Enterprises Under Soft and Hard Budget Constraints: Evidence From Italian Panel Data. *Journal of Public Economics*, 75(1): 73-98.
- Boardman, A. E. and A. R. Vining. 1989. Ownership and Performance in Competitive Environments: a Comparison of the Performance of Private, Mixed, and State-Owned Enterprise. *Journal of Law and Economics*, 32(April): 1-33.
- Boot, A. W. A. and A. V. Thakor. 1993. Self-interested Bank Regulation. *The American Economic Review*, 83(2): 206-12.
- Borisova, G. and W. L. Megginson. 2011. Does Government Ownership Affect the Cost of Debt? Evidence from Privatization. *The Review of Financial Studies*, 24(8): 2693-737.
- Bortolotti, B. and M. Faccio. 2009. Government Control of Privatized Firms. *The Review of Financial Studies*, 22(8): 2907-39.
- Bortolotti, B., M. Fantini, and D. Siniscalco. 2004. Privatisation Around the World: Evidence from Panel Data. *Journal of Public Economics*, 88(1-2): 305-32.
- Bos, W. J. 2000. Netherlands: The Changing World of European Tax Policy. *European Taxation*, 40: 409-12.
- Boubakri, N., J. C. Cosset, and O. Guedhami. 2005. Postprivatization Corporate Governance: The Role of Ownership Structure and Investor Protection. *Journal of Financial Economics*, 76(2): 369-99.
- Boubakri, N., S. El Ghouli, O. Guedhami, and W. L. Megginson. 2018. The Market Value of Government Ownership. *Journal of Corporate Finance*, 50(Issue C): 44-65.
- Boussofiane, A., S. Martin, and D. Parker. 1997. The Impact on Technical Efficiency of the UK Privatization Programme. *Applied Economics*, 29(3): 297-310.

- Boyko, M., A. Shleifer, and R. W. Vishny. 1996. A Theory of Privatization. *Economic Journal*, 106 (435): 309-19.
- Burton, B. M., A. A. Lonie, and D. M. Power. 1999. The Stock Market Reaction to Investment Announcements: The Case of Individual Capital Expenditure Projects. *Journal of Business Finance & Accounting*, 26(5-6): 681-708.
- Buyschaert, A., M. Deloof, M. Jegers, and A. Rommens. 2008. Is Group Affiliation Profitable in Developed Countries? Belgian Evidence. *Corporate Governance: An International Review*, 16(6): 504-18.
- Campos, N., E. Engel, R. Fischer, and A. Galetovic. 2019. Renegotiations and Corruption in Infrastructure: The Odebrecht Case. Presented at the NBER Conference on Economics of Infrastructure on March 1 in Cambridge, MA. Available at: [http://papers.nber.org/conf\\_papers/f117532.pdf](http://papers.nber.org/conf_papers/f117532.pdf).
- Chang, S. J. and S. Y. Jin. 2016. The Performance of State-Owned Enterprises in China: An Empirical Analysis of Ownership Control Through SASACs. Singapore: National University of Singapore.
- Chong, A. and F. López de Silanes (eds.). 2005. Privatization in Latin America: Myths and Reality. Washington D.C.: World Bank and Stanford University Press.
- Christiansen, H. 2011. The Size and Composition of the SOE Sector in OECD Countries. OECD Corporate Governance Working Papers No 6. Paris, France: Organisation for Economic Co-operation and Development.
- Claessens, S., S. Djankov, and L. H. P. Lang. 2000. The Separation of Ownership and Control in East Asian Corporations. *Journal of Financial Economics*, 58(1-2): 81-112.
- Dahlberg, S. et al. 2015. The Quality of Government Standard Dataset. University of Gothenburg: The Quality of Government Institute.
- Dahlström, C., V. Lapuente, and J. Teorell. 2012. The Merit of Meritocratization: Politics, Bureaucracy, and the Institutional Deterrents of Corruption. *Political Research Quarterly*, 65(3): 656-68.
- Dahlström, C. et al. 2015. The QoG Expert Survey Dataset II. University of Gothenburg: The Quality of Government Institute.
- Dang, T. V., G. Gorton, B. Holmström, and G. Ordoñez. 2017. Banks as Secret Keepers. *American Economic Review*, 107(4): 1005-29.
- Daniel, P., M. Keen, and C. McPherson. 2010. The Taxation of Petroleum and Minerals: Principles, Problems and Practice. Abington-on-Thames, UK: Routledge.
- Datta, S., M. Iskandar-Datta, and A. Patel. 1999. Bank Monitoring and the Pricing of Corporate Public Debt. *Journal of Financial Economics*, 51(3): 435-49.
- Dixit, A. 2002. Incentives and Organizations in the Public Sector: An Interpretative Review. *Journal of Human Resources*, 37(4): 696-727.

- Dongzhi, Y. 2003. Board of Directors, Corporation Governance and Performance: An Empirical Analysis of Listed Companies in China [J]. *Social Sciences In China*, 3: 29–41.
- Du, J. and Y. Wang. 2013. Reforming SOEs under China's State Capitalism. In J. Zhang, ed., *Unfinished Reforms in the Chinese Economy*. London, UK: World Scientific.
- Duffie, D. and C.-F. Huang. 2005. Implementing Arrow-Debreu Equilibria by Continuous Trading of Few Long-lived Securities. *Theory Of Valuation*, Chapter 4, pp. 97–127. Singapore: World Scientific Publishing Co.
- Dyck, A. and L. Zingales. 2004. Private Benefits of Control: An International Comparison. *Journal of Finance*, 59(2): 537–600.
- Elton, E. J., M. J. Gruber, D. Agrawal, and C. Mann. 2001. Explaining the Rate Spread on Corporate Bonds. *The Journal of Finance*, 56(1): 247–77.
- Engel, E. et al. 2003. Privatizing Highways in Latin America: Fixing What Went Wrong [with Comments]. *Economía*, 4(1): 129–64.
- Estache, A. et al. 2002. Telecommunications Reform, Access Regulation, and Internet Adoption in Latin America [with Comments]. *Economía*, 91(2): 153–217.
- Estache, A. and M. A. Rossi. 2005. Do Regulation and Ownership Drive the Efficiency of Electricity Distribution? Evidence from Latin America. *Economics Letters*, 86(2): 253–57.
- Estache, A. and T. Serebrisky. 2004. Where Do We Stand on Transport Infrastructure Deregulation and Public-Private Partnership? Policy Research Working Paper. Washington, D.C.: World Bank.
- Estrin, S., J. Hanousek, E. Kocenda, and J. Svejnar. 2009. The Effects of Privatization and Ownership in Transition Economies. *Journal of Economic Literature*, 47(3): 699–728.
- Estrin, S. and A. Pelletier. 2018. Privatisation in Developing Countries: What are the Lessons of Recent Experience? *The World Bank Research Observer*, 33(1): 65–102.
- Faccio, M. and L. H. P. Lang. 2002. The Ultimate Ownership of Western European Corporations. *Journal of Financial Economics*, 65(3): 365–95.
- Fama, E. and M. C. Jensen. 1983. Separation of Ownership and Control. *Journal of Law and Economics*, 26(3): 301–25.
- Fan, J. P. H., T. J. Wong, and T. Zhang. 2012. Founder Succession and Accounting Properties. *Contemporary Accounting Research*, 29(1): 283–311.
- . 2007. Politically Connected CEOs, Corporate Governance, and Post-IPO Performance of China's Newly Partially Privatized Firms. *Journal of Financial Economics*, 84(2): 330–57.



- . 2013. Institutions and Organizational Structure: The Case of State-Owned Corporate Pyramids. *The Journal of Law, Economics, and Organization*, 29(6): 1217–52.
- Ferguson, A. and T. Scott. 2011. Market Reactions to Australian Boutique Resource Investor Presentations. *Resources Policy*, 36(4): 330–38.
- Field, L., M. Lowry, and A. Mkrtychyan. 2013. Are Busy Boards Detrimental? *Journal of Financial Economics*, 109(1): 63–82.
- Firth, M., P. M. Y. Fung, and O. M. Rui. 2006. Corporate Performance and CEO Compensation in China. *Journal of Corporate Finance*, 12(4): 693–714.
- Frankel, J. A., C. A. Vegh, and G. Vuletin. 2013. On Graduation From Fiscal Procyclicality. *Journal of Development Economics*, 100(1): 32–47.
- Frant, H. 1996. High-Powered and Low-Powered Incentives in the Public Sector. *Journal of Public Administration Research and Theory*, 6(3): 365–81.
- Frydman, R., C. Gray, M. Hessel, and A. Rapaczynski. 1999. When Does Privatization Work? The Impact of Private Ownership on Corporate Performance in the Transition Economies. *Quarterly Journal of Economics*, 114(4): 1153–91.
- Gailmard, S. 2009. Discretion Rather than Rules: Choice of Instruments to Control Bureaucratic Policy Making. *Political Analysis*, 17(1): 25–44.
- Gao, L. and G. Kling. 2008. Corporate Governance and Tunneling: Empirical Evidence from China. *Pacific-Basin Finance Journal*, 16(5): 591–605.
- Gibbons, R. 1998. Incentives in Organizations. *Journal of Economic Perspectives*, 12(4): 115–32.
- Grindle, M. 2012. Good Governance: The Inflation of an Idea. HKS Faculty Research Working Paper Series, RWP10-023. Cambridge, MA: John F. Kennedy School of Government, Harvard University.
- Guest, P. and D. Sutherland. 2010. The Impact of Business Group Affiliation on Performance: Evidence From China's 'National Champions.' *Cambridge Journal of Economics*, 34(4): 617–31.
- Gupta, N. 2005. Partial Privatization and Firm Performance. *The Journal of Finance*, 60(2): 987–1015.
- Haber, S. 2005. Mexico's Experiments With Bank Privatization and Liberalization, 1991–2003. *Journal of Banking & Finance*, 29(8–9): 2325–53.
- Haber, S. and A. Musacchio. 2004. Los buenos tiempos son éstos: la incursión de los bancos extranjeros en México después de un siglo de crisis bancaria. Mexico, D.F., Mexico: Centro de Estudios Espinosa Yglesias.
- Hernández Ochoa, C. E. 2018. *Reforma energética. Electricidad*. Mexico, D. F., Mexico: Fondo de Cultura Económica.

- Holmstrom, B. and P. Milgrom. 1991. Multitask Principal-Agent Analyses: Incentive Contracts, Asset Ownership, and Job Design. *Journal of Law, Economics and Organization*, 7: 24-52.
- Huber, J. D. and M. M. Ting. 2017. Civil Service and Patronage in Bureaucracies. New York: Columbia University.
- Huber, J. D. and N. McCarty. 2004. Bureaucratic Capacity, Delegation, and Political Reform. *American Political Science Review*, 98(3): 481-94.
- Huizar, R. 2015. Surviving Privatization In the Era of Neo-liberalism: A Case Study of Mexico's Oil Company (PEMEX). *The Extractive Industries and Society*, 2(2): 339-51.
- Hults, D. R., M. C. Thurber, and D. G. Victor. 2012. Oil and Governance : State-Owned Enterprises and the World Energy Supply. Cambridge, United Kingdom and New York, NY: Cambridge University Press.
- Jensen, M. C. 1993. The Modern Industrial Revolution, Exit, and the Failure of Internal Control Systems. *The Journal of Finance*, 48(3): 831-80.
- Jensen, M. C. and W. H. Meckling. 1976. Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure. *Journal of Financial Economics*, 3(4): 305-60.
- Jian, M. and T. J. Wong. 2004. Earnings Management and Tunneling Through Related Party Transactions: Evidence from Chinese Corporate Groups. Proceedings of American Accounting Association, Annual Conference Paper, 2004.
- Johnson, S. et al. 2000. Tunneling. *The American Economic Review*, 90(2): 22-27.
- Jones, L. P. 1980. Public Enterprise in Less Developed Countries. Cambridge, MA: Harvard University Press.
- Kaplan, R. S. and D. P. Norton. 2001. The Strategy-focused Organization: How Balanced Scorecard Companies Thrive in the New Business Environment. Cambridge, MA: Harvard Business Press.
- Kaufmann, J. 2017. Un nuevo impulso al fortalecimiento de la gobernanza de las empresas públicas en Paraguay. Washington, D.C.: Inter-American Development Bank.
- Kerf, M. 2000. Do State Holding Companies Facilitate Private Participation in the Water Sector? Evidence from Côte d'Ivoire, the Gambia, Guinea, and Senegal. Washington, D.C.: World Bank.
- Khanna, T. and K. Palepu. 2000. Is Group Affiliation Profitable in Emerging Markets? An Analysis of Diversified Indian Business Groups. *The Journal of Finance*, 55(2): 867-91.
- Khanna, T. and J. W. Rivkin. 2001. Estimating the Performance Effects of Business Groups in Emerging Markets. *Strategic Management Journal*, 22(1): 45-74.

- . 2006. Interorganizational Ties and Business Group Boundaries: Evidence from an Emerging Economy. *Organization Science*, 17(3): 333–52.
- Khanna, T. and Y. Yafeh. 2005. Business Groups and Risk Sharing Around the World. *The Journal of Business*, 78(1): 301–40.
- . 2007. Business Groups in Emerging Markets: Paragons or Parasites? *Journal of Economic Literature*, 45(2): 331–72.
- Kikeri, S. and J. Nellis. 2004. An Assessment of Privatization. *The World Bank Research Observer*, 19(1): 87–118.
- Kim, W., I. C. Nam, and T. T. Cuong. 2010. On the Governance of State-Owned Economic Groups in Vietnam. SSRN Working Paper 1729093. Available at [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1729093](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1729093).
- Kirkpatrick, G. 2014. Managing State Assets to Achieve Developmental Goals: The Case of Singapore and other Countries in the Region. Workshop on State-Owned Enterprises in the Development Process. Paris, France: OECD.
- Kole, S. R., and J. H. Mulherin. 1997. The Government as a Shareholder: A Case from the United States. *Journal of Law and Economics*, 40(1): 1–22.
- Korea, Republic of. 2013. Governance of SOEs and Public Institutions in Korea. Seoul: Ministry of Strategy and Finance.
- Kornai, J. 1979. Resource-constrained Versus Demand-constrained Systems. *Econometrica*, 47, 801–19.
- . 1992. *The Socialist System: The Political Economy of Communism*. Oxford University Press.
- . 1986. *Contradictions and Dilemmas. Studies on the Socialist Economy and Society*. Cambridge, MA: MIT Press.
- Kornai, J., E. Maskin, and G. Roland. 2003. Understanding the Soft Budget Constraint. *Journal of Economic Literature*, 41(4): 1095–136.
- Kraft, E., R. Hofler, and J. Payne. 2006. Privatization, Foreign Bank Entry and Bank Efficiency in Croatia: A Fourier-Flexible Function Stochastic Cost Frontier Analysis. *Applied Economics*, 38(17): 2075–88.
- La Porta, R. and F. López de Silanes. 1999. The Benefits of Privatization: Evidence from Mexico. *Quarterly Journal of Economics*, 114(4): 1193–242.
- Lai, J. 2012. Khazanah Nasional: Malaysia's Treasure Trove. *Journal of the Asia Pacific Economy*, 17(2): 236–52.
- Laffont, J. J. and J. Tirole. 1993. *A Theory of Incentives in Procurement and Regulation*. Cambridge MA: MIT Press.
- Lague, D., C. Zhu, and B. K. Lim. 2014. Inside Xi Jinping's Purge of China's Oil Mandarins. *Reuters* July 24, 2014. Available at <http://www.reuters.com/article/2014/07/24/us-china-purge-cnpc-specialreport-idUSKBN0FT2NK20140724>.

- Lazzarini, S. G. and A. Musacchio. 2018. State Ownership Reinvented? Explaining Performance Differences Between State-Owned and Private Firms. *Corporate Governance: An International Review*, 26(4): 255-72.
- . 2014. State Ownership and Firm-level Performance. *Academy of Management Proceedings*, 2015(1).
- Lazzarini, S. G., L. F. Giovanetti, F. M. Mesquita, and A. Musacchio. 2016. Leviathan as an Inventor: Patenting Intensity, Originality, and Impact of State-Owned MNC Firms. In *Academy of Management Proceedings*, 2016(1).
- Levi Yeyati, E., U. Panizza, and A. Micco. 2007. A Reappraisal of State-Owned Banks. *Economia*, 7(2): 209-47.
- Lin, L. W. and C. J. Milhaupt. 2011. We are the (National) Champions: Understanding the Mechanisms of State Capitalism in China. Columbia Law and Economics Working Paper, 409. New York, NY: Columbia University.
- Lora, E. 2006. The State of State Reform in Latin America. Washington, D.C.: World Bank.
- MacAvoy, P. and I. Millstein. 2004. The Recurrent Crisis in Corporate Governance. Redwood City, CA: Stanford University Press.
- “Managing Asia.” 2011. Interview with Tan Sri Dato’ Azman Hj. Mokhtar Managing Director, Khazanah Nasional Berhad. May 20, 2011. Available at <http://www.khazanah.com.my/khazanah/files/38/38b99f84-f6e0-4f61-8628-543e5577509e.pdf>.
- McCubbins, M. D., R. G. Noll, and B. R. Weingast. 1987. Administrative Procedures as Instruments of Political Control. *Journal of Law, Economics, & Organization*, 3: 243-77.
- Meggison, W. L. 2005. *The Financial Economics of Privatization*. New York, NY: Oxford University Press.
- Meggison, W. L. and J. M. Netter. 2001. From State to Market: A Survey of Empirical Studies of Privatization. *Journal of Economic Literature*, 39: 321-89.
- Meggison, W. L. and Z. Wei. 2012. State Ownership, Soft-Budget Constraint and Cash Holdings: Evidence from China’s Privatized Firms. 23rd Australasian Finance and Banking Conference 2010 Paper 1-48.
- Menon, J. and T. Hee Ng. 2013. Are Government-Linked Corporations Crowding Out Private Investment in Malaysia? Asian Development Bank Economics Working Paper Series No 345. Manila, Philippines: Asian Development Bank.
- Menzio, A., M. Gutiérrez Urtiaga, and D. Vannoni. 2011. Board Composition, Political Connections, and Performance in State-Owned Enterprises. *Industrial and Corporate Change*, 21(3): 671-98.
- Moe, T. M. 2012. Delegation, Control, and the Study of Public Bureaucracy. In *The Forum*, 10(2).

- . 1984. The New Economics of Organization. *American Journal of Political Science*, 28(4): 739–77.
- Moro, S. F. 2018. Preventing Systemic Corruption in Brazil. *Daedalus*, 147(3): 157–68.
- Murthy, K. R. S. and N. C. B. Nath. 1988. Can a Holding Company be an Effective Buffer for Government Enterprise? *Vikalpa*, 13(3): 3–16.
- Musacchio, A. and S. G. Lazzarini. 2014. *Reinventing State Capitalism: Leviathan in Business, Brazil and Beyond*. Cambridge, MA: Harvard University Press.
- Musacchio, A. and E. Pineda Ayerbe. 2018. *IDB Database of State-Owned Enterprises in Latin America*. Washington D.C.: Inter-American Development Bank.
- Musacchio, A., E. Pineda Ayerbe, and G. Garcia. 2015. *State-Owned Enterprise Reform in Latin America: Issues and Solutions*. IDB Discussion Paper No. IDB-DP-401. Washington, D.C.: Inter-American Development Bank.
- Nenova, T. 2005. Control Values and Changes in Corporate Law in Brazil. *Latin American Business Review*, 6(3): 1–37.
- Ng, W. 2010. The Evolution of Sovereign Wealth Funds: Singapore's Temasek Holdings. *Journal of Financial Regulation and Compliance*, 18(1): 6–14.
- OECD (Organisation for Economic Co-operation and Development). 2005. *Corporate Governance of State-Owned Enterprises: A Survey of OECD Countries*. Paris, France: OECD.
- . 2011. *State-Owned Enterprise Governance Reform: An Inventory of Recent Changes*. Working Party on State Ownership and Privatisation Practices: State-Owned Enterprises in the Development Process. Paris, France: OECD.
- . 2012. *Latin American Corporate Governance Roundtable Task Force: Report on Related Party Transactions*. Paris, France: OECD.
- . 2013. *Southeast Asian Economic Outlook 2013: With Perspectives on China and India*. Paris, France: OECD.
- . 2015. *OECD Guidelines on Corporate Governance of State-Owned Enterprises*. 2015 Edition Paris, France: OECD Publishing.
- . 2018. *Ownership and Governance of State-Owned Enterprises: A Compendium of National Practices*. Paris, France: OECD.
- OECD and Development Bank of Latin America (CAF). 2014. *Transparency and Accountability Frameworks for Latin American State-Owned Enterprises*. Buenos Aires, Argentina: Sindicatura General de la Nacion.
- Pargendler, M., A. Musacchio, and S. G. Lazzarini. 2013. In Strange Company: The Puzzle of Private Investment in State-controlled Firms. *Cornell International Law Journal*, 46(3): 569–610.

- Park, J. 2012. Evaluation System for Public Institutions in Korea. In a conference power point, Seoul, Korea: Research Center for State-Owned Entities/ Korea Institute of Public Finance.
- Peng, M. W. 2004. Outside Directors and Firm Performance During Institutional Transitions. *Strategic Management Journal*, 25(5): 453-71.
- Perelman, S. and T. Serebrisky. 2010. Measuring the Technical Efficiency of Airports in Latin America. Washington, D.C.: The World Bank.
- Poczter, S. 2012. The Agency Mechanism of Privatization: Evidence from Indonesia. Unpublished.
- Pombo, C. and L. Gutiérrez. 2011. Outside Directors, Board Interlocks and Firm Performance: Empirical Evidence from Colombian Business Groups. *Journal of Economics and Business*, 63(4): 251-77.
- Ramirez, C.D. and L.H. Tan. 2004. Singapore Inc. versus the Private Sector: Are Government-Linked Companies Different? *IMF Staff Papers*, 51(3): 510-28.
- Rauch, J. E. and P. B. Evans. 2000. Bureaucratic Structure and Bureaucratic Performance in Less Developed Countries. *Journal of Public Economics*, 75(1): 49-71.
- Rechner, P. L. and D. R. Dalton. 1991. CEO Duality and Organizational Performance: A Longitudinal Analysis. *Strategic Management Journal*, 12: 155-60.
- Refinitiv (Formerly Thomson Reuters Financial & Risk). No date. Thomson Eikon database.
- Rodden, J. 2002. The Dilemma of Fiscal Federalism: Grants and Fiscal Performance Around the World. *American Journal of Political Science*, 46(3): 670-87.
- Romer, D. H., and J. Wolfers. 2016. Brookings Papers on Economic Activity: Spring 2015. Washington, D.C.: Brookings Institution Press.
- Ros, A. J. and A. Banerjee. 2000. Telecommunications Privatization and Tariff Rebalancing: Evidence from Latin America. *Telecommunications Policy*, 24(3): 233-52.
- Sam, C. Y. 2008. Partial Privatization, Corporate Governance, and the Role of State-Owned Holding Companies. *Journal of the Asia Pacific Economy*, 13(1): 63-88.
- . 2011. Partial Privatisation and the Role of State-Owned Holding Companies in China. *Journal of Management & Governance*, 17: 767-89.
- . 2010. Globalizing Partially Privatized Firms in Singapore: The Role of Government as a Regulator and a Shareholder. *Journal of Asian and African Studies*, 45: 258-73.
- . 2013. Partial Privatisation and the Role of State-Owned Holding Companies in China. *Journal of Management & Governance*, 17(3): 767-89.

- Saygili, S. and E. Taymaz. 2001. Privatization, Ownership, and Technical Efficiency: A Study of the Turkish Cement Industry. *Annals of Public and Cooperative Economics*, 72(4): 581-605.
- SCIC (State Capital Investment Corporation). 2014. Investment Portfolio Overview. Hanoi, Vietnam: SCIC. Available at: <http://www.scic.vn/english/index.php/intro.html>.
- Shapiro, C. and R. D. Willig. 1990. Economic Rationales for the Scope of Privatization. In Suleiman, E. N. and J. Waterbury (eds.). *The Political Economy of Public Sector Reform and Privatization*. London, United Kingdom: Westview Press.
- Sheshinski, E. and L. F. López Calva. 2003. Privatization and Its Benefits: Theory and Evidence. *CESifo Economic Studies*, 49(3): 429-59.
- Shirley, M. 2005. Why is Sector Reform so Unpopular in Latin America? *The Independent Review*, 10(5): 195-207.
- . 1989. *Evaluating the Performance of Public Enterprises in Pakistan*. Washington, D.C.: World Bank.
- . 1989. *The Reform of State-Owned Enterprises: Lessons from World Bank Lending*. Washington D.C.: World Bank.
- . 1996. Enterprise Contracts: A Route to Reform. *Finance and Development*, 33: 6-9.
- Shirley, M. and J. Nellis. 1991. *Public Enterprise Reform: The Lessons of Experience*. Washington, D.C.: World Bank.
- Shirley, M. and P. P. Walsh. 2000. *Public Versus Private Ownership the Current State of the Debate*. Policy Research Working Paper 2420, Washington, DC: World Bank.
- Shirley, M. and L. C. Xu. 1998. *The Empirical Effects of Performance Contracts: Evidence from China*. Washington, D.C.: World Bank.
- Shleifer, A. 1998. *State Versus Private Ownership*. *Journal of Economic Perspectives*, 12(4): 133-50.
- Shleifer, A. and R. W. Vishny. 1998. *The Grabbing Hand: Government Pathologies and their Cures*. Cambridge, MA: Harvard University Press.
- "Singapore's Mr Buffett." *Australian Financial Review*, May 24, 2002.
- Singh, K. and Siah, H.A. 1999. *The Strategies and Success of Government Linked Corporations in Singapore*. Singapore: Faculty of Business Administration, National University of Singapore. Unpublished.
- Sovereign Wealth Fund Institute. 2014. Data. Available at <https://www.swfinstitute.org>,
- Sprenger, C. 2011. State Ownership in the Russian Economy: Its Magnitude, Structure and Governance Problems. *SSRN Economic Journal*, 33(1). Available at: [https://www.researchgate.net/publication/228267296\\_State\\_Owner](https://www.researchgate.net/publication/228267296_State_Owner)



ship\_in\_the\_Russian\_Economy\_Its\_Magnitude\_Structure\_and\_Governance\_Problems.

Standard & Poor's Financial Services LLC. 2014. *Default, Transition, and Recovery: 2013 Annual Global Corporate Default Study and Rating Transitions*. New York, New York: Standard & Poor's Financial Services LLC.

\_\_\_\_\_. 2011. *Default, Transition, and Recovery: Sovereign Defaults and Rating Transition Data, 2010 Update*. New York, New York: Standard & Poor's Financial Services LLC.

Stern, E. 2011. China Adopts EVA: An Essential Step in the Great Leap Forward. *Journal of Applied Corporate Finance*, 23(1): 57–62.

Taussig, M., C.H. Nguyen, and T.L. Nguyen. 2015. *Time for Real SOE Reform in Vietnam?* Singapore: Center for Governance, Institutions and Organizations, NUS Business School.

Temasek Holdings. 2004. *Temasek Review 2004*. Singapore: Temasek Holdings.

\_\_\_\_\_. 2013. *Temasek Review 2013*. Singapore: Temasek Holdings.

Ter-Minassian, T. 2018. *State-Owned Enterprises and Fiscal Risks in Peru*. Washington, D.C.: Inter-American Development Bank.

Tirole, J. 1988. *The Theory of Industrial Organization*. Cambridge, MA: MIT Press.

Titman, S., K. C. J. Wei, and F. Xie. 2004. Capital Investments and Stock Returns. *Journal of Financial and Quantitative Analysis*, 39(4): 677–700.

Tordo, S., B. S. Tracy, and N. Arfaa. 2011. *National Oil Companies and Value Creation*. Washington, D.C.: World Bank.

Vagliasindi, M. 2008. *Governance Arrangements for State-Owned Enterprises*. Policy Research Working Paper; No. 4542. Washington, D.C.: World Bank Group.

Verhoest, K. 2005. Effects of Autonomy, Performance Contracting, and Competition on the Performance of a Public Agency: A Case Study. *Policy Studies Journal*, 33(2): 235–58.

Vickers, J. and G. Yarrow. 1988. *Privatization: An Economic Analysis*. Cambridge, MA: MIT Press.

Wagner, R. 2017. *Mechanism for Market Valuation of State-Owned Enterprises without Privatization*. IDB Discussion Paper No. IDB-DP-524. Washington D.C.: Inter-American Development Bank.

\_\_\_\_\_. 2018. Can the Market Value State-Owned Enterprises Without Privatizing Them? An Application to Natural Resources Companies. *Resources Policy*, 59: 282–90.

Wang, J., D. Guthrie, and Z. Xiao. 2011. The Rise of SASAC: Asset Management, Ownership Concentration, and Firm Performance in China's Capital Market. *Management and Organization Review*, 8(2): 253–81.



- Watanabe, M. 2002. Holding Company Risk in China: A Final Step of State-Owned Enterprises Reform and an Emerging Problem of Corporate Governance. *China Economic Review*, 13(4): 373–81.
- Webber, J. 2015. Mexico Tries New Way to Kick-Start Energy Investment. London, UK: *Financial Times*. Available at <https://www.ft.com/content/136adac0-81dd-11e5-84dc-31c8b3b18e5f>.
- Wildau, G. and T. Mitchell. 2016. China Income Inequality Among World's Worst. *Financial Times*, 14.
- World Bank. 2014a. Corporate Governance of State-Owned Enterprises: A Toolkit. Washington, D.C.: World Bank Group.
- . 2014b. Corporate Governance of State-Owned Enterprises in Latin America: Current Trends and Country Cases. Washington, D.C.: World Bank Group.
- Yu, M. and H. Pan. 2010. Ownership, Trade Credit, and the Allocation Efficiency of Credit Resources [J]. *Economic Management Journal*, 8.



At a time when fiscal pressures are mounting across Latin America and the Caribbean, tackling the fiscal burden generated by SOEs takes on renewed importance. This splendid book provides policymakers and analysts with tools to understand the fiscal issues associated with SOEs, and the options available to improve their performance.

*Santiago Levy,  
Senior Fellow, Brookings Institution*

This book should be required reading for anyone concerned with SOE performance. Realistic and blunt, it brings new data, arguments, and solutions to an issue that has plagued governments for years. It presents strong evidence that SOEs that are supervised by centralized monitoring agencies outperform those under more decentralized control. It offers no panaceas and debunks some myths, such as the effectiveness of reforms relying on stronger boards of directors or minority ownership. With an evidence-based approach, this book rises above current SOE literature, offering an insightful analysis of why SOEs underperform and what can be done about it.

*Mary M. Shirley  
President, The Ronald Coase Institute*

This book offers a fresh perspective to an old problem that has plagued Latin America and the Caribbean for some time. Forty years after an aggressive wave of privatization across the region, the countries still face huge fiscal issues associated with SOE performance. The authors provide an up-to-date diagnosis of these issues and outline a detailed set of policies attuned to the politically and socially charged environment in the region.

*Jose Antonio Gonzalez Anaya  
Former Minister of Finance, CEO of PEMEX, and CEO of IMSS*

This book sheds a unique light on a set of reform issues in Latin America and the Caribbean that have to date been most extensively studied across Europe and Asia. It endorses the OECD's traditional focus on corporatization and separation of decision-making roles, but proposes broadening it to account for fiscal risks and SOE performance monitoring. At stake is a broader need for public administration and budgetary reform that can hardly be addressed selectively in the SOE sector.

*Hans Christiansen  
Senior Economist, OECD*

