

In Strange Company: The Puzzle of Private Investment in State-Controlled Firms

Mariana Pargendler,[†] Aldo Musacchio^{††}
& Sergio G. Lazzarini^{†††}

A large legal and economic literature describes how state-owned enterprises (“SOEs”) suffer from a variety of agency and political problems. Less theory and evidence, however, have been generated about the reasons why state-owned enterprises listed in stock markets manage to attract investors to buy their shares (and bonds). In this Article, we examine this apparent puzzle and develop a theory of how legal and extralegal factors allow mixed enterprises to solve some of these problems. We then use three detailed case studies of state-owned oil companies—Brazil’s Petrobras, Norway’s Statoil, and Mexico’s Pemex—to examine how our theory fares in practice. Overall, we show how mixed enterprises have made progress to solve some of their agency problems, even as government intervention persists as the biggest threat to private minority shareholders in these firms.

Introduction	570
I. The Economics of Mixed Enterprise	573
II. Understanding Private Investment in SOEs	578
A. Involuntary Private Investment	578
B. Voluntary Private Investment	581
C. Legal Factors	582
1. <i>Private Law Protections</i>	583
a. Corporate and Securities Laws	583
b. Cross-Listings on Foreign Exchanges	585
2. <i>Public Law Constraints</i>	587
a. Public Law Rules	587
b. Different Regulatory Agencies	588
3. <i>Legal Privileges</i>	588

[†] Professor of Law, Fundação Getúlio Vargas School of Law.

^{††} Associate Professor in the Business, Government, and International Economy Unit (BGIE) and a Faculty Research Fellow at the National Bureau of Economic research (NBER), Harvard Business School.

^{†††} Professor of Organization and Strategy, Insper Institute of Education and Research.

We are most grateful to Mario Engler Pinto Junior, as well as participants at the research workshop at FGV Law School and at the 17th Annual Meeting of the Latin American Law and Economics Association (ALACDE), for their very helpful comments. We would also like to thank Claudia Bruschi, Alexandre Caraccio, and Thiago Reis for their useful research assistance.

D. Extralegal Factors	589
1. <i>Market Structure</i>	589
2. <i>Political and Democratic Control</i>	589
3. <i>Reputation</i>	590
4. <i>Investors' Need to Diversify Their Portfolios</i>	590
5. <i>Ex ante Discounting</i>	591
III. Comparative Case Studies	591
A. Ownership and Governance	592
1. <i>Board Composition</i>	592
2. <i>Ownership Structure</i>	594
3. <i>Financial Independence and Time Horizon</i>	595
4. <i>Management Selection and Compensation</i>	597
B. Regulation and Market Structure	598
1. <i>Industry Regulation</i>	598
2. <i>Labor Laws</i>	600
3. <i>Market Structure</i>	601
C. Financial Performance	601
D. Evidence of Remaining Political Interference	603
Conclusion	609

No two characters seem more inconsistent than those of trader and sovereign. If the trading spirit of the English East India Company renders them very bad sovereigns, the spirit of sovereignty seems to have rendered them equally bad traders.

- Adam Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations* (1776)

Introduction

State ownership of enterprise has long had its foes, who blame it for evils ranging from operational inefficiency to outright corruption. It has, nonetheless, proved to be quite resilient. The wave of privatizations that swept the world in the last decades has reduced but not eliminated government shareholdings in business corporations.¹ State-owned enterprises (“SOEs”) are a fixture of the variety of capitalism embraced by Brazil, Russia, India, and China, as well as other emerging economies. Moreover, in the aftermath of the global financial crisis, the Leviathan has emerged as a shareholder even in previously inhospitable contexts, as evidenced by the large-scale government bailouts of failing financial firms and auto companies in the United States.²

1. Hans Christiansen, *The Size and Composition of the SOE Sector in OECD Countries* (Organisation for Economic Cooperation and Development (OECD), Working Paper No.5, 2011), available at <http://dx.doi.org/10.1787/5kg54cwps0s3-en>.

2. To be sure, in these cases, the U.S. Treasury assumed the transient role of what President Obama called a “reluctant shareholder,” and divestitures are by now complete or well underway. See Barbara Black, *The U.S. as Reluctant Shareholder: Government, Business and the Law*, 5 ENTREPRENEURIAL BUS. L. J. 561 (2010).

The state, however, is often not the sole owner of the companies it controls. Mixed corporations—here defined as firms in which the government controls the firm but shares ownership with private investors—are pervasive around the globe, and have been on the rise in a number of jurisdictions.³ The privatizations of the 1980s and 1990s were often only partial in nature, resulting, effectively, in the increased incidence of mixed enterprises in some contexts after the state's divestitures.⁴ Not less important, many mixed enterprises where private investors hold minority stakes are listed on stock exchanges. As of 2010, publicly-traded SOEs accounted for a startling one-fifth of the world market capitalization.⁵

The coexistence of government and private stockholdings in business corporations is puzzling and has long baffled observers. The potential for conflicts of interest between private and government shareholders is evident: while private investors presumably seek to maximize the financial returns on their stock,⁶ the government also has political objectives to fulfill—be they either benign (serving the public good) or malign (the product of rent-seeking⁷). This tension has at times seemed intractable. In the mid-twentieth century, prominent French jurist George Ripert expressed a somber view of the conflicts inherent in mixed enterprises; the law, he argued, could not possibly manage to reconcile what is irreconcilable.⁸ In the same vein, various commentators have long forecasted the eclipse of mixed enterprise and its ensuing convergence to either wholly public or wholly private modes of ownership and governance.⁹

3. This is the case, most conspicuously, in China. An OECD survey estimates that, in the mid-2000s, SOEs still accounted for about 50% of the market capitalization of some member countries. ORG. OF ECON. COOPERATION AND DEV., *CORPORATE GOVERNANCE OF STATE-OWNED ENTERPRISES: A SURVEY OF OECD COUNTRIES* 13 (2005). According to a recent estimate, SOEs still account for approximately 80% of the stock market value in Russia, 60% in China, and 35% in Brazil. *The Company that Ruled the Waves*, *ECONOMIST*, Dec. 17, 2011, at 109.

4. Bernardo Bortolotti & Mara Faccio, *Government Control of Privatized Firms*, 22 *REV. FIN. STUD.* 2907, 2907 (2009) (“At the end of 2000, after the largest privatization wave in history, governments retained control of 62.4% of privatized firms”).

5. *China Buys Up the World*, *ECONOMIST*, Nov. 13, 2010, at 11.

6. While this is certainly the case for the modern investor-owned corporation, historically the merchant shareholders in roads, banks, and insurance companies were frequently more interested in the company's services than in maximizing their financial returns. See Henry Hansmann & Mariana Pargendler, *The Evolution of Shareholder Voting Rights: Separation of Ownership and Consumption* (European Corporate Governance Inst., Working Paper No. 219, 2013), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2219865##.

7. The term “rent-seeking” refers to private parties seeking rents through political means without the creation of new wealth; for example, by setting up barriers to entry. For a general overview, see DENNIS C. MUELLER, *PUBLIC CHOICE* III 333–55 (2003).

8. GEORGES RIPERT, *ASPECTS JURIDIQUES DU CAPITALISME MODERNE* 318 (1946) (“[l]a loi peut tout, sauf arriver à concilier ce qui est inconciliable”).

9. See, e.g., Bilac Pinto, *O Declínio das Sociedades de Economia Mista e o Advento das Modernas Empresas Públicas* [The Decline of Mixed Enterprise and the Advent of the Modern Public Enterprise], in *ESTUDOS SOBRE A CONSTITUIÇÃO BRASILEIRA* (1954) (forecasting that, in light of the significant conflicts between state and private interests, mixed corporations would soon be eclipsed by wholly-owned government corporations). For a recent critique of hybrid firms, see *The Rise of the Hybrid Company*, *ECONOMIST*,

Yet, defying predictions, this strange combination of state and private capital has not only persisted but also appears to thrive. China's blueprint for economic modernization has included the massive floating of minority stock in government-owned firms on local and foreign stock exchanges.¹⁰ In 2008, following a combination of the global financial crisis and high oil prices, listed state-owned firms from emerging markets came to account for five out of the top ten firms in the world by market value. Just four years before, SOEs were missing entirely from that list, which then was comprised solely of private firms headquartered in the U.S. and Europe.¹¹

Despite their economic significance, mixed enterprises have received little attention from the legal and economic literature and are not well understood. Most of the existing works on the subject¹² express surprise at the persistence of these hybrid entities or criticize governmental involvement in what could be private firms. In this Article, however, we take a different approach to this theme. We inquire into the economic factors and institutional arrangements that make this form viable: What explains this mode of organization? Why would the government take part in for-profit enterprise? Why would private investors agree to partner up with the government, when it is the majority shareholder? What role does the law play in allowing the state to credibly commit to tie its hands as a controlling shareholder?

In order to shed light on these questions, this Article will first introduce an analytical framework to address the costs and benefits of this organizational form. In theory, mixed enterprises could be viewed as the ultimate device for achieving the best of both worlds, simultaneously attaining the efficiency of private enterprise and mitigating market failures in the public interest. Yet the story is not quite so simple if the prospect of government failure is taken into account. If operational distortions due to politically-motivated interventions are not kept in check, the benefits of partial private ownership might vanish. Conversely, if the firm were to be managed as a wholly private concern, the practical utility of having the government as a controlling shareholder would come into question.

Dec. 5, 2009 (arguing that “[t]he clearer the line between the state and the private sector, the better it is for those on both sides”), available at <http://www.economist.com/node/15011307>.

10. See Cyril Lin, *Corporatisation and Corporate Governance in China's Economic Transition*, 34 *ECON. OF PLANNING*, 5 (2001) (describing the dominance of state-owned firms in China's securities markets).

11. Kate Burgess, *OECD Scrutinises State Owned Groups*, *FIN. TIMES*, June 20, 2008 (noting that “[o]nly four years ago, the world's 10 largest listed companies in terms of market value were private commercial entities domiciled in the US and Europe. Today, five of the top 10 publicly traded corporations are government controlled.”).

12. For excellent surveys, see William L. Megginson & Jeffrey Netter, *From State to Market: A Survey of Empirical Studies on Privatizations*, 39 *J. ECON. LIT.* 321 (2001); Mary M. Shirley & Patrick Walsh, *Public Versus Private Ownership: The Current State of the Debate* (World Bank, Working Paper No. 2420, 2001), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=261854. See also *supra* notes 8-9 and accompanying text. As an exception to this trend, see Andrea Colli, *Coping with the Leviathan. Minority Shareholders in State-owned Enterprises: Evidence from Italy*, 55 *BUS. HIST.* 190 (2013) (investigating the factors that attracted private investors to SOEs in Italy).

This Article argues that the effectiveness of mixed enterprise depends on a hybrid governance structure that combines elements of private ownership with public checks-and-balances against uncertain governmental interference. This is a delicate equilibrium to obtain—and one with several challenges. We explore the promises and perils of this approach by looking at the recent experiences of a sample of national oil companies (“NOCs”): Brazil’s Petrobras, Norway’s Statoil, and Mexico’s Pemex.

A number of factors make oil companies a particularly interesting object of study for our purposes. First, NOCs are arguably the most important SOEs in the world: they control approximately 90% of the world’s oil reserves and 75% of oil and gas production.¹³ Second, the oil industry offers the full spectrum of ownership forms and market structures: among the largest oil companies there are private, public, and mixed enterprises, which in turn are subject to different constraints in terms of regulation and competition. Third, to pursue social or private goals, governments can be greatly tempted to intervene in SOE management because NOCs mediate the stream of rents that governments receive from the exploitation of oil and gas reserves. Consequently, governments might want less transparency about how they manage the revenues of NOCs.¹⁴

This Article proceeds as follows. Part I presents an analytical framework to examine mixed enterprises as an organizational form from an economic perspective. It does so by comparing, from the perspective of a social planner, the costs and benefits of joint public-private ownership with its polar alternatives—private ownership, on the one end, and wholly-owned state enterprise on the other. Part II then tackles the puzzle of private shareholdings in SOEs by describing the legal and extralegal mechanisms that encourage private actors to co-invest with the state. Part III examines how these arrangements operate in practice by taking a closer look at the corporate governance and performance of three giant NOCs: Norway’s Statoil, Brazil’s Petrobras, and Mexico’s Pemex. Part IV concludes by underscoring the persistent challenges faced by mixed enterprise and suggesting avenues for future research in this field.

I. The Economics of Mixed Enterprise

Traditionally, the economic justification for state ownership of enterprise lies in the presence of a market failure.¹⁵ Whenever one or more of the requisites for perfect competition are lacking, free markets no longer guarantee an efficient allocation of resources, and government ownership

13. Moreover, analysts estimate that 60% of the world’s undiscovered reserves are in countries in which NOCs are dominant players. Silvana Tordo, Brandon Tracy & Noora Arfaa, *National Oil Companies and Value Creation* ix (World Bank, Working Paper, 2011).

14. See generally MICHAEL ROSS, *THE OIL CURSE: HOW PETROLEUM WEALTH SHAPES THE DEVELOPMENT OF NATIONS* (2012).

15. See, e.g., Andrei Shleifer, *State Versus Private Ownership*, 12 J. ECON. PERSP. 133, 133 (1998) (“Half a century ago, economists were quick to favor government ownership of firms as soon as any market inequities or imperfections, such as monopoly power or externalities, were even suspected.”).

could be desirable. This line of reasoning has, over time, been used to explain and validate the governmental provision of quintessential public services, such as roads and bridges (which are natural monopolies), national security (which is a public good) and education (an area in which positive externalities are particularly significant). In developing countries, severe capital market failures also sometimes account for state ownership of capital-intensive undertakings regardless of the industry's characteristics.¹⁶

Critics of state intervention, however, have drawn attention to the fact that the mere presence of a market failure is not, in itself, sufficient to warrant government ownership of enterprise. Where markets fail, government action may as well.¹⁷ There is great difficulty in aggregating preferences through voting.¹⁸ Further, collective action problems and the distorted incentives that accompany state policy can lead to favoring special interest groups over the general welfare.¹⁹ Thus, the specter of government failure suggests that governments should be cautious about the need for state intervention and the precise contours such intervention should assume.

Most of the economic literature favoring privatizations of SOEs focuses on one particular alternative to state ownership: the combination of private ownership and government regulation. This approach has, in theory, significant advantages. While regulation mitigates market failures, the incentives inherent to private ownership help ensure efficiency in operational performance and innovation.²⁰ As its very proponents acknowledge, however, this approach is not free from difficulties. For example, whenever contracting costs are particularly severe—thus reducing the effectiveness of regulation—public ownership may offer a superior arrangement.²¹

Mixed enterprises provide another important, but mostly under-theorized, organizational alternative that mitigates the drawbacks of both market and government failures. Instead of inexorably resorting to private ownership and regulation, various governments view the listing of state-

16. For a discussion, see HA-JOON CHANG, U.N. DEPT. OF SOC. & ECON. AFFAIRS, NATIONAL DEVELOPMENT STRATEGIES POLICY NOTES: STATE-OWNED ENTERPRISE REFORM 12 (2008).

17. See Ronald Coase, *The Problem of Social Cost*, 3 J.L. & ECON. 1, 18 (1960).

18. See KENNETH J. ARROW, SOCIAL CHOICE AND INDIVIDUAL VALUES 1-4 (1963).

19. See, e.g., MANCUR OLSON, THE LOGIC OF COLLECTIVE ACTION 1-3 (1965). See generally MANCUR OLSON, THE RISE AND DECLINE OF NATIONS 135 (1982).

20. See Mary M. Shirley & Patrick P. Walsh, *Public Versus Private Ownership: The Current State of the Debate* 11-14 (World Bank Dev. Research Grp., Working Paper 2420, 2001), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=261854.

21. The apparently dire experience with prison privatizations in the United States provides a case in point. See Oliver Hart, Andrei Shleifer & Robert Vishny, *The Proper Scope of Government: Theory and an Application to Prisons*, 112 Q.J. ECON. 1127 (1997). However, other authors have proposed that incomplete contracting in the context of public services can be possibly solved with a combination of private operation and public (on site) monitoring. See Sandro Cabral, Sergio G. Lazzarini & Paulo Furquim de Azevedo, *Private Operation with Public Supervision: Evidence of Hybrid Modes of Governance in Prisons*, 145 PUB. CHOICE 281 (2010).

owned enterprises on stock exchanges as a midway solution to most of the problems associated with state ownership. As we explore in Part III, in the oil industry, there has been a visible trend towards the corporatization and listing of large national oil companies.²²

There are four primary factors that make this hybrid organizational form potentially appealing to a social planner. The first is its promise for greater regulatory effectiveness compared with a regime that combines private ownership and arm's-length regulation. In economic parlance, mixed enterprise differs from the standard combination of private ownership and government regulation in that it entails the vertical integration of the state's regulatory function.²³ It economizes on the transaction costs associated with writing and enforcing regulations because the government may use its voice within the firm's hierarchy to adapt its policies in view of changing circumstances. This organizational form might be particularly fitting in environments where contracting institutions are weak, thus hampering the enforcement of regulations, or where non-contractible national security or sovereignty considerations come into play.²⁴

The advantage of regulatory effectiveness relates to the *social* view of SOEs.²⁵ In this view, SOEs differ from private enterprise primarily due to the pursuit of a "double bottom-line": that is, in addition to producing profits, state control over the firm can also be used to promote a public purpose—be it low price to consumers or environmental sustainability—or a given macroeconomic objective, like inflation control or reducing unemployment. In a mixed enterprise, the pursuit of a double bottom-line may be at odds with the interests of private investors, who might exercise pressure on the firm to ditch its public purpose objectives. However, the alternative of whole ownership by the state brings about costs of its own: as the government replaces private control of the enterprise, the efficiency benefits associated with private ownership diminish accordingly.

The second positive feature of mixed enterprise is the promise that, by welcoming private shareholders in government-controlled firms, improvements in operational efficiency will follow. The academic literature has found evidence that generally supports the view that the listing of SOEs on domestic and international stock exchanges contributes to more efficient

22. See, e.g., OIL AND GOVERNANCE: STATE-OWNED ENTERPRISES AND THE WORLD ENERGY SUPPLY 394, 402, 756, 785 (David G. Victor et al. eds., 2012).

23. See, e.g., JEAN-JACQUES LAFFONT & JEAN TIROLE, A THEORY OF INCENTIVES IN PROCUREMENT AND REGULATION 638 (1993) (describing the existence of *internal*, in addition to external, government control as the defining feature of government enterprise). Such vertical integration, however, need not be complete. As Statoil's experience demonstrates—discussed later—state-owned firms can be subject to strong regulatory authorities.

24. See Shleifer, *supra* note 15; Oliver E. Williamson, *Public and Private Bureaucracies: A Transaction Cost Economics Perspective*, 15 J.L. ECON. & ORG. 306, 321–24 (1999).

25. See Eduardo Levy Levy-Yeyati, Alejandro Micco & Ugo G. Panizza, *Should the Government Be in the Banking Business? The Role of State-Owned and Development Banks* 5–6 (Inter-American Dev. Bank, Working Paper, No. 428, 2004), available at <http://ssrn.com/abstract=1818717>.

management.²⁶ Megginson summarizes a series of studies that provide overwhelming support for improvements in performance when SOEs' stocks are publicly traded.²⁷ Likewise, Gupta finds that, in India, government-controlled companies that sold minority positions to private investors perform better than wholly-owned SOEs.²⁸

Both *agency* and *political* views can explain the positive effects on firm performance following the floating of SOEs' stock. According to the *agency* view of SOE inefficiency, the absence of private owners imbued with profit motive decreases the incentives for competent firm management. According to the *political* view, the administration of SOEs may too often be captured by the rent-seeking ambition of powerful special interest groups.²⁹

Listing mixed enterprises on public exchanges has been advocated as a possible solution to these potential conflicts.³⁰ Table 1 summarizes how the listing of SOEs may affect performance and incentives compared to whole ownership by the state. To begin with, listed mixed enterprises are subject to greater monitoring by private investors compared to wholly-owned SOEs. To be sure, in theory, the latter could rely on private creditors as potential monitors in so far as they resort to bank credit or bond issuances. Take for instance the case of Pemex, the national oil company of Mexico, which is wholly owned by the Mexican government and thus has no need to disclose detailed financial reports to the public. Yet Pemex has sold bonds on the New York Stock Exchange (NYSE) since 1994, thus forcing the firm to comply with U.S. disclosure requirements.³¹ For example, in order to sell bonds on the NYSE in 1994, Pemex had to issue a detailed Form 20-F, disclosing conflicts of interest, related party transactions, and audited financials going back to 1990.³² Nevertheless, the borrowing capacity of government firms is often attributable to an implicit bailout

26. Both theoretical and empirical works generally support the view that the floating of minority stock is beneficial compared to whole ownership by the government. See K. Majumdar, *Assessing Comparative Efficiency of the State-Owned Mixed and Private Sectors in Indian Industry*, 96 PUB. CHOICE 1, 13 (1998) (concluding that mixed enterprises perform better than wholly-owned SOEs, but worse than private firms); Aidan R. Vining & Anthony E. Boardman, *Ownership Versus Competition: Efficiency in Public Enterprise*, 73 PUB. CHOICE 205, 222 (1992) (finding that mixed enterprises are more profitable than wholly-owned SOEs, but less profitable than private firms). See Catherine C. Eckel & Aidan R. Vining, *Elements of a Theory of Mixed Enterprise*, 32 SCOT. J. POL. ECON. 82 (1985), for a theoretical model suggesting that mixed enterprises may perform better than wholly-owned SOEs, but worse than private firms.

27. WILLIAM L. MEGGINSON, *THE FINANCIAL ECONOMICS OF PRIVATIZATION* 106-7 (2005).

28. Nandini Gupta, *Partial Privatization and Firm Performance*, 60 J. FIN. 987 (2005).

29. For a detailed discussion of the agency and political views of SOE inefficiency, see Rafael La Porta & Florencio López-de-Silanes, *The Benefits of Privatization: Evidence from Mexico*, 114 Q.J. ECON. 1193 (1999); Aldo Musacchio & Sergio G. Lazzarini, *Leviathan in Business: Varieties of State Capitalism and Their Implications for Economic Performance* (Harvard Bus. Sch., Working Paper No. 12-1082012), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2070942.

30. Gupta, *supra* note 28.

31. See 15 U.S.C. § 78a *et seq.*

32. Pemex, Annual Report (Form 20-F) (Dec. 31, 1994), available at <http://www.ri.pemex.com/files/content/FORM-20-F%2019942.pdf>.

guarantee by the government. This implicit bailout contract, in turn, provides disincentives for creditors to monitor the firm's day-to-day management. By contrast, equity investors in listed SOEs face, in principle, stronger incentives to avail themselves of both voice (provided they enjoy voting rights or board representation) and exit (by selling stock, thus depressing share prices) to discipline management.

Moreover, the very availability of stock prices serves an important function: it provides the government and the market with timely information about enterprise value, which can, in turn, be used to monitor managerial performance or even to design incentive-based compensation packages. Finally, as further discussed below, mixed enterprises are generally subject to the same legal regime applicable to private firms, which can serve as a further constraint to mismanagement, hence boosting operational performance. For instance, listed SOEs invariably need to produce financial statements that have been audited by a recognized private firm, an oversight feature, which is often absent where the government is the sole owner.

Third, another rationale for mixed enterprise is that it allows the government to raise non-budgetary funds for worthy projects as well as to share risk with private investors over uncertain ventures. The stock offering by Brazil's Petrobras in 2010 to fund the requisite deep-water technology to explore the newly-discovered pre-salt oil fields provides a case in point.³³ To be sure, market investors tend to emphasize short-term profitability and may be less "patient" to accept riskier, longer-term investments. This fact notwithstanding, market forces may help avoid short-term pressure in the other direction: governments may want to use SOEs to reap dividends associated with the political cycle (for example, lowering prices to final consumers in election years).³⁴

Finally, despite the apparent potential for greater private meddling in public affairs, listed SOEs might be appealing even for the most committed defenders of government intervention. Partial state ownership does not chip away at but rather reinforces the state's grip on the economy through "leverage"—a motive that was arguably at the heart of China's decision to list minority stakes in its SOEs.³⁵ The presence of private shareholders allows the state to exercise control over a larger number of firms without making a commensurate financial investment.³⁶ In fact, a fair number of mixed enterprises have historically resorted to minority-control struc-

33. See *infra* Part III.

34. See, e.g., Rodrigo M.S. Moita & Cláudio Paiva, *Political Price Cycles in Regulated Industries: Theory and Evidence*, 5 AM. ECON. J.: ECON. POL'Y 94 (2013) (finding a decline in real gasoline prices in Brazil within the six months leading up to an election).

35. Donald Clarke, *Corporatisation, Not Privatisation*, 7 CHINA L. & ECON. Q. 27, 28 (2003) (explaining that "[a]n explicit goal of enterprise reform [in China] is the magnification of state control through leverage," a concept that is "enshrined in a key Communist Party decision document from 1999"). Clarke argues that "the apparent dilution of state ownership through the sale of shares in listed companies, which leads some observers to assume the inevitability of eventual privatization, is in fact a mechanism for expanding the state's economic empire." *Id.*

36. *Id.*

tures—via corporate pyramids or the issuance of non-voting stock to the public—through which the state held uncontested control while holding less than a majority of the total capital.³⁷ In this respect, it is curious that the incidence of mixed enterprises has been comparatively greater in more coordinated civil law countries than in more liberal common law countries since the latter have more frequently opted for either wholly public or private modes of governance.³⁸

II. Understanding Private Investment in SOEs

The previous section identified the factors and circumstances that render mixed enterprises an attractive instrument from the perspective of a social planner. But the fact that governments may see benefits in sharing ownership with private investors does not mean that the latter will be willing to come on board. Hence, one crucial part of the story remains unexplained: why would private investors opt to join forces in a for-profit corporation with the state—an extremely powerful partner, which most certainly has interests and objectives that are divergent from their own?

A. Involuntary Private Investment

Before we attend to this puzzle, it is worth noting that not all mixed enterprises originate from a voluntary investment by private shareholders. On the contrary, there are many historical examples in which private investors had little or no choice with respect to the presence of the state as a majority shareholder in the firm. The most extreme instances of this phenomenon concern partial nationalizations in the face of an actual or perceived crisis.

State takeovers of enemy property during wartime illustrate this point. While cases exist where all of a company's capital stock was the object of expropriation, governments often acquired partial (though usually controlling) stakes in these foreign-owned firms. In a study conducted by Kole and Mulherin on seventeen nationalizations of enemy property by the U.S. government during World War II, the authors found that only six of these seizures entailed the acquisition of the totality of the firm's shares.³⁹ The mean and median stakes acquired by the government were 75% and 77%, respectively,⁴⁰ which meant that in most companies the state opted to join forces with private shareholders instead of having the firm all for itself.

37. The ownership structure of Brazil's formerly state-owned telecom company, Telebras, provides a case in point. Through the use of non-voting shares and a pyramidal structure, the state was able to exercise uncontested control while holding less than one-fifth of the firm's total equity capital. Mariana Pargendler, *State Ownership and Corporate Governance*, 80 *FORDHAM L. REV.* 2917, 2939 (2012). For various examples of the use of corporate pyramids by the Italian state, see Colli, *supra* note 12, at 4-9.

38. See Pargendler, *supra* note 37, at 2951-60; JOHN THURSTON, *GOVERNMENT PROPRIETARY CORPORATIONS IN THE ENGLISH-SPEAKING COUNTRIES* 5 (1937).

39. Stacey R. Kole & J. Harold Mulherin, *The Government as a Shareholder: A Case from the United States*, 40 *J.L. & ECON.* 1, 6-7 (1997).

40. *Id.*

Table 1. The Governance of Wholly-Owned vs. Listed State-Owned Enterprises

	Feature of enterprises with sole government control	How does listing change that feature? (Mixed enterprises)
Social view	Solves difficulty of regulating natural monopolies. Government self-regulates	Government can still self-regulate, but can be more efficient at producing goods (reducing marginal costs)
	Double bottom line (e.g. profit maximization jointly with other social objectives such as low inflation or higher employment)	Maximization of shareholder value is subject to political interference, if the company is not insulated. There is likely a conflict if minority shareholders pursuing profitability clash with governments following social or political goals.
	Long-term horizon, government as patient investor tolerating losses	Likely shorter-term horizon: markets are generally impatient with respect to losses; yet market pressure can avoid short-term pressure due to political cycles.
Political view	Appointment of CEOs using criteria other than merit (e.g., political connections)	Professional management selected by the board of directors. Government has strong influence as majority shareholder.
	Poor monitoring: no board of directors (ministry regulates) or politically appointed board (low level of checks and balances)	Board of directors with some independent members and some political appointees; depending on numbers, it can act as a balance to the government and the CEO. Yet, government can co-opt board members.
	Government uses SOEs to smooth business cycles (e.g., hiring more or firing fewer workers than necessary)	Effect is reduced if the firm is isolated from political intervention.
	Soft budget constraint (bailouts)	No clear risk of bankruptcy: governments may still bail them out.
Agency view	Management has low-powered incentives	Pay-for-performance contracts, bonuses, and stock options are more likely.
	Hard to measure performance (financial measures are not enough, not easy to measure social and political goals)	Stock prices and financial ratios as performance metrics. Customer satisfaction and feedback to measure quality of goods and/or services.
	No clear punishment for managers who underperform	Boards may fire managers who underperform.
	Ministries and agencies with weak incentives to monitor	Boards may fire managers who underperform.
	No transparency: incomplete financial information	Improved transparency: company must adopt accounting standards following GAAP or IFRS.
	Boards packed with politicians or bureaucrats (exacerbates political intervention and double-bottom line)	Boards act as principals of CEO and can monitor and punish.

But it is economic rather than military considerations that have most often forged the state's incursion into private firms. In fact, the line between voluntary and involuntary partnering with the state is sometimes a thin one. In the nineteenth century, prior to the advent of general incorporation, revenue-hungry state governments in the United States habitually conditioned the grant of a corporate charter on a gift of presumably lucrative stocks (as well as the extension of loans) to the state.⁴¹ The same type of exchange of stock for the privilege of incorporation also occasionally occurred in nineteenth-century Brazil.⁴² Although corporate promoters in such cases technically consented to the state's shareholdings, their only alternative would likely have been to forego the venture altogether.

More commonly, however, the acquisition of an equity stake by the government—even if paid for—is a unilateral move by Leviathan. In response to the 2008 financial crisis, the bailouts of then-failing firms such as Citigroup,⁴³ AIG,⁴⁴ and General Motors⁴⁵ by the U.S. federal government all took the form of capital infusions that resulted in partial rather than whole equity ownership by the state. Argentina's recent nationalization of oil company YPF in 2012 was also partial in nature: President Cristina Fernández's administration expropriated the controlling block held by Spanish private company Repsol while maintaining intact the minority public float on the Buenos Aires stock exchange that was held mostly by foreign institutional investors and Argentine private shareholders.⁴⁶ Both the efficiency advantages discussed in Part I and the lower cost of taking control compared to whole ownership help explain why governments might prefer to promote partial rather than full nationalizations.

If the involuntary nature of private participation partially solves the riddle, it brings about greater apprehension in terms of property rights' protection and public policy. There is little question that the emergence of

41. See, e.g., LAWRENCE M. FRIEDMAN, *A HISTORY OF AMERICAN LAW* 122, 133 (3d ed. 2005) (recounting how the grant of monopoly rights to the Camden and Amboy railroad resulted from a major gift of stock to the State of New Jersey); Anna Jacobson Schwartz, *The Beginning of Competitive Banking in Philadelphia, 1782-1809*, 55 J. POL. ECON. 417, 425 (1947) (describe the state's subscription of stock in the Bank of Pennsylvania in exchange for the approval of its charter); John Joseph Wallis, *Constitutions, Corporations, and Corruption: American States and Constitutional Change, 1842 to 1852*, 65 J. ECON. HIST. 211, 226-30 (2005) (explaining the different ways in which state governments in the United States financed infrastructure and bank companies).

42. See, e.g., Companhia de Mineração de Cuyabá, incorporated by Carta Régia [Royal Charter] (Jan. 16, 1817).

43. Jonathan Stempel, *U.S. Becomes Citigroup's Biggest Shareholder*, REUTERS (Jul. 30, 2009), <http://www.reuters.com/article/2009/07/30/us-citigroup-stake-idUSTRE56S3J120090730> (reporting the acquisition of a 34% stake by the federal government).

44. Gretchen Morgenson, *Greenberg Sues U.S. Over A.I.G. Takeover*, N.Y. TIMES, Nov. 21, 2011, at B2 (referring to the United States' acquisition of 80% of the firm's equity "over the objections of shareholders").

45. Jim Kuhnhenn & Ken Thomas, *Government Motors: US Will Own 60% of GM*, HUFFINGTON POST (June 1, 2009), http://www.huffingtonpost.com/2009/05/31/government-motors-us-will_n_209578.html.

46. For the full text of the bill providing for the expropriation of Repsol's stake in YPF, see *El Senado y Camara de Diputados de La Nacion Argentina*, PERFIL (2012), http://www.perfil.com/export/sites/diarioperfil/docs/0416_proyecto_ypf.pdf.

the government as the controlling shareholder tends to alter the firm's objectives and management profile, as the state may be tempted to pursue political objectives that are inconsistent with profit maximization. This concern for the interests of private shareholders who did not consent to the government's takeover implicitly underlies the critical commentary on the financial crisis bailout and the role of the U.S. government as a shareholder.⁴⁷ It is precisely to avoid these risks that Brazil's Corporations Law, for instance, grants appraisal rights to minority shareholders in the event the government takes control of a private company.⁴⁸

B. Voluntary Private Investment

It is clear that not all mixed enterprises result from deliberate private investment in SOEs. While this makes the initial puzzle smaller than it appeared at first, the persistent presence (and apparent expansion in recent years) of voluntary investment in listed SOEs is both significant and little understood. In many countries around the world, equity markets are underdeveloped—it being difficult enough to convince investors to buy minority positions in *any* publicly-traded firm.⁴⁹ Investing together with the government—a powerful actor with multiple and varying objectives—should in principle amount to an even more daunting proposition. Yet the evidence shows that private shareholders are not as averse to investing in SOEs as one might have expected.

Voluntary private investment in SOEs takes one of two primary forms depending on the firm's initial ownership structure: it can be present since the company's inception or result from partial privatizations of wholly-owned SOEs. Although less common in recent times, the first model was historically dominant. In the nineteenth-century United States, state and local governments habitually acquired stocks in public improvement companies, either to obtain a new source of revenue, as previously discussed,⁵⁰ or to help finance a critical element of the infrastructure in the region.⁵¹ Similarly, a number of prominent Brazilian SOEs—such as steel giant Companhia Siderúrgica Nacional (CSN) and Petrobras—were at least formally created as mixed enterprises from the outset in the 1950s, but it took time

47. See, e.g., Marcel Kahan & Edward B. Rock, *When the Government is the Controlling Shareholder*, 89 TEX. L. REV. 1293 (2011); J.W. Verret, *Treasury Inc.: How the Bailout Reshapes Corporate Theory and Practice*, 27 YALE J. REG. 283 (2010).

48. Lei No. 6.404, art. 26, de 15 de Dezembro de 1976, DIÁRIO OFICIAL DA UNIÃO [D.O.U.] de 17.12.1976 (Braz.).

49. Bernard S. Black, *The Legal and Institutional Preconditions for Strong Securities Markets*, 48 UCLA L. REV. 781, 782–83 (2001) (“That securities markets exist at all is magical, in a way. Investors pay enormous amounts of money to strangers for completely intangible rights, whose value depends entirely on the quality of the information that the investors receive and on the sellers’ honesty. Internationally, this magic is rare.”).

50. See *supra* note 41 and accompanying text.

51. See, e.g., LOUIS HARTZ, *ECONOMIC POLICY AND DEMOCRATIC THOUGHT: PENNSYLVANIA, 1776-1860* 93–94 (1948).

and substantial promotional efforts for private investors to flock in.⁵²

Yet an even more substantial number of listed SOEs have received private investment as a result of the government's partial divestiture of what were previously wholly-owned subsidiaries. Norway's listing of Statoil in 2001 is one of numerous such examples. Precisely half of the world's thirty largest national oil companies are listed SOEs.⁵³ With the exception of Petrobras, which has been listed on Brazilian stock exchanges for decades (even though none of its voting stock was traded until 2001), all of these listed national oil companies were previously wholly-owned SOEs that have floated minority shares in local and foreign stock exchanges in the 1990s and early 2000s.⁵⁴

The listing of SOEs, in turn, can be an end state or an initial step in the process towards full transition from state to private ownership. Norway, for instance, has demonstrated a commitment to maintaining state control and production in the country.⁵⁵ Choosing the first option is typically driven by the economic considerations discussed in Part I. Partial privatizations as an intermediary and temporary stage can be due to different economic considerations. For one, even if governments have decided to divest their holdings in full, floating 100% of the firm's stock at once could reduce share prices, so revenue maximization may be best served by successive offerings in smaller installments. Another explanation for paced divestments has to do with the risk of policy reversal. Enrico Perotti has posited that gradual sales of shares in privatized firms can also perform a commitment function, allowing the government to progressively establish policy credibility by bearing residual risk.⁵⁶

C. Legal Factors

Taming the state and taming controlling shareholders are both major institutional challenges in their own right. It should therefore come as no surprise that taming Leviathan as a majority shareholder is a particularly intricate task for which there is no clear-cut solution. These hybrid entities are thus subject to hybrid legal regimes and modes of governance. We show that this intriguing organizational form is the result of multiple legal and extralegal factors—neither category alone nor combined provides a bulletproof solution to the perils of state control of business ventures. Taken together, however, they provide sufficient checks and balances, mak-

52. On Petrobras, see *infra* Part III. As Levy reports, the Brazilian government faced substantial difficulty in attracting private investment to CSN in its early days. Private shareholders only gradually came in, following an aggressive publicity campaign and, more importantly, a government interest guarantee of 6% while dividends fell below that amount. MARIA BARBARA LEVY, *A INDÚSTRIA DO RIO DE JANEIRO ATRAVÉS DE SUAS SOCIEDADES ANÔNIMAS* 269-70 (1994).

53. ALDO MUSACCHIO & SERGIO G. LAZZARINI, *REINVENTING STATE CAPITALISM: LEVIATHAN IN BUSINESS, BRAZIL AND BEYOND* (Harvard University Press, forthcoming)

54. Authors' calculations based on information available on the companies' websites.

55. See *infra* Part III.

56. Enrico Perotti, *Credible Privatization*, 85 AM. ECON. REV. 847-48 (1995).

ing mixed enterprises far more workable and durable than most would have expected.

As suggested by the extensive and controversial literature on “Law and Finance,” legal protection for minority investors is an important determinant of the demand for stocks in publicly-traded companies and, consequently, for the observed level of capital market development.⁵⁷ We argue here that legal protections and constraints are an integral ingredient for the success of the mixed enterprise form, and a factor encouraging private investors to join in. We approach this theme by examining three categories of legal factors that provide assurance to private shareholders in SOEs: (i) private law protections, (ii) public law constraints, and (iii) legal privileges.

1. *Private Law Protections*

a. *Corporate and Securities Laws*

Mixed enterprises are typically organized as business corporations.⁵⁸ Subject to a few punctual exceptions—specified in the laws that create them or in a discrete statutory section of the corporations statute—listed SOEs are generally subject to the same corporate and securities laws applicable to private firms.⁵⁹ To quote a French observer of then-contemporary nationalizations of the 1940s, the state “had expropriated capitalists not only of their enterprises, but also of their experience and their recipes.”⁶⁰

The application of a single legal regime for state-controlled and private firms is customary and considered a “best practice” for SOEs by the influential OECD Guidelines on Corporate Governance of State-Owned Enterprises.⁶¹ But as one of the authors has previously argued, this policy choice is not without costs.⁶² Because the interests of the state as a controlling shareholder often play a prominent role in corporate law reforms, the ensuing unitary corporate law regime (applicable to both state and private firms) may turn out to afford insufficient protection for minority shareholders.⁶³

57. For a review of this literature, see Rafael La Porta, Florencio Lopez-de-Silanes & Andrei Shleifer, *The Economic Consequences of Legal Origins*, 46 J. ECON. LIT. 285, 315–23 (2008).

58. Brazilian law, for instance, mandates the adoption of the corporate form (*sociedade anônima*) for mixed enterprises. See Decreto-Lei No. 200, art. 5, III, de 25 de Fevereiro de 1967, D.O.U. de 27.2.1967 (Braz.).

59. Pargendler, *supra* note 37, at 2963.

60. R. Houin, *La gestion des entreprises publiques et les méthodes de Droit commercial* [The management of public companies and methods Commercial Law], in ARCHIVES DE PHILOSOPHIE DU DROIT: LA DISTINCTION DU DROIT PRIVÉ ET DU DROIT PUBLIC DE L'ENTREPRISE PUBLIQUE 79, 79 (1952). (quoting G. Vedel: “[L’Etat a] exproprié les capitalistes non seulement de leurs entreprises, mais de leur expérience et de leurs recettes.”).

61. ORG. FOR ECON. COOPERATION AND DEV., OECD GUIDELINES ON CORPORATE GOVERNANCE OF STATE-OWNED ENTERPRISES, 20–21 (2005) [hereinafter OECD GUIDELINES], available at <http://www.oecd.org/daf/ca/corporategovernanceofstate-ownedenterprises/34803211.pdf>.

62. Mariana Pargendler, *The Unintended Consequences of State Ownership: The Brazilian Experience*, 13 THEORETICAL INQ. L. 503, 505–06 (2012).

63. *Id.*

From the perspective of outside investors in SOEs, however, the application of a private law regime provides greater assurance both as to the content and the stability of the underlying rules of the game. At the very least, it makes it costlier for the state to overhaul the legal regime in view of its short-term interests. In other words, a unitary legal regime provides a useful, albeit imperfect, way for the government to credibly commit to protect private investors.

Although the degree of legal investor protection and its enforcement varies widely around the world,⁶⁴ certain features are recurrent. Securities laws typically mandate the timely disclosure of material information on the company as well as the periodical publication of audited financial statements. This, in turn, permits market participants to monitor the company's performance so that stock prices reflect a combination of the firm's fundamentals and the prospect of expropriation. Most corporate laws also impose (with varying degrees of effectiveness) limitations on tunneling and self-dealing transactions by managers and controlling shareholders.⁶⁵

However, the submission of SOEs to general private and securities laws—while helpful in providing assurance to its investors—does not guarantee that SOEs will behave like private firms. First, there is still the possibility of different enforcement of facially uniform regulations, with SOEs effectively being subject to more lenient standards.⁶⁶ Evidence suggests that this may often be the case: even though SOEs dominate China's capital markets, they receive fewer sanctions from the securities agency than do private firms.⁶⁷ An event study of Chinese corporate law reforms in 2000 showed that only private firms—not SOEs—experienced abnormal positive returns following the enactment of new regulations, thus implying that markets do not expect enforcement of stricter standards against government-controlled companies.⁶⁸ In Brazil, too, the securities commission was historically reluctant to punish SOEs for securities laws violations.⁶⁹

The internal governance structures of listed SOEs—be they legally mandated or voluntarily adopted—also provide for another set of checks and balances. The state usually holds a majority of the voting stock in mixed enterprises, which puts it in a position of dominance in the general

64. John C. Coffee, Jr., *Law and the Market: The Impact of Enforcement*, 156 U. PA. L. REV. 229, 254–68 (2007).

65. Simeon Djankov et al., *The Law and Economics of Self-Dealing*, 88 J. FIN. ECON. 430, 431 (2008).

66. See Pargendler, *supra* note 62, at 506.

67. William T. Allen & Han Shen, *Assessing China's Top-Down Securities Markets*, in CAPITALIZING CHINA 171 (Joseph Fan & Randall Morck eds., 2012).

68. Henk Berkman, Rebel A. Cole & Lawrence J. Fu, *Political Connections and Minority-Shareholder Protection: Evidence from Securities-Market Regulation in China*, 45 J. FIN. & QUANTITATIVE ANALYSIS 1391, 1392–93 (2011). See Allen & Shen, *supra* note 67, at 171.

69. See Pargendler, *supra* note 62 at 512–13; Arnaldo Wald, *Trinta Anos da Lei do Mercado de Valores Mobiliários no Brasil* [Thirty Years of Securities Laws in Brazil], 34 REVISTA DE DIREITO BANCÁRIO E DO MERCADO DE CAPITAIS 5, 5 (2006) (noting that the securities' commission lack of independence in its earlier years hampered enforcement actions against SOEs).

assembly. A number of listed SOEs, however, grant voting rights to minority shareholders, which allow them to participate in the shareholders' meeting and elect directors, as is the case under Brazilian law.⁷⁰

Listed SOEs also tend to have hybrid boards in one form or another. Their hybrid character might derive from a combination (and tension) between technical experts and political appointees, the presence of independent directors or minority shareholder representatives on the board, or a mixture of these features. Employee board representation (also known as "codetermination") is also particularly common on SOE boards.⁷¹ Although shareholders and employees usually have clashing interests, labor representatives in this context might still provide a useful layer of monitoring against outright abuse, waste or corruption by the government.⁷²

Finally, some listed SOEs may also resort to performance-based executive compensation as an additional method to align the company's management with the interests of private shareholders. As our case studies below show, managers of listed SOEs are often not paid as bureaucrats on a fixed salary basis, but instead have their remuneration packages linked to different metrics of the company's performance. Incentive-based compensation—either through stock grants, stock options, or bonuses linked to the company's financial or operational results—can serve as a useful form of institutional tension to counterweigh managers' otherwise unbounded loyalty to the policy interests of the government officials that appointed them. Nevertheless, due to bureaucratic constraints or pressure from organized groups (for example, the unions of SOEs), the compensation packages of SOE managers tend to be low-powered compared to those of private firms.⁷³

b. Cross-Listings on Foreign Exchanges

SOEs may also attempt to credibly commit themselves to honest management and minority shareholder protection by listing their shares on foreign exchanges. In his review of the large literature on cross-listings, Karolyi summarizes the two competing hypotheses to explain why compa-

70. See arts. 141 and 239, Lei No. 6.404, de 15 de Dezembro de 1976, D.O.U. de 17.12.1976 (Braz.).

71. See, e.g., Luca Enriques, Henry Hansmann & Reinier Kraakman, *The Basic Governance Structure: Minority Shareholders and Non-Shareholder Constituencies*, in *THE ANATOMY OF CORPORATE LAW: A COMPARATIVE AND FUNCTIONAL APPROACH* 62 (Reinier H. Kraakman & Henry Hansmann eds., 2009) (noting that employee board representation is particularly common in state-owned corporations in the EU).

72. See, e.g., *infra* note 115 and accompanying text.

73. For works on the theory and evidence behind lower incentives in the public sector, see Oliver E. Williamson, *Public and Private Bureaucracies: A Transaction Cost Economics Perspective*, 15 *J. L. ECON. & ORG.* 306 (1999); Avinash Dixit, *Incentives and Organizations in the Public Sector: An Interpretative Review*, 37 *J. HUM. RESOURCES* 696 (2002); Chong-En Baia & Lixin Colin Xu, *Incentives for CEOs with Multitasks: Evidence from Chinese State-owned Enterprises*, 33 *J. COMP. ECON.* 517 (2005).

nies choose to list their shares overseas.⁷⁴ The market segmentation (and liquidity) hypothesis posits that regulatory and information costs hinder the flow of capital across borders, so cross-listings allow firms to amplify and diversify their investment base.⁷⁵ The bonding hypothesis, by contrast, attributes the choice of cross-listing to the desire of foreign issuers—especially those coming from jurisdictions with weak institutional environments—to commit to the higher standards of governance and transparency practiced in the host jurisdiction.⁷⁶

Proponents of the bonding hypothesis have presented different pieces of evidence in support of this theory. Foreign firms whose home legal systems are weak enjoy substantial premiums and a reduction in their cost of capital when they cross-list their stock in U.S. exchanges (though not necessarily in other foreign exchanges, such as London).⁷⁷ Skeptics have, however, provided countervailing findings that cast doubt on the plausibility of the bonding hypothesis, ranging from the observation that the premiums associated with cross-listings have a short life, to the conclusion that other factors—such as the correlation with U.S. stock market indices—account for the boost in performance of foreign company stocks that trade in the United States.⁷⁸

Attacks on the bonding hypothesis have also focused on the precise legal mechanisms that are meant to make the commitment to protect investors credible. In a study of Mexican firms cross-listed in the United States, Jordan Siegel showed that enforcement against violations by foreign firms is exceedingly weak so that the bonding hypothesis is best described as reflecting “reputational” rather than strictly legal bonding.⁷⁹ More recent studies have reached divergent conclusions regarding the willingness of

74. G. Andrew Karolyi, *Corporate Governance, Agency Problems and International Cross-Listings: A Defense of the Bonding Hypothesis*, 13 EMERGING MARKETS REV. 516 (2012).

75. *Id.* at 517-18.

76. *Id.* at 518.

77. For a sample of more recent works supporting the bonding hypothesis, see Craig Doidge et al., *Why Are Foreign Firms Listed in the U.S. Worth More?*, 71 J. FIN. ECON. 205 (2004) (showing that foreign companies that cross-list in the U.S. boast higher Tobin's q compared to matching companies from the same jurisdiction); Craig Doidge et al., *Has New York Become Less Competitive than London in Global Markets? Evaluating Foreign Listing Choices Over Time*, 91 J. FIN. ECON. 253 (2009) (finding that the Sarbanes-Oxley Act does not eliminate the U.S. cross-listing premium); Luzi Hail & Christian Leuz, *Cost of Capital Effects and Changes in Growth Expectations around U.S. Cross-Listings*, 93 J. FIN. ECON. 428 (2009).

78. See, e.g., Sergei Sarkissian & Michael J. Schill, *Are There Permanent Valuation Gains to Overseas Listing?*, 22 REV. FIN. STUD. 371 (2009) (finding that most of the valuation gains from overseas listings are not permanent); Kate Litvak, *The Relationship among U.S. Securities Laws, Cross-Listing Premia, and Trading Volumes* (Conference on Empirical Legal Studies Working Paper, 2009) (showing that valuations of foreign firms cross-listed on U.S. exchanges are strongly correlated with U.S. stock indices), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1443590.

79. Jordan Siegel, *Can Foreign Firms Bond Themselves Effectively by Renting U.S. Securities Laws?*, 75 J. FIN. ECON. 319, 321 (2005).

U.S. regulators to file enforcement actions against foreign firms.⁸⁰

Although the promise of bonding to higher governance standards through cross-listing is unlikely to be bullet-proof, it does provide an extra layer of comfort to private investors of SOEs by raising the costs of engaging in abusive practices. SOEs may pursue cross-listings as a way to tie the hands of the controlling shareholder (that is, the government), as abuses of minority shareholders could generate international scandal and, ultimately, lead to de-listing. In fact, both access to foreign capital and foreign legal protections have led SOEs to pursue cross-listings with great enthusiasm. Studies show that government-controlled firms are far more likely to cross-list in the United States than are private firms from the same home jurisdiction.⁸¹ Overseas listings may be particularly attractive for SOEs due to their potential to eliminate the conflicts of interest stemming from the state's dual role as shareholder and regulator in domestic markets.

2. *Public Law Constraints*

a. *Public Law Rules*

Listed SOEs are not only generally subject to the same private and securities laws applicable to private firms but are also subject, at times, to constraints derived from public law as well. It is not uncommon for these hybrid public-private entities to be governed by a legal regime that blends elements of both public and private law. Defined by greater rigidity and formalities, public law rules have earned a bad reputation, especially when applied to commercial ventures. In fact, the desire to evade public law rules has sometimes been underneath the “corporatization” of government agencies.⁸² Yet, as we will see in Part III, the continued application of some public law constraints might well have beneficial properties with respect to listed SOEs.⁸³

Well-designed public law rules have a comparative advantage with respect to their core competency: constraining state action. The private law regime is based on the general assumption that consensual transactions increase social welfare, thereby granting the parties substantial lee-

80. Compare Natalya Shnitser, Note, *A Free Pass for Foreign Firms? An Assessment of SEC and Private Enforcement Against Foreign Issuers*, 119 *YALE L.J.* 1638 (2010) (describing the dearth of enforcement actions against foreign issuers), with Roger Silvers, *SEC Enforcement of Foreign Firms: Is Bonding Really a Myth?* (2012) (unpublished working paper), available at <http://business.illinois.edu/accountancy/events/forum/papers/11-12/Silvers.pdf> (finding considerable enforcement intensity by the SEC against foreign issuers in the post-2002 period).

81. PETER ALEXIS GOUREVITCH & JAMES J. SHINN, *POLITICAL POWER AND CORPORATE CONTROL: THE NEW GLOBAL POLITICS OF CORPORATE GOVERNANCE* 114 (2005) (“[T]he percentage of U.S. cross-listers is weighted towards government-owned firms, to an extent far larger than the weight of state-controlled firms in their domestic stock markets”).

82. For example, in 1934, U.S. President Franklin Delano Roosevelt exalted the creation of the Tennessee Valley Authority, a government corporation, as “a corporation clothed with the power of government but possessed of the flexibility and initiative of a private enterprise.” *From the New Deal to a New Century*, TENNESSEE VALLEY AUTHORITY, <http://www.tva.gov/abouttva/history.htm> (last visited Apr. 21, 2013).

83. See *infra* notes 134, 135, and 136 and accompanying text.

way to shape their actions and behavior. Public law, on the other hand, is imbued with greater suspicion about government action, and therefore seeks to impose limitations on the scope of state discretion. Frequently embodied in constitutional provisions or special statutes, public law rules are also harder to change, which makes them less susceptible both to efficient revisions and to opportunistic regime changes by the ruling government.

b. Different Regulatory Agencies

Having competing regulatory agencies oversee SOEs is also a promising device to tame the Leviathan in business. Inspired by the old wisdom of “pitting power against power,” this is an adaptation of one of the most time-tested mechanisms of controlling state abuse. The OECD Guidelines on Corporate Governance of SOEs specifically recommend the separation of agencies responsible for exercising the ownership function in government-controlled firms, on the one hand, and agencies that regulating industry, on the other, so as to mitigate the potential conflict of interest.⁸⁴

3. Legal Privileges

Although questionable from a welfare standpoint, government ventures often enjoy an array of legal privileges that play an important part in explaining their ability to lure private shareholders. It is particularly common for governments to confer monopoly rights on the firms they control. Beyond an outright grant of monopoly, legal privileges can take different forms: SOEs may be the direct beneficiaries of special taxes or other government transfers that increase their revenue base. Moreover, it is customary for SOEs to be exempted from bankruptcy laws, and they generally benefit from an implicit government guarantee.⁸⁵ This can encourage private investors to lend to SOEs on favorable terms. A lower cost of debt, in turn, indirectly increases profitability, thus making the company more attractive to equity investors as well. Another possibility is that the government might create other regulatory advantages to induce investments in SOEs. Brazil, for instance, has enacted laws permitting employees to use part of the balance of their severance fund accounts (*Fundo de Garantia por Tempo de Serviço - FGTS*) to purchase shares in state-owned firms or recently privatized ones, but not in regular private sector companies.⁸⁶

The point here is not to evaluate these privileges from a normative perspective. Standard recommendations customarily go against the grant of legal privileges or monopoly rights so as not to distort competition—for good and obvious reasons that do not merit extended discussion here.⁸⁷

84. See OECD GUIDELINES, *supra* note 61.

85. See CORPORATE GOVERNANCE OF STATE-OWNED ENTERPRISES, *supra* note 3, at 13, 56, 84 (stating that “in a number of cases, SOEs are to a large extent protected from insolvency or bankruptcy procedures by their specific legal status”).

86. See Lei No. 8.036, de 11 de Maio de 1990, art. 20, XII, D.O.U. de 12.5.1990 (Braz.).

87. See OECD Guidelines, *supra* note 61.

These favors, however, go a long way in explaining why private investors may voluntarily join sides with the state despite the apparent risks and conflicts of interest involved.

D. Extralegal Factors

Finally, aside from the possible legal constraints on the state, there are several extralegal factors that entice investors to invest in SOEs.

1. Market Structure

Although government ownership and monopolistic exploitation of industry are not inevitably intertwined, SOEs very often possess market power. This privileged position typically derives either from outright monopoly grants by the government or from industry characteristics—natural monopoly or “strategic” activities—that have called for the government’s intervention in the first place. Monopoly rents, in turn, are evidently attractive to private investors. Even if the state has political objectives to fulfill, there should be sufficient money left on the table to provide for decent returns.

From a private shareholder’s standpoint, the attractiveness of a monopolistic position may be easier to grasp, but the countervailing benefits of competition are not negligible. At the cost of eliminating rents, competitive market pressures are a source of discipline for managers of SOEs. In their review of the privatizations’ literature, Megginson and Netter note that the effects of competition on SOE efficiency can be exceedingly strong even in the absence of ownership changes.⁸⁸ Similarly, in a study of Indonesian firms, Bartel and Harrison found that SOEs facing competitive pressures perform as well as private firms.⁸⁹ Competition, when available, eliminates rents but imposes another form of constraint on state-owned firms. Large institutional investors that look for firms with good corporate governance may generally prefer SOEs that operate in more competitive environments. Yet investors may have higher returns in SOEs that operate in a monopoly setting, as long as corporate governance and reporting arrangements stemming from listing align the incentives of managers and minimize abuses of minority shareholder rights.

2. Political and Democratic Control

While SOEs face a greater risk of misbehavior compared to private firms, they also receive greater media and political scrutiny that can help deter abuse. Media pressure can be an effective remedy for private benefits of control,⁹⁰ and listed SOEs are more frequently the object of media reports and congressional investigations than are private firms. This does

88. See Megginson, *supra* note 12.

89. Ann P. Bartel & Ann E. Harrison, *Ownership versus Environment: Disentangling the Sources of Public-Sector Inefficiency*, 87 *REV. ECON. & STAT.* 135, 137 (2005).

90. See Alexander Dyck & Luigi Zingales, *Private Benefits of Control: An International Comparison*, 59 *J. FIN.* 537, 590 (2004).

not prevent public officials from using SOEs to pursue popular objectives, but it at least reduces the risk of corruption and outright self-dealing.

3. Reputation

Reputation can be an effective substitute for legal protections in a repeat-play game. So long as the government has an interest in maintaining its mixed-enterprise strategy, it must not expropriate current investors, as this will make it harder for the state to raise outside equity in the future. Even in the absence of formal legal protections, governments can resort to generous dividend policies in order to signal their commitment to stock profitability.⁹¹ The pervasive use of sovereign debt shows how, when coupled with internal checks and balances,⁹² reputational concerns can discourage defaults in a context where effective legal enforcement of contracts is not available.

4. Investors' Need to Diversify Their Portfolios

Beyond all the changes in governance in SOEs and the legal conditions that might make investment in the equity (or bonds) of a state-owned enterprise, investors may also like to purchase the securities that SOEs issue simply as part of the need to diversify their portfolio, or to include exposure to a specific industry or country, or both. The sheer size of SOEs in many markets forces local and foreign investors who are looking to diversify their portfolio to invest in these firms. For instance, in China, firms ultimately controlled by the state or by a state-owned holding company (for example, SASAC), represent close to 70% of stock market capitalization.⁹³ An investor looking to include Chinese stocks in her portfolio has little choice but to invest in SOEs. The same may happen with an investor who is trying to construct a diversified portfolio of energy firms. Since some of the largest firms worldwide are state-owned, these investors may have to include a mixed enterprise such as Petrobras, Statoil, Sinopec, CNOOC, or Gazprom. Indeed, it is very hard for investors to shy away from investing in SOEs: SOEs accounted for nine out of the fifteen largest initial public offerings between 2005 and 2012, and for the two or three largest offerings among them.⁹⁴

91. Brian R. Cheffins, *History and the Global Corporate Governance Revolution: The U.K. Perspective*, 43 *BUS. HIST.*, no. 4, Oct. 2001 at 87, 100 (noting that U.K. companies in the first part of the twentieth century resorted to a stable record of dividend payments as a reputational device to reassure investors in the absence of other, more formal legal protections).

92. See Douglass C. North & Barry R. Weingast, *Constitutions and Commitment: The Evolution of Institutional Governing Public Choice in Seventeenth-Century England*, 49 *J. ECON. HIST.* 803 (1989) (highlighting the role of internal checks-and-balances in ensuring England's access to capital markets following the Glorious Revolution).

93. See ALDO MUSACCHIO & SERGIO G. LAZZARINI, *LEVIATHAN EVOLVING: NEW VARIETIES OF STATE CAPITALISM IN BRAZIL AND BEYOND* n.7 (forthcoming 2013), available at http://extranet.isnie.org/uploads/isnie2013/musacchio_lazzarini.pdf.

94. For the IPO list, see *State Capitalism's Global Reach: New Masters of the Universe: How State Enterprise is Spreading*, *ECONOMIST*, Jan. 21, 2012.

5. *Ex ante Discounting*

Lastly, when investors participate in SOEs voluntarily, they can and do adjust the price they are willing to pay for these securities to compensate for the risk that the government, as controlling shareholder, might pursue objectives that are not in their or the firm's best interests. Not only is the presence of the government as a controlling shareholder well known, but also the public disclosure documents of listed SOEs describe the various risks associated with state control of the firm.⁹⁵ It should come as no surprise that, among the world's 100 largest companies by mid-2012, the top four most "discounted" firms (measured by their price-to-book ratios) were SOEs.⁹⁶

Discounting, however, may not work well if the extent and incidence of interference is too uncertain. This should be particularly relevant in moments of governmental transition involving political parties with distinct ideologies. Therefore, the very possibility of discounting as a response to the risk of political interference depends on the previously discussed legal and extralegal constraints on the government as a controlling shareholder.

III. Comparative Case Studies

In light of our previous discussion, we now present some comparative case studies on three national oil companies (NOCs): Brazil's Petrobras, Norway's Statoil and Mexico's Pemex. In Table 2 we include some basic corporate characteristics of two mixed, listed enterprises—Petrobras and Statoil—as well as of a non-listed, wholly-owned instrumentality of the Mexican government—Pemex—as a control case. These comparisons allow us to study the main differences between whole and mixed government ownership, as well as the variation in the governance structure and the level of political intervention among listed firms.

A quick look into the history of these NOCs reveals that state control of local companies emerged under different circumstances and for divergent reasons. The oldest among them, Pemex (short form for *Petroleos Mexicanos*), was created in 1938 as a result of the world's first large-scale nationalization in the oil industry.⁹⁷ The full state takeover of the seventeen foreign oil companies then operating in the country followed major labor revolts and the firms' subsequent refusal to follow court decisions siding with the employees.⁹⁸ Although employee interests played a prominent part in Pemex's creation and continue to influence its governance,

95. See *infra* notes 151, 165, and accompanying text.

96. These firms were Japan's NTT, Japan Tobacco, Russia's Gazprom, and Brazil's Petrobras. Toni Sciarretta & Álvaro Fagundes, *Petrobras é a petroleira mais desvalorizada do mundo na Bolsa [Petrobras is the World's Most Devalued Oil Company]*, FOLHA DE S. PAULO (Jun. 28, 2012, 4:00 AM) <http://www1.folha.uol.com.br/mercado/1111802-petrobras-e-a-petroleira-mais-desvalorizada-do-mundo-na-bolsa.shtml>.

97. Tordo, Tracy & Arfaa, *supra* note 13, at 29.

98. *History of Petroleos Mexicanos*, PEMEX, <http://www2012.pemex.com/index.cfm?action=content§ionID=123&catID=11682> (last visited Aug. 3, 2013).

this very large SOE is best known for its national monopoly as well as its contribution to the government's finances. As of 2011, it accounted for over one-third of the revenues of the Mexican state, thus proportionately reducing the country's tax burden.⁹⁹ As a wholly-owned instrumentality of the Mexican government, Pemex has private debt holders but no private equity investors.¹⁰⁰

Brazil's Petrobras has formally been a mixed enterprise since the outset of its creation in 1953, even if the lion's share of its financing came directly from the state.¹⁰¹ Its founding followed a nationalistic campaign known as "the oil is ours" and great hopes to find promising oilfields along Brazil's shores to propel the country's economic and industrial development.¹⁰² Investment by Brazilian private shareholders was initially compulsory, deriving from a mandatory tax on automobile owners in exchange for shares.¹⁰³ By the 1970s, Petrobras's stock was one of the most traded on Brazilian stock exchanges, but it was not until the 1990s that its monopoly was relaxed, the government floated a larger minority of its stake, and it began issuing American Depositary Receipts (ADRs) on the NYSE.¹⁰⁴

Finally, Statoil was established as a wholly-owned SOE in 1972 with the goal of promoting the development of Norway's incipient oil industry, which also came to rely on private firms.¹⁰⁵ The company was partly privatized in 2001, when minority stakes were successfully listed both on the Oslo Stock Exchange and on the NYSE.¹⁰⁶ Statoil then merged with Hydro, a sister state-controlled oil firm, in 2006 to become the world's biggest offshore operator.¹⁰⁷

A. Ownership and governance

1. Board Composition

In Table 2, we show variation in degree of state ownership and control (the share of equity and votes held by the government) and in the levels of managerial autonomy conferred on the company (the extent to which the firm controls the use of its own resources, independent of government

99. PETER R. HARTLEY & KENNETH B. MEDLOCK III, JAMES A. BAKER III INST. FOR PUB. POLICY, *THE FUTURE OF OIL IN MEXICO: THE REVENUE EFFICIENCY OF PEMEX: A COMPARATIVE APPROACH* 5 (2011).

100. *Frequently Asked Questions: Is it Possible to Invest in Pemex?*, PEMEX, <http://www.ri.pemex.com/index.cfm?action=content§ionid=23> (last visited Aug. 3, 2013).

101. Peter Scaborn Smith, *Petrobrás: The Politicizing of a State Company*, 46 BUS. HIST. REV. 182, 183-87 (1972).

102. *Id.* at 185.

103. *Id.* at 187.

104. See Aldo Musacchio & Francisco Flores-Macias, *The Return of State-Owned Enterprises*, HARVARD INT'L REV. (Apr. 4, 2009, 10:26 PM), <http://hir.harvard.edu/the-return-of-state-owned-enterprises>.

105. *Our History*, STATOIL, <http://www.statoil.com/annualreport2011/en/thisis-statoil/pages/ourhistory.aspx> (last visited Aug. 3, 2013).

106. *Id.*

107. Ed Crooks, *Norway's Statoil and Hydro to Merge*, FIN. TIMES (Dec. 18, 2006, 11:58 AM), <http://www.ft.com/cms/s/0/836f18c8-8e75-11db-a7b2-0000779e2340.html#axzz2XGBaqe3l>.

approval). As noted above, Pemex is a non-listed public enterprise that has, since 2008, adopted many of the features of state-owned “corporatized” firms. Petrobras and Statoil, on the other hand, are state-controlled firms with shares listed in local exchanges as well as ADRs traded on the New York Stock Exchange.¹⁰⁸ Yet, at a glance, the makeup of all three boards of directors looks very similar: they are all relatively large and boast external members.

At Pemex, however, the only external members are full-time directors (an anomaly) appointed by the dominant political parties in Congress. As a result, the so-called “external” members of the board have, in fact, a direct connection to the government, which accentuates political intervention in the firm. Furthermore, government officials are among the non-external members of the boards of Petrobras and Pemex. In both of those firms, external members make up a minority of directors, so the board is still heavily influenced by the government.

Statoil is a unique case in which the board is composed of a majority of external members who are relatively independent from the government. Indeed, Norwegian law has long barred the presence of government officials on Statoil’s board of directors.¹⁰⁹ In 1962, there was an accident in a state-owned mining company that had the Minister of Industry serving on the board.¹¹⁰ A political scandal ensued, blaming the accident on government negligence; the Labour government lost a confidence vote as a result.¹¹¹ The solution was to prohibit public servants from serving on boards, so as to “protect[] politicians and government officials when state-owned ventures go bad.”¹¹²

Conversely, all three companies have employee representatives serving on their boards. With five board members selected by the Petroleum Workers’ Union (*Sindicato de Trabajadores Petroleros de la República Mexicana*), the degree of labor involvement in Pemex is substantial, perhaps as a vestige of employee revolts preceding the company’s nationalization. Statoil has three employee representatives on its board.¹¹³ At Petrobras, the presence of a labor representative on the board is far more modest and recent. In line with a 2010 statute mandating the presence of an employee representative on the board of any federal SOE,¹¹⁴ Petrobras currently has only one. Although the conflicts of interest between shareholders (who aim for maximum financial returns) and employees (who seek higher salaries) are well

108. See *supra* notes 104–105 and accompanying text.

109. Mark C. Thurber & Benedicte Tangen Istad, *Norway’s Evolving Champion: Statoil and the Politics of State Enterprise 20* (Program on Energy & Sustainable Dev., Working Paper No. 92, 2010), available at http://iis-db.stanford.edu/pubs/22919/WP_92%2C_Thurber_and_Istad%2C_Statoil%2C_21May2010.pdf.

110. *Id.*

111. *Id.*

112. *Id.*

113. *Corporate Assembly and Board*, STATOIL, <http://www.statoil.com/annualreport2011/en/corporategovernance/pages/corporateassemblyandboard.aspx> (last visited Aug. 3, 2013).

114. Lei No. 12.353, de 28 de Dezembro de 2010, D.O.U. de 29.12.2010 (Braz.).

known, both groups share an interest in reducing political interference so as to maximize the firm's revenue. Indeed, the employee representative sitting on Petrobras's board of directors (*Conselho de Administração*) has come to openly criticize what he sees as excessive political interference in the firm's management decisions.¹¹⁵ Of the three NOCs examined, only Petrobras grants a minimum of two board seats to minority shareholders.¹¹⁶ However, as we describe below, the precise practical operation and effectiveness of these representatives has been recently challenged.¹¹⁷

Therefore, the compositions of the boards of directors of Statoil and Petrobras differ sharply in the mix of public and private involvement, suggesting there is no silver bullet for reassuring investors that these state-owned companies will not fall prey to political intervention. In the Norwegian company, the government selects all non-employee members of the corporate assembly, which in turn elects the non-employee members of the board.¹¹⁸ None of the board members, however, are state officials.¹¹⁹ In the Brazilian oil giant, by contrast, a majority of government officials interact with elected representatives of employees and minority shareholders.

2. Ownership Structure

The ownership structure of NOCs underscores the robust private interest in state-controlled firms. Table 2 shows that, despite the fact that in both Petrobras and Statoil the government has uncontested control over the firm by holding a majority of the voting stock, a large proportion of equity is owned by private, minority investors. In Petrobras, private voting and nonvoting shareholders get a majority of the company's cash flow rights. In Statoil, minority shareholders have 33% of cash flow rights. Furthermore, Petrobras's charter, in accordance with Brazilian corporate law, allows minority shareholders to vote as a bloc and elect up to two external board members, if a greater number of seats is not available under cumulative voting.¹²⁰

115. *Representante dos trabalhadores na Petrobrás denuncia ingerência política* [Labor Representative in Petrobras Denounces Political Interference], O Estado de São Paulo, Dec. 13, 2012, <http://economia.estadao.com.br/noticias/negocios-%20industria,representante-dos-trabalhadores-na-petrobras-denuncia-ingerencia-politica,138070,0.htm>.

116. ESTATUTO SOCIAL DA PETROBRAS [Bylaws of Petrobras], art. 19, available at <http://www.petrobras.com.br/pt/quem-somos/estrategia-corporativa/downloads/pdf/estatuto-social.pdf>.

117. See *infra* note 159 and accompanying text.

118. See *Risks Related to State Ownership*, STATOIL, <http://www.statoil.com/AnnualReport2011/en/RiskReview/RiskFactors/Pages/RisksRelatedToStateOwnership.aspx>.

119. See *supra* note 109 and accompanying text.

120. See Lei No. 6.404, de 15 de Dezembro de 1976, art. 239, D.O.U. de 17.12.1976 (Braz.); ESTATUTO SOCIAL DA PETROBRAS [Bylaws of Petrobras], *supra* note 116, art. 19.

See *infra* note 159 and accompanying text.

Table 2. Corporate Governance in Petrobras, Statoil, and Pemex (July 2012)

	Petrobras	Statoil	Pemex
<i>Corporate governance</i>			
Chartered as a stand-alone company?	Yes	Yes	No
Listed on a local stock exchange	Yes (São Paulo)	Yes (Oslo)	No
Cross-listed stock	Yes (NYSE)	Yes (NYSE)	No
<i>Board of directors (BOD)</i>			
Number of seats	9	10	15
Number of external directors	2	7	4
Number of employee representatives	1	3	5
External directors are a majority?	No	Yes	No
Government officials on BOD?	Yes	No	Yes
<i>Shareholder rights and gov't power</i>			
Dual-class shares (voting/nonvoting)	Yes (voting shares and nonvoting preferred shares)	One class (one-share, one-vote)	Not applicable
Share of votes held by government	50.2% (gov't) + 8.2% (gov't owned BNDESPAR)	67%	100%
Gov't cash flow rights (% of total equity)	28.70% (gov't) + 15% (gov't owned BNDESPAR)	67%	100%
Do minority shareholders have the right to elect board members?	Yes, two (or greater under cumulative voting)	No	Not applicable
<i>Returns to government</i>			
Taxes as a % of revenues (2011)	25.2% net (34% minus deductions)	28% of revenues minus deductions for exploration and depreciation	56.2% of revenues
Additional payments to government	Dividends	Dividends according to cash flow rights + a tax of 3% on all dividends	All additional profits minus deductions for exploration and depreciation

Source: Data obtained from the 20F forms filed by Petrobras, Statoil, and Pemex with the Securities and Exchange Commission for the year ended December 31, 2012.

Compiled from the companies' websites and from questionnaires sent to Pemex.

3. *Financial Independence and Time Horizon*

We also show in the table the extent to which the governments of Brazil, Norway, and Mexico tax these firms and how much the government takes in the form of dividends. The fiscal regimes of Petrobras and Statoil seem extremely similar. The government takes between 25% and 28% in taxes, and then receives dividends according to the set cash-flow right of its

shares (28.7% in Petrobras and 67% in Statoil).¹²¹ In Mexico, the government takes all of Pemex's profits—through a tax of 56% of revenues and the rest in dividends—and then grants Pemex some select deductions for depreciation and funding to pay for exploration projects. Thus, Pemex is forced to bargain with the Mexican government to get funds to pursue exploration and development, while Petrobras and Statoil have more financial autonomy from the government and can use retained earnings to finance expansion.

A key concern in NOCs is how financially independent the firm is from the government. As we saw in Table 2, Pemex lacks the capacity to retain earnings to make investments. In Table 3, we analyze the financial independence of each of our three firms with regards to large investment decisions. We can see that only the Norwegian government seems to give its national oil company complete budgetary autonomy. Petrobras needs government approval for certain large investment projects, while Pemex needs approval for investment projects and its entire budget.¹²² Of the three, then, Pemex has the least flexibility when it comes to the use of the resources it generates.

Moreover, as previously discussed, the issue of how SOEs compare to private firms in terms of investment time horizon and risk appetite remains controversial. On the one hand, advocates of state ownership view private capital markets as excessively focused on short-term gain, which could lead private companies to forego profitable but risky and longer-term investments in research and development (R&D). On the other hand, there is the risk that election cycles could render SOEs even more concerned with short-term results than their private counterparts.¹²³

We think financial autonomy, in fact, allows national oil companies to focus on long-term investments, while also isolating themselves from some of the short-term financial considerations of governments. In the case of Pemex, the Mexican government maximizes the extraction of rents in the short run to boost its government budget, while limiting Pemex's ability to spend more on R&D or exploration. In the case of Petrobras and Statoil, their relative financial autonomy allows them to set aside funds to invest in long-term projects.

Yet, our case studies do not provide a clear answer as to whether mixed enterprise in the oil industry focus on short-term results, as a response to investors, or on the maximization of oil rents in the long run for the majority shareholder (i.e., the government). It seems the answer is somewhere in between. In the case of Petrobras and Statoil, given their large investment budgets, we think that at least we can say the management of these firms is not *solely* preoccupied with short-term considerations. In Pemex, on the other hand, the government has privileged extraction of

121. See *supra* Table 2.

122. See Tordo, Tracy & Arfaa, *supra* note 13, at 70, 93.

123. This was highlighted by Nicholas Kaldor, *Public or Private Enterprise: The Issues to be Considered*, in *PUBLIC AND PRIVATE ENTERPRISE IN A MIXED ECONOMY* 1-14 (William Baumol ed., 1980).

rents in the short run over the maximization of rents in the long run, and production has suffered a steep decline between 2004 and 2009 for lack of investment in exploration and development.¹²⁴

4. *Management Selection and Compensation*

Since governments traditionally intervened in SOEs by nominating as managers either politicians or politically-connected individuals, one concern for investors of national oil companies is how top management are selected. In Table 3, we show a series of variables with which to compare these three firms in terms of their selection process for CEOs and whether their compensation packages are incentive-compatible.

In terms of management selection, Petrobras's and Statoil's CEOs are selected by the board of directors, while Pemex's CEO is directly appointed by the president of Mexico. In Petrobras, however, the board is packed with government officials and government-appointed members. Thus, the appointment of the CEO, in practice, can be a highly political process, with the president of Brazil having ultimate fiat power when it comes to who runs Petrobras and how. When we code for the background of the CEOs of these three firms, we find that both Petrobras and Pemex have had far fewer politicians appointed as CEOs than Statoil has. On the other hand, at Pemex, CEOs change whenever a new president is elected, whereas at Statoil, CEO employment terms appear more stable and longer lasting.¹²⁵ In Petrobras, CEOs similarly have short tenures, but their appointment usually does not coincide with presidential elections.

A major source of concern for investors in SOEs is whether managers have incentives to improve the company's financial performance. In wholly-owned SOEs, CEOs may have conflicting objectives that discourage them from running the firms profitably. Additionally, large SOEs may be too big to fail, resulting in government bail-outs when faced with significant losses (that is, CEOs of SOEs face a soft-budget constraint), which further compromises the incentives for financially responsible management. As we can see in Table 3, however, mixed enterprises such as Petrobras and Statoil have executive compensation packages that include "pay-for-performance" components. Statoil's CEO also owns a significant number of shares in the company, further aligning his incentives with those of private stockholders.

One important way to minimize the principal-agent problem in any firm is to have shareholders and other stakeholders (e.g., creditors) closely monitor the firm's management. Effective monitoring, in turn, presupposes a certain level of financial transparency with standardized quality. In state-owned enterprises that do not have private investors, the difficulty in monitoring by stakeholders is compounded by the fact that CEOs may not want to have financial reports that adequately allow the government to

124. Noel Maurer & Aldo Musacchio, *Pemex (A): In a Free Fall?* (Harvard Bus. Sch., Case No. 713-051, January 2013).

125. Authors' calculation based on publicly available information.

scrutinize their performance. Mixed enterprises such as Petrobras and Statoil, however, have facilitated the monitoring process by having audited financials that comply with International Financial Reporting Standards (IFRS), which are set by the International Accounting Standards Board.¹²⁶ In order to guarantee report quality, both firms hire internationally-recognized accounting firms to audit their quarterly financials. Having such transparent financial reporting practices allows large institutional investors to more effectively monitor managers. In the case of Petrobras, Brazilian pension funds and Black Rock are the largest institutional investors and, thus, have an important monitoring role over the controlling shareholder (i.e., the Brazilian government). In the case of Statoil, the Norwegian National Insurance Fund is the largest institutional investor.

Additionally, these mixed enterprises issue debt in public markets and, thus, have international credit rating agencies such as S&P and Moody's rate their local and foreign-currency denominated debt. These rating agencies act as an additional gatekeeper, even though implicit government guarantees enjoyed by some SOEs could admittedly decrease creditors' incentives to monitor the firm closely.

All of these features are not exclusive of publicly-traded mixed enterprises, though. Pemex, a corporatized firm, issues debt in international markets and, therefore, has to comply with the same level of financial reporting that is required of Petrobras and Statoil.

B. Regulation and Market Structure

1. Industry Regulation

All three NOCs are subject to supervision by established regulatory agencies that report to governmental bodies (such as the Ministries of Energy) and are, at least on paper, run by technical professionals. However, a deeper inspection of the roles of those agencies reveals profound differences. Brazil's National Oil Agency ("ANP"), which was created in 1997 as a counterweight to the end of Petrobras's legal monopoly, is still relatively weak and heavily influenced by the executive. Furthermore, it has had a stained reputation since ANP officials were caught requesting bribes from private companies.¹²⁷ As a consequence, it is the president of Brazil and the Minister of Mines and Energy who are the most important "regulators" of Petrobras.

In Mexico, the government passed a law in 2008 creating the *Comisión Nacional de Hidrocarburos* ("CNH")—National Carbohydrates Commis-

126. See *About the IFRS Foundation and the IASB*, INT'L ACCOUNTING STANDARDS BD., <http://www.ifrs.org/The-organisation/Pages/IFRS-Foundation-and-the-IASB.aspx> (last visited Aug. 4, 2013).

127. *Ministros e diretor da ANP vão prestar esclarecimentos no Senado [Ministries and ANP Director Will Provide Explanations to Senate]*, REVISTA ÉPOCA (Aug. 4, 2011, 5:50 PM), <http://revistaepoca.globo.com/Revista/Epoca/0,,EMI254941-15223,00.html>.

Table 3. CEOs, Incentives, and Reporting in Petrobras, Statoil, and Pemex (July 2012)

	Petrobras	Statoil	Pemex
<i>CEOs/incentives</i>			
CEO appointed by	Board of directors	Board of directors	President of Mexico
Current CEO	Maria das Graças Foster (technical CEO, though with close ties to President Dilma Rousseff)	Helge Lund (technical-politician)	Juan José Suárez Coppel (technical)
<i>Background (1990–2012)</i>			
Number of CEOs	10	6	9
CEOs with technical background*	10	4	6
CEOs who were politicians (As % of all CEOs)	1 (10%)	4 (66%)	5 (55%)
Avg. CEO tenure in years	2.7	6.7	3.2
Do CEOs usually change after presidential elections?	In 3 out of 7 elections	No	Yes
Does CEO compensation have a pay-for-performance component?	Yes	Yes	No
CEOs get stock options	No	Yes	No
CEOs have shares	Yes	Yes	No
<i>Financial information and transparency</i>			
Autonomous budget	No, some investments need gov't approval	Yes	No, some investments need gov't approval
Privately Audited financials	Yes	Yes	Yes
Accounting standards	IFRS	IFRS	IFRS (since 2012)
Financial reporting	Quarterly	Quarterly	Quarterly
Main institutional investors	Local pension funds, Black Rock	Norwegian national insurance fund	Bondholders & Ex-Im Bank
S&P rating of long-term domestic currency bonds	BBB	AA-	A-
<i>Regulation</i>	Nat'l Oil Agency (ANP), linked to the Ministry of Mines and Energy	Norwegian Petroleum Directorate (NPD), reports to Ministry of Petroleum & Energy	Nat'l Carbohydrides Comm. (CNH), linked to the Ministry of Energy (SENER)

Source: Data obtained from the 20-F forms filed by Petrobras, Statoil, and Pemex with the Securities and Exchange Commission for the year ended December 31, 2012. Figures on CEO profile and tenure are based on authors' calculation based on hand-collected data.

* We coded CEOs as having a technical background if they studied engineering, economics, business or geology, or had a career in the oil industry before running for a political post or being appointed for a cabinet position.

sion.¹²⁸ It was intended to be an autonomous agency run by commissioners with technical knowledge of the sector.¹²⁹ Yet, the de facto regulator of Pemex's actions is the Ministry of Finance, which controls the budget of Pemex (line by line) and whose secretary of finance serves on Pemex's board.¹³⁰

In contrast to the Mexican and Brazilian cases, the Norwegian Petroleum Directorate ("NPD"), although subordinate to the Ministry of Petroleum and Energy, is functionally autonomous and strong. Further, it has a longer history, as it was instituted in 1972 to regulate Norway's public and private actors in the oil industry.¹³¹ As put by Thurber and Istad:

Since the Norwegian Petroleum Directorate formally reported to the Ministry, it was initially felt necessary to have an independent board oversee the directorate to guarantee its independence from politics. In time, however, this board was judged to be superfluous, and in 1991 it was disbanded. . . . What ultimately protected the NPD from undue interference was the growing dependence of the Ministry on it for critical technical services and advice. (One early Ministry official said that the NPD tended to be viewed within the Ministry as its own technical department.) Any actions that would have severely disrupted this function would have been detrimental to both organizations.¹³²

The existence of an autonomous regulatory agency thus helped create institutional checks and balances that reduced the government's ability to directly intervene. In the case of NPD, such autonomy was apparently due to the presence of technical regulators with distinct knowledge and capabilities.

2. Labor Laws

Labor laws illustrate how the precise combination of public and private elements in mixed enterprises can vary widely depending on the institutional context. At one end of the spectrum, Norway imposes on Statoil precisely the same laws applicable to private companies regarding the commercial contracting process, employee recruitment, and labor matters.¹³³ By contrast, the legal regime applicable to Brazil's Petrobras is markedly hybrid. Its employees are subject to the same labor laws governing private firms—the labor-friendly *Consolidação das Leis do Trabalho* ("CLT").¹³⁴ Unlike public servants in Brazil, Petrobras's employees do not have tenure

128. Ley de la Comisión Nacional de Hidrocarburos [Law of the National Carbohydrates Commission], Diario Oficial de la Federación [DO], 28 Noviembre de 2008 (Mex.), available at <http://www.diputados.gob.mx/LeyesBiblio/pdf/LCNH.pdf>.

129. See *id.* art. 4.

130. For the composition of Pemex's board see, *Board of Directors*, PEMEX, <http://www.ri.pemex.com/index.cfm?action=content§ionid=18&catid=12163> (last visited Aug. 4, 2013). Pemex's financial autonomy is discussed in Tordo, Tracy & Arfaa, *supra* note 13, at 93.

131. *About Us*, NORWEGIAN PETROLEUM DIRECTORATE, <http://www.npd.no/en/About-us/> (last visited Aug. 4, 2013).

132. Thurber & Istad, *supra* note 109, at 28.

133. According to interviews conducted by authors.

134. CONSTITUIÇÃO FEDERAL [C.F.] [CONSTITUTION] art. 173, para. 1 (Braz.).

and could, in theory, be fired at will.¹³⁵ Differently from private companies, however, Petrobras must generally abide by a distinct process for employee recruitment through a constitutionally mandated public contest of examinations and titles.¹³⁶

The fusion of public and private law regimes, in this case, serves to mitigate the disadvantages of each in the peculiar SOE context. While ample leeway for hiring and firing decisions is generally thought to be most efficient for private companies, there is the risk that, in a government-controlled firm, this regime might lead to staffing decisions being made according to political alliances, ideology, or cronyism rather than merit and technical considerations. Although public examinations measure soft skills imperfectly, they favor the recruitment of a technically-qualified labor force. At the same time, the ability to dismiss underperforming employees mitigates incentives problems.¹³⁷

3. *Market Structure*

There are also important differences in terms of market competition. For most of its history, Petrobras had a legal monopoly on research, extraction, refining, and transportation.¹³⁸ Even though a constitutional amendment in 1995 permitted the federal government to grant oil exploration rights to private firms pursuant to concession agreements, thus opening up the possibility of competition, Petrobras continues to enjoy a de facto monopoly, similar to Pemex.¹³⁹ It is hardly surprising that monopoly rents can look particularly attractive to private investors. Statoil, in contrast, was subject to domestic and foreign competition throughout its history.¹⁴⁰ Although its merger with domestic rival Hydro in 2007 created a position of near monopoly in the domestic market, Statoil has been exposed to a number of foreign competitors given its more aggressive strategy of international expansion.¹⁴¹

C. *Financial Performance*

As discussed in Part I, the promise of improvements in operational efficiency and performance is a main driving force behind minority private ownership in SOEs. According to this view, listed SOEs should boast

135. Súmula de Tribunal Superior do Trabalho [Statement by the Superior Labor Court] 390, II (Braz.). Nevertheless, a recent decision by the Brazilian Supreme Court has reversed this longstanding interpretation and determined that employees of SOEs cannot be dismissed in the absence of cause. S.T.F., RE 589.998, 21.03.2013 (Braz.).

136. C.F. art. 37, II (Braz.).

137. *But see supra* note 135 and accompanying text.

138. *See* Lei No. 2.004, de 3 de Outubro de 1953, D.O.U. de 03.10.1953 (Braz.).

139. ADILSON DE OLIVEIRA & TARA LAAN, INT'L INST. FOR SUSTAINABLE DEV., LESSONS LEARNED FROM BRAZIL'S EXPERIENCE WITH FOSSIL-FUEL SUBSIDIES AND THEIR REFORM 8 (2010), available at http://www.iisd.org/pdf/2010/lessons_brazil_fuel_subsidies.pdf ("While the privatization reforms appeared comprehensive on paper, Petrobras managed to preserve a de facto monopoly in the refining and transportation of petroleum for the domestic market (although new players have entered the retail distribution of fuel).").

140. *See* Thurber & Istad, *supra* note 109, at 7, 21, 30.

141. *See id.* at 30-31.

financial results that are superior to those of wholly-owned state ventures. Based on our sample, we should expect Pemex to underperform both Petrobras and Statoil from a financial standpoint.

To see if this expectation holds, we collected financial data on the three companies—displayed in Table 4—from 1998 to 2011 and split this window into two subperiods, 1998–2002 and 2003–2011, to account for the sharp increase in oil prices after 2002. Consistent with the original prediction, we found that Petrobras and Statoil were profitable, while Pemex reported losses in all periods. The average return on assets (net profit to total assets) of Statoil, Petrobras, and Pemex were 8%, 11%, and -4%, respectively, in the period from 1998–2011. This finding lends support for the view that the institutional arrangements associated with mixed ownership support a commitment to superior profitability. Nevertheless, we did not find substantial differences in terms of the other accounting indicators except for the current liquidity ratio: although still liquid, Statoil exhibited a lower ratio than the other NOCs, especially after 2003.

For our purposes, however, the greater puzzle is why private investors are willing to join forces with the government as a controlling shareholder. Assuming that private shareholders are rational, their voluntary presence in SOEs suggests that these firms can indeed provide profitable investment opportunities. We would expect listed SOEs to post mostly positive financial results, as indeed they do. Theory alone, however, cannot determine if the interest of private investors is primarily due to (i) countervailing advantages of mixed enterprises (e.g., due to governmental privileges); (ii) ex-ante discounting by investors so that, in order to account for the risk of political intervention, their stock prices become inordinately cheap; or (iii) governance and legal mechanisms that mitigate agency costs, making listed SOEs behave similarly to private sector firms.

A more direct comparison between Petrobras and Statoil shows that Statoil has underperformed Petrobras in terms of return of assets. On the other hand, Statoil's Tobin's q (market value of stock plus debt divided by total assets) and especially its price-to-book ratio are higher than Petrobras's. This finding suggests that improved governance and checks-and-balances against political interference in Statoil, compared to Petrobras, have resulted in superior market valuation, even considering Statoil's slightly lower profitability. In other words, investors might require greater financial returns and offer steeper discounts in order to invest in a state-owned enterprise that is more vulnerable to political interference.

It is also interesting to examine how the share prices of Petrobras and Statoil fared compared to those of private international oil companies ("IOCs"). Figure 1 shows the evolution of share prices starting from June 2001. The advantage of this temporal window is that it covers the marked increase in oil prices after 2003 and hence allows us to assess the impact of changing market conditions on the relative market evolution of share prices. Our previous discussion on ex-ante discounting suggests that the share prices of SOEs, compared to IOCs, might be relatively less responsive to a thriving oil market because increases in perceived rents are con-

strained or captured by local governments, which are their majority shareholders.

Figure 1, however, indicates just the opposite. Share prices of Petrobras and Statoil escalated at a much higher pace than the share prices of private IOCs. In the case of Petrobras, this finding can be partially explained by the announced discovery of new pre-salt (deep-water) oil fields in Brazil in 2007; this illustrates how a privileged relationship with the government can also be a significant boon at certain times.¹⁴²

However, we also see in Figure 1 that the share prices of Petrobras rapidly declined after 2009 and eventually fell below Statoil's prices after 2012. This trend is likely a result of escalating governmental interference at Petrobras, as discussed earlier, as well as delays in the exploitation of the newly discovered pre-salt oil fields.

D. Evidence of Remaining Political Interference

While our case studies cannot fully discern whether countervailing advantages of SOEs or ex-ante discounting can best explain private investment in listed SOEs, one aspect remains clear: while helpful, the corporate governance features of mixed enterprises that seek to isolate them from political intervention are not fully effective. Petrobras has not managed to shield itself from political intervention, despite its listing in New York (through American Depository Receipts) and São Paulo, as well as the technical nature of its management. Consider the case of the public offer of Petrobras's shares in 2010. On June 22, 2010, the board of directors of Petrobras approved an ambitious capital expenditure plan of \$224 billion for 2011 to 2014, including expenditures to explore and develop the pre-salt oil fields off the coast of São Paulo.¹⁴³ Foreseeing expenditures on the order of \$45 billion per year for at least five years—more than Petrobras's cash flows could cover—the company decided to issue a mix of debt and equity. In fact, with the sale of shares totaling \$67 billion, the company planned what might have been the largest public offer in the world.¹⁴⁴ The share issue, in and of itself, was a major accomplishment for any corporation as it involved six investment banks acting as global coordinators and nine as joint managers.¹⁴⁵

The Brazilian government, the controlling shareholder of Petrobras, did not want to come across to the Brazilian public as selling its exploration rights to Petrobras too cheaply, especially since the deal happened in a

142. The Brazilian government did not hesitate to transfer the exploration rights in the new oil fields to Petrobras rather than auctioning them off to interested private oil companies (even though, as we will see, *infra* Part III.D, the particular purchase price was challenged by investors).

143. Jonathan Wheatley, *Petrobras Plans \$224bn Fields Investment*, FIN. TIMES (June 22, 2010, 3:45 AM), <http://www.ft.com/cms/s/0/c91ac216-7d85-11df-a0f5-00144feabdc0.html>.

144. Pargendler, *supra* note 62, at 504.

145. The details of the transaction are publicly known in Brazil. Rob Dwyer, *How Petrobras Struck \$70 Billion*, EUROMONEY (Mar. 3, 2011), <http://www.euromoney.com/Article/2780467/IPO-How-Petrobras-struck-70-billion.html>.

Table 4. Financial Comparison of Petrobras, Statoil, and Pemex (millions of dollars)

	1998-2011			1998-2002			2003-2011		
	Petrobras	Pemex	Statoil	Petrobras	Pemex	Statoil	Petrobras	Pemex	Statoil
<i>Financial data</i>									
Revenues	62,156	76,895	57,360	21,683	45,209	22,816	84,640	90,977	76,551
Net profit	9,810	-3,425	4,447	2,944	-1,932	1,295	13,624	-4,089	6,197
Total debt	53,671	17,845	36,630	19,129	15,947	16,642	72,862	18,688	47,735
Current assets	26,670	22,124	14,543	10,406	10,247	6,371	35,706	27,402	19,083
Current liabilities	18,780	14,493	13,892	9,386	9,439	6,475	23,999	16,739	18,013
Total assets	109,100	89,141	56,592	31,803	60,516	23,365	152,043	101,863	75,051
Fixed assets	62,631	59,866	32,928	12,576	41,894	14,137	90,440	67,854	43,368
Shareholders' equity	55,429	3,290	19,962	12,674	13,959	6,723	79,182	-1,452	27,317
<i>Accounting ratios</i>									
Liquidity ratio (current assets/current liabilities)	1.33	1.53	1.02	1.11	1.09	0.99	1.45	1.64	1.05
Leverage (total debt/total assets)	0.26	0.20	0.18	0.29	0.26	0.23	0.24	0.18	0.15
Fixed investment (fixed assets/total assets)	0.52	0.67	0.60	0.40	0.69	0.61	0.59	0.67	0.59
ROA (net profit/assets)	0.11	-0.04	0.08	0.09	-0.03	0.06	0.12	-0.04	0.09
<i>Market indicators</i>									
Price-to-book ratio*	1.82	n.a.	2.40	1.78	n.a.	2.40	1.84	n.a.	2.40
Tobin's q*	1.37	n.a.	1.48	1.24	n.a.	1.37	1.45	n.a.	1.50
Dividend yield*	4.19	n.a.	3.88	4.83	n.a.	4.54	3.84	n.a.	3.73

Source: Retrieved from Bloomberg Database, Harvard Business School Database Services, Boston, M.A., October 2012.

* Statoil's market indicators begin in 2001, when the company became listed. Pemex is nonlisted.

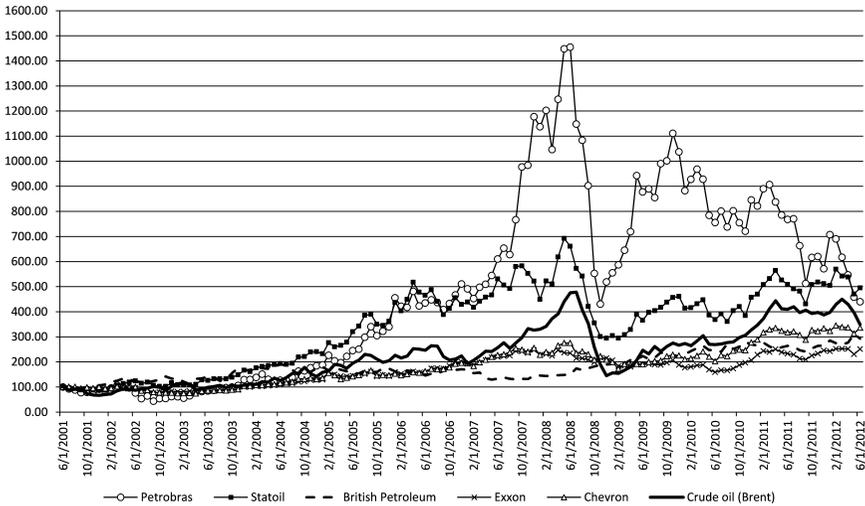
presidential election year. Technically Petrobras would pay \$42.5 billion to the government for those rights—a price which was set by the government without consultation with (and under protests by) minority shareholders.¹⁴⁶ Therefore, as Petrobras sold new shares, the government sold to Petrobras the rights to extract five billion barrels of oil at the equivalent price of \$8.51 per barrel—a transaction which was carefully designed to evade minority approval requirements under Brazil's corporate law for stock subscriptions that are payable in kind.¹⁴⁷ Due to insufficient interest by outside investors, the government participated in the offering and increased its ownership stake in the company.¹⁴⁸ Minority shareholders in Petrobras worried about this transaction. Of particular concern was the allegedly too-high price paid for the exploration rights, the resulting dilution of minority shareholders who did not exercise their preemptive rights,

146. See *id.*

147. See *id.*

148. See *id.*

Figure 1. Evolution of Share Prices of Selected NOCs



Source: Retrieved from Bloomberg Database, Harvard Business School Database Services, Boston, M.A., October 2012. Crude oil prices refer to Brent quotes.

and the fact that exploitation rights were negotiated without consultation with minority shareholders and were paid for before they were going to be used.¹⁴⁹

Moreover, in line with the social view of SOEs discussed earlier, Petrobras clearly follows a double bottom line. Brazil's constitution requires congressional approval of the annual budgets of SOEs, even if they do not presently receive capital infusions from the government and operate as autonomous entities.¹⁵⁰ The company's securities filings warn that "[t]he Brazilian federal government, as our controlling shareholder, may cause us to pursue certain macroeconomic and social objectives that may have a material adverse effect on us," including meeting "Brazilian consumption requirements" and setting prices for crude oil and oil products "below prices prevailing in world markets."¹⁵¹

For instance, the price of gasoline had been controlled in Brazil for years, but direct intervention in the management of the company mounted in early 2012. The appointment of Graça Foster as CEO of Petrobras in February 2012 was well-received by market participants due to her techni-

149. These complaints notwithstanding, the governmental abuse (if any) in fixing allegedly too high a purchase price was probably less serious than it could have been. Pargendler, *supra* note 37, at 2942. Reputation likely played a key role: too serious an instance of minority abuse could have jeopardized the government's plans to raise billions of dollars in a contemporary stock offering by Petrobras to fund the necessary investments in exploration of the oil fields. Some of these arguments came out in the press, but we also heard some of them from one of the most influential minority investors who preferred to remain anonymous.

150. C.F. art. 165, § 5º, II (Braz.).

151. Petrobras, Annual Report (Form 20-F) 21-22 (Mar. 30, 2012) (representing the fiscal year ended Dec. 31, 2011).

cal background; she had had a long career at the firm and was considered very knowledgeable about the sector.¹⁵² Graça Foster recognized that keeping gasoline prices low would undermine profitability and deteriorate the cash flow necessary to support future investments. At the time of her appointment, she gave an interview declaring:

If you ask me, is it necessary to adjust the price [of gasoline]? It is evident that it is necessary to adjust the price . . . It is not sensible to imagine that someone who sells anything—be it a cup, a notepad, gasoline, diesel or anything else—should not transfer to the market their advantages or disadvantages.¹⁵³

However, President Dilma Roussef and her Minister of Energy publicly disavowed Graça Foster's statement, disallowing Petrobras to raise its prices.¹⁵⁴ They were both concerned that an increase in gasoline prices would accelerate inflation at a moment when the government was trying to force reductions in interest rates.¹⁵⁵ In June 2012, the government allowed a minor adjustment, but not enough to compensate for the large increases in the price of oil (at that moment trading close to \$100 per barrel).¹⁵⁶ These price controls directly affected the profitability of Petrobras's refining division.

In May 2012, a group of foreign investors sent a letter to Graça Foster, criticizing the company's investment plan—approved by the board of directors—which would invest heavily in refining despite there being no clear plan to lift price controls for gasoline.¹⁵⁷ Substantiating these investors' concerns, Petrobras announced a record loss of \$1.34 billion reais (around \$662 million) in the second quarter of 2012—its first loss in 13 years.¹⁵⁸ Even if the loss was related to the write-off of a failed exploration attempt

152. See Antonio Guerrero, *Foster Becomes CEO at Petrobras*, GLOBAL FIN. (Mar. 2012), <http://www.gfmag.com/archives/148-march-2012/11635-foster-becomes-ceo-at-petrobras.html#axzz2RQfFPsAJ>.

153. *Graça defende correção do preço dos combustíveis* [*Graça Defends Adjustment to Fuel Prices*], AGÊNCIA ESTADO (Feb. 26, 2012, 11:02 AM), <http://economia.estadao.com.br/noticias/economia,graca-defende-correcao-do-preco-dos-combustiveis,104100,0.htm> (English translation).

154. Peter Millard, *Petrobras Losing \$8 Billion on Cheap Gasoline*, BLOOMBERG (Nov. 21, 2012, 5:03 PM), <http://www.bloomberg.com/news/2012-11-21/petrobras-losing-8-billion-on-cheap-gasoline.html>.

155. See *Frozen Fuel Prices Make it Difficult for Petrobras to Engage in Ambitious Development Program*, MERCO PRESS (June 18, 2012, 3:18 PM), <http://en.mercopress.com/2012/06/18/frozen-fuel-prices-make-it-difficult-for-petrobras-to-engage-in-ambitious-development-program>.

156. Peter Millard, *Petrobras Had Surprise Net Loss in Quarter on Currency*, BLOOMBERG (Aug. 3, 2012, 7:00 PM), <http://www.bloomberg.com/news/2012-08-03/brazil-s-petrobras-reports-surprise-net-loss-in-second-quarter.html> (mentioning the June price increase); *Frozen Fuel Prices*, supra note 155 (noting price per barrel at a five-year high).

157. Renato Rostás, *Estrangeiros criticam eleição de conselho e plano da Petrobras* [*Foreigners Criticize Board Election and Plan of Petrobras*], VALOR ECONÔMICO (Sept. 5, 2012, 7:37 PM), <http://www.valor.com.br/empresas/2819650/estrangeiros-criticam-eleicao-de-conselho-e-plano-da-petrobras>.

158. Millard, supra note 156.

offshore, having the price of gasoline capped by the government certainly did not help profitability at Petrobras.

Investors also complained that the two board seats guaranteed to minority shareholders by the charter of Petrobras (and Brazilian corporate law) were not really representing minority shareholders.¹⁵⁹ These complaints echoed the concerns of institutional investors Polo Capital and Black Rock, as the candidates they had nominated for the board had been defeated. The winners, Jorge Gerdau Johannpeter and Josué Gomes da Silva, were seen by these institutional investors as too close to the government: the former was a steel industrialist regularly consulted by Presidents Lula and Rouseff, and the latter, also a businessman, was the son of Lula's vice president.¹⁶⁰ They were elected by the pension funds of two SOEs—the banks Banco do Brasil and Caixa Econômica Federal—and by BNDESPAR, the investment arm of Brazil's national development bank. The Securities Commission of Brazil supposedly investigated the incident but without major consequences.¹⁶¹

In addition, Petrobras is subject to high Brazilian-content requirements in the procurement of goods and services.¹⁶² Those policies are of interest to the government, the controlling shareholder, because they promote local investment and employment. But they are equivalent to an expropriation of minority shareholders because national suppliers that are acquiring capabilities may be slower or more expensive, which can affect the firm's profitability. Last, but not least, government interference can also occur to support geopolitical projects. In 2005, for example, Petrobras signed up for a joint venture with the Venezuelan oil company PDVSA to build a refinery in the Brazilian state of Pernambuco.¹⁶³ This was a pet project of President Lula, who was a supporter of Hugo Chávez's regime in Venezuela. Petrobras originally projected costs to be around \$2.3 billion, but by 2012, the costs were expected to be \$20 billion.¹⁶⁴

Such instances of outright interference are arguably much less frequent at Statoil. Yet, it is questionable how much political independence Statoil has in practice. Also suggesting the pursuit of political objectives, Statoil lists government control as a risk factor in its annual report by not-

159. Rostás, *supra* note 157.

160. *Minoritários da Petrobras se unem e questionam conselho* [Petrobras Minority Shareholders Unite and Question Board], BRASIL247 (Sept. 6, 2012, 3:30 PM), <http://www.brasil247.com/pt/247/portfolio/79335/>; Graziella Valenti, *Minoritário é barrado na Petrobras* [Minority Shareholders Can't Stop Petrobras], VALOR ECONÔMICO (Mar. 20, 2012), <http://www.valor.com.br/empresas/2577572/minoritario-e-barrado-na-petrobras>.

161. Graziella Valenti, *Assembleia da Petrobras é investigada pela CVM* [Petrobras Assembly Investigated by CVM], VALOR ECONÔMICO (Aug. 20, 2012), http://www.valor.com.br/imprimir/noticia_impreso/2794780.

162. Petrobras, Form 20-F, *supra* note 151, at 151.

163. *O longo e pedregoso caminho que Graça Foster começou a trilhar* [The Long and Difficult Path that Graça Foster is Treading/Has Begun to Tread], UNIÃO DOS PRODUTORES DE BIOENERGIA (July 20, 2013), <http://www.udop.com.br/index.php?item=noticias&cod=1088987#nc>.

164. *Id.*

ing that “[t]he interests of our majority shareholder, the Norwegian State, may not always be aligned with the interests of our other shareholders, and this may affect our decisions”¹⁶⁵ In addition, although “direct intervention of the Ministry of Petroleum and Energy in Statoil strategy has mostly disappeared, politicians continue to weigh in as though they were making policy for the company.”¹⁶⁶ Two examples illustrate the prevalence of political intervention at Statoil. First, in October 2007, the government halted further developments of natural gas in the Troll field in Norway “on the grounds that such activity would likely harm the ultimate oil recovery from the field Statoil was highly displeased based on commercial considerations.”¹⁶⁷ Second, in April 2008, the Norwegian government filed a suit against Statoil for fees owed by the company for the expansion of a gas-processing terminal.¹⁶⁸ “As one Ministry official explain[ed] it, Statoil managers need to be diligent about not giving minority shareholders the impression they are paying off their main shareholder.”¹⁶⁹

Not surprisingly, similar and even more acute issues are now confronting the Mexican government, the sole owner of Pemex. On the one hand, the Mexican government is planning to reform the company and possibly list in Mexico and abroad.¹⁷⁰ The plan’s aim is to restructure corporate governance in a way that gives the firm more financial autonomy to pursue partnerships with foreign firms for deep-water exploration.¹⁷¹ On the other hand, it is not clear the Mexican government can commit to keeping its hands off the cash flow of Pemex: for decades, Pemex has been the cash cow of the Mexican government and provided almost 40% of the total revenues (up to 70% before the 1990s).¹⁷² Moreover, the total take of the government in the form of taxes and dividends leaves the firm with little in the form of retained earnings to pay for new exploration, R&D, and expansion. Thus, the planned reforms would leave the government with less money in the short run. However, if Pemex were to be privatized without changes to its tax regime, private investors may not be interested in buying its shares.

165. Statoil, Annual Report (Form 20-F) § 5.1.3 (Mar. 23, 2012) (representing the fiscal year ended December 31, 2011).

166. Thurber & Istad, *supra* note 109, at 9.

167. *Id.* at 33.

168. *See id.*

169. *Id.* at 34.

170. John-Paul Rathbone, *Energy: Pemex Stands at Heart of Ambitious Legislative Agenda*, FIN. TIMES (Mar. 20, 2013, 8:24 PM), <http://www.ft.com/intl/cms/s/0/db0fdd e2-8b08-11e2-b1a4-00144feabdc0.html#axzz2kqYYMohD>.

171. *See* Meghan L. O’Sullivan, *Mexican Oil Reforms Are Vital on Both Sides of the Border*, BLOOMBERG (Jul. 30, 2012, 6:33 PM), <http://www.bloomberg.com/news/2012-07-30/mexican-oil-reforms-are-vital-on-both-sides-of-the-border.html>.

172. Rathbone, *supra* note 170.

Conclusion

In this Article, we addressed the puzzle of mixed enterprise. How can we explain the very existence of these firms? Why do private investors agree to be minority shareholders in companies controlled by governmental entities with objectives that may drastically differ from profit maximization?

From the perspective of a social planner, there is evidence that the coexistence of minority private investors with state actors can generate improvements in operational and financial performance. Yet, from the perspective of private shareholders, their investment must pay off. We identified three different factors that explain private investor interest: (1) the existence of countervailing privileges from partnering with the government, (2) improved corporate governance and legal constraints that limit the opportunity for political abuse, and (3) ex-ante price discounting.

An important conclusion is that neither the very presence of private investors nor the listing of stock on a major stock exchange, in and of itself, solves the political intervention problem. Carefully designed governance provisions can mitigate, but not eliminate, political interference to the detriment of minority investors. Because governments may change governance rules at their discretion, it is also critically important to have a structure of institutional checks and balances in place. The case of Statoil, for instance, suggests that the presence of a technical, independent regulatory agency with equal influence on private and state-owned firms can reduce the level of outright interference by the government. Consequently, the discount applied by private investors may be reduced as well.

Our limited evidence seems inconsistent with the “discounting” hypothesis. In response to surging oil prices, the stock prices of SOEs actually increased to a greater extent than in the case of private oil companies. Indeed, to the extent that the degree and direction of political interference is difficult to anticipate, ex-ante price discounting by private investors will be imperfect at best. Changing patterns of political interference at Petrobras clearly illustrate this point.

Yet private investors may be willing to accept these risks that remain after all the legal and extralegal constraints on state abuse are taken into account. This is because SOEs may offer countervailing advantages and bring a substantial stream of rents from the (often monopolistic) exploitation of natural resources and public concessions. These features may be highly attractive to fund managers and individual investors. In our analysis, we observed that the stock prices of SOEs actually increased to a greater extent than in the case of private NOCs when oil prices peaked.

We do not purport to offer a definitive answer to the puzzle of private investment in SOEs or to suggest that such an answer is likely to be uniform. Mixed corporations with state-control and private minority investments remain an under-researched phenomenon. The case-based empirical analysis presented here could be expanded by including more SOEs in alternative sectors. Scholars could, for instance, identify moments

of market and political change and examine how different SOEs react to those changes as a function of their governance profile and the institutional environment of their home country. We hope that our Article will help spark more research to improve our understanding of why mixed corporations exist and in what conditions they can become efficient organizational forms.