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# Privatization in Latin America: What Does the Evidence Say?

After decades of poor performance and inefficient operations by state-owned enterprises, governments all over the world earnestly embraced privatization. Thousands of state-owned enterprises have been turned over to the private sector in Africa, Asia, Latin America, and eastern and western Europe. This trend was spurred by the well-documented poor performance and failures of state-owned enterprises and the efficiency improvements after privatization around the world.[1] Privatization efforts have greatly stalled in recent years, however, despite worldwide evidence that points to improved performance, firm restructuring, fiscal benefits, increased output, and quality improvements following privatization.

Academia, politicians, and the media have recently attacked privatization, voicing concerns about its record, the sources of the gains, and its impact on social welfare and the poor.[2] The negative reaction to privatization is reflected in opinion polls and some governments' reluctance to

1. On the poor performance of state-owned enterprises, see Mueller (1989); Boardman and Vining (1989); on improvements after privatization, see Megginson, Nash, and van Randenborgh (1994); Ehrlich and others (1994); La Porta and López-de-Silanes (1999); Frydman and others (1999); Sheshinski and López-Calva (2003); Dewenter and Malatesta (2001); Megginson and Netter (2001); Chong and López-de-Silanes (2004b).

2. See Bayliss (2002) and Birdsall and Nellis (2002) for recent cross-country reviews of privatization failures. Criticism about specific countries or industries includes Harper (2000); Wallsten (2001); Stiglitz (2002); Nellis (1999); Coes (1998).

further their privatization programs.[3] Popular support for privatization, as for other structural policies, generally follows a J curve, declining at first and recovering when the policy matures.[4] If politicians retreat from the now-unpopular effort to restructure the role of the state in the economy, the window of opportunity for deepening privatization efforts may close.[5] Many countries have implemented large privatization programs, but in many others, the state retains a large presence, often across many sectors of the economy.[6] In these circumstances, it is imperative to analyze the real record of privatization and draw lessons from it.

This paper evaluates the privatization experience and assesses the empirical validity of the main concerns voiced against it. We focus on Latin America because, after the transition economies of eastern Europe, Latin America is the region with the largest decline in the state's share of production in the last twenty years. The extent of privatization in Latin America and the quality of the data allow researchers to produce comprehensive analyses that provide appropriate academic responses to some of the main criticisms raised.

Overall, the empirical record shows that privatization leads not only to higher profitability, but also to large output and productivity growth, fiscal benefits, and even quality improvements and better access for the poor. Instances of failure exist, but in light of the overwhelming evidence, this should not be turned into an argument to stop privatization. The analysis in this paper suggests that privatization failures can be understood in a political economy framework. Their roots can be traced to substantial state participation in opaque processes; poor contract design; inadequate reregulation; and insufficient deregulation and corporate governance reform that increase the cost of capital and limit firm restructuring in a competitive environment.

The paper is organized as follows. The next section gives a brief overview of the rationale and extent of privatization around the world. The

3. Polls show that privatization is becoming less popular even in the United Kingdom, which led the privatization effort in the 1980s. In 1983, around 43 percent of people wanted more privatization, but that number was down to 24 percent by 1992, and it barely reached 19 percent in 2002 ("The End of Privatization," *The Economist*, 13 June 1998, pp. 53–54).

4. Przeworski (1991).

5. Earle and Gehlbach (2003) provide a framework that rationalizes why policymakers may pay too much attention to public sentiment and thus refrain from potentially welfare-improving actions.

6. La Porta, López-de-Silanes, and Shleifer (2002).

rest of the sections are structured around what we consider the four main areas of concern about privatization. The first hurdle is to confirm that the profitability increases recorded by the literature are robust, unbiased, and not solely explained by sample selection of the best firms. The first generation of privatization papers suffered from this problem. A recent series of Latin American studies analyzed here, however, uses comprehensive firm-level data that provide robust evidence on performance changes after privatization. The second hurdle is to address criticisms of privatization concerning the welfare of workers, consumers, and the state, which we do by exploring who pays for the profitability gains. The evidence suggests that although labor cost reductions and price increases account for part of the gains, the bulk of the profitability improvement lies in deep firm restructuring and productivity growth. The third hurdle is to examine concerns about the proper role of the state in firm restructuring before privatization and the opacity of procedures, which may lead to collusion and corruption. Our final hurdle is to assess the role of complementary policies such as deregulation, reregulation, and corporate governance reform. We place particular attention on sectors with market power and inefficient regulation following privatization. The final section concludes, providing some policy implications from the privatization record thus far.

## A Brief Look at the Privatization Experience around the World

Fifty years ago, many famous economists and politicians favored state ownership of firms in several industries, as monopoly power and externalities produced market failures. In the last ten years, however, the evidence on the failures of state-owned enterprises around the world and developments in contract and ownership theory have led to a reassessment of the benefits of state ownership in production.[7] The literature emphasizes two reasons for the poor record of state ownership. First, the managerial strand of the literature reflects the idea that imperfect monitoring and poor incentives for managers of state-owned enterprises translate into inferior performance. There are many reasons to believe this would be so. The average state-owned firm is not traded on the stock market; the threat of a takeover does not exist since control rests in the hands of the state. Disci-

7. Shleifer (1998).

pline from creditors does not play much of a role, either, because most loans to state-owned enterprises are public debt, and losses are typically covered by subsidies from the treasury. Additionally, the boards of directors rarely implement good corporate governance practices, and management turnover obeys political rather than market forces.[8]

The second strand of the literature emphasizes the political economy aspects of state production. The political view highlights the inherent conflict of interest in running state-owned enterprises, as managers seek to maximize their political capital and pursue inefficient decisions. Political interference in the firm's production results in excessive employment, poor choices of products and location, and inefficient investment.[9] State-owned enterprises face soft budget constraints that allow them to implement such practices, since governments may not want to risk the political cost of firms going bust.[10] The basic claims of the two strands of the literature have been validated by empirical research on state-owned enterprises and firm performance after privatization around the world.[11]

Motivated by the evidence on the failures of state-owned enterprises, governments in more than a hundred countries have undertaken privatization programs in the last twenty years.[12] Throughout the world, annual revenues from privatization soared during the late 1990s, peaking in 1998 at over U.S.$100 billion.[13] Industrial countries have pursued privatization less vigorously than developing nations. Between 1984 and 1996, the participation of state-owned enterprises in industrial countries declined from a peak of 8.5 percent to about 5.0 percent of gross domestic product (GDP), while production from state-owned companies declined more steeply in developing countries (see figure 1). According to Sheshinski and López-Calva, the activities of state-owned enterprises as a percentage of GDP decreased from about 11 percent in 1980 to 5 percent in 1997 in middle-income countries and from 15 to 3 percent in low-income economies. Developing countries also saw large reductions in employment

8. Vickers and Yarrow (1988).
9. Shleifer and Vishny (1996); La Porta and López-de-Silanes (1999).
10. Sheshinski and López-Calva (2003).
11. See Boardman and Vining (1989); Megginson, Nash, and van Randenborgh (1994); Ehrlich and others (1994); La Porta and López-de-Silanes (1999); Frydman and others (1999); Dewenter and Malatesta (2001); and Chong and López-de-Silanes (2004b), among others.
12. Megginson and Netter (2001).
13. OECD (2001).

**F I G U R E  1 .     Economic Activity of State-Owned Enterprises, 1978–97[a]**
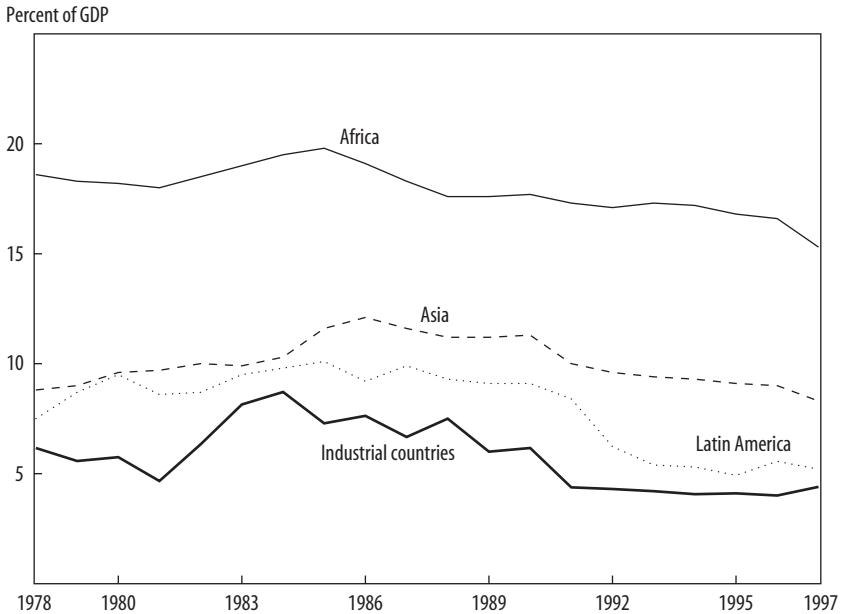
Percent of GDP



Source:  World Bank (2001).
a.  Weighted average by country GDP.

among state-owned enterprises during the same period. In middle-income countries, such employment fell from a peak of 13 percent of total employment to about 2 percent, and it dropped from over 20 percent to about 9 percent in low-income countries.[14]

These averages mask great regional variation in the size and economic importance of the remaining state-owned production. In sub-Saharan Africa, only a few governments have openly adopted an explicit state-owned enterprise divestment strategy. The African privatization effort has been significant in only a handful of countries, and state production still accounts for over 15 percent of GDP in the region.[15] Asia also features

14.  Sheshinski and López-Calva (2003).
15.  Recent research shows that the privatization effort in Africa may have been highly underestimated. Bennell (1997) argues that most papers studying privatization in Africa are based on low-quality or outdated samples. Based on a comprehensive survey of privatization transactions that spans sixteen years (1980–95) and includes over 2,000 privatizations,

large variation, in that several Asian countries have not consistently pur-
sued a privatization strategy. China, for example, only recently committed
to privatizing all but the largest state enterprises. In India, where privati-
zation has thus far not figured prominently in the agenda, 43 percent of the
country's capital stock is still owned by the state. Many governments in
the region continue to hang on to their assets in sectors such as energy,
telecommunications, transportation, and banking, although private equity
funds and multinationals were expecting large state-owned fire sales after
the Asian crisis of 1997.[16]

In contrast, transition economies and Latin American countries have
been very active in privatization. Transition economies in eastern Europe
and central Asia accounted for 21 percent of total privatization revenues
in developing countries during the 1990s, second only to Latin America
(see table 1). To facilitate their shift to a market economy, most transition
countries launched mass privatization programs that resulted in dramatic
reductions of state ownership. These programs, however, have sometimes
been unpopular given accusations of corruption and foot dragging on
implementing corporate governance reforms, which has afforded poor
protection for new minority investors.

Even against the backdrop of massive economic transformations in
transition economies, the privatization record of Latin America seems
remarkable. Latin America accounted for 55 percent of total privatization
revenues in the developing world in the 1990s. The decline in the eco-
nomic activity of state-owned enterprises has been more substantial in
Latin America than in Asia and Africa, bringing levels close to those of
industrialized countries. Latin America has virtually halted its privatiza-
tion process in recent years, however, after being the most active region in
the 1990s.

The privatization impetus has also faded in other regions, leaving the
bureaucrats very much in business. State-owned enterprises still account for
more than 20 percent of investment and about 5 percent of formal employ-
ment.[17] Governments may own or control much more than is apparent at
first sight. A clear example is the case of government ownership of banks.

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he concludes that African privatization programs are larger than previously thought and that
they increased substantially in the 1990s.

16. "State-Owned Stockpiles," *The Economist*, 31 March 2001, pp. 58–59.

17. Kikeri (1999).

**T A B L E  1 .  Proceeds from Privatization in Developing Countries, 1990–99**
Billions of dollars

| Year | East Asia and the Pacific | Latin America | Eastern Europe and Central Asia | Middle East and North Africa | South Asia | Sub-Saharan Africa |
|------|------|------|------|------|------|------|
| 1990 | 0.376 | 10.915 | 1.262 | 0.002 | 0.029 | 0.074 |
| 1991 | 0.834 | 18.723 | 2.551 | 0.017 | 0.996 | 1.121 |
| 1992 | 5.161 | 15.560 | 3.626 | 0.069 | 1.557 | 0.207 |
| 1993 | 7.155 | 10.488 | 3.988 | 0.417 | 0.974 | 0.641 |
| 1994 | 5.508 | 8.199 | 3.957 | 0.782 | 2.666 | 0.605 |
| 1995 | 5.410 | 4.616 | 9.742 | 0.746 | 0.916 | 0.473 |
| 1996 | 2.680 | 14.142 | 5.466 | 1.478 | 0.889 | 0.745 |
| 1997 | 10.385 | 33.897 | 16.537 | 1.612 | 1.794 | 2.348 |
| 1998 | 1.091 | 37.685 | 8.002 | 1.000 | 0.174 | 1.356 |
| 1999 | 5.500 | 23.614 | 10.335 | 2.074 | 1.859 | 0.694 |
| 1990–99 | 44.100 | 177.839 | 65.466 | 8.197 | 11.854 | 8.264 |

Source:  World Bank (2001).

Data for the late 1990s indicate that after bank privatization programs had been completed in many countries, the world mean of government ownership of the top ten banks was still 42 percent (39 percent if we exclude former or current socialist countries).[18] Thus while government ownership has decreased with privatization, it has not fallen to negligible levels.

Dramatic differences in the extent of privatization are also evident within regions. In Latin America, for example, countries with large state-owned sectors, such as Ecuador, Nicaragua, and Uruguay, barely privatized at all in the 1990s, while others such as Argentina, Bolivia, Guyana, Panama, and Peru raised revenues from comprehensive privatization programs that amount to over 10 percent of GDP (see figure 2). The difference in the extent of privatization across countries and the large amount of assets in the hands of the state heighten the importance of understanding the privatization record so far and of developing lessons for future privatization programs.[19]

18. La Porta, López-de-Silanes, and Shleifer (2002).

19. The analysis in this paper only covers the privatization experience at the country or federal level—that is, assets sold by the central or federal government—which account for the majority of assets sold around the world so far. A different sample and experience is that of the privatization of services at the local, municipal, or county level, where local governments "privatize" the public provision of services. These programs have only taken place in a few nations, such as the United States (López-de-Silanes, Shleifer, and Vishny, 1997) and England, where public service provision by the private sector has become a central issue.

**F I G U R E  2 .**   **Revenues from Privatization in Latin America, 1990–2000**



Percent of 1999 GDP
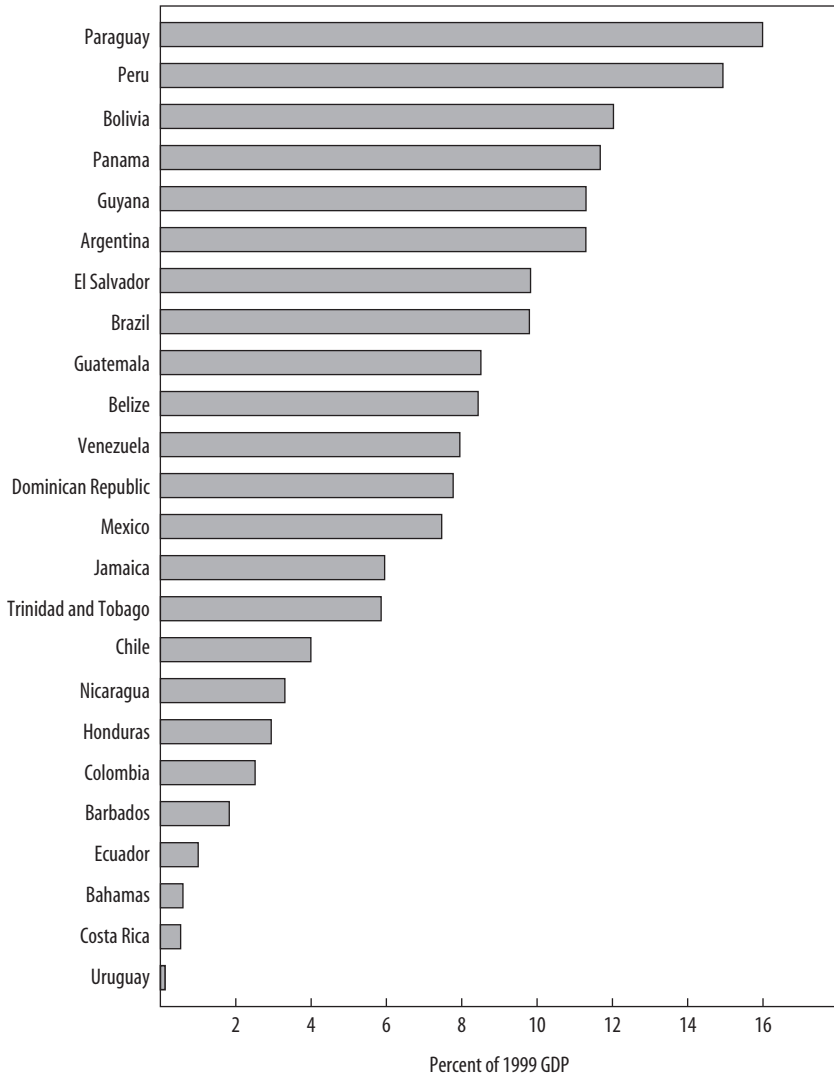
Source:  Lora (2001).

## Which Firms Are up for Sale? Concerns about What Is Privatized

Privatization studies typically analyze the impact on firm performance by comparing pre- and postprivatization firm-level data. This literature provides worldwide evidence on the benefits of privatization in terms of increased firm profitability driven primarily by increased efficiency.[20] Critics suggest, however, that these results may reflect sample selection bias or be the result of noncomparable data.

### Sample Selection Bias

Sample selection bias can arise from five basic sources. First, politicians who conduct privatization have the incentive to only sell the healthiest firms—what critics refer to as the crown jewels. According to this hypothesis, politicians only sell viable assets and keep poor performers, allowing investors to engage in cherry picking.[21] Second, several studies are based on information about firms privatized through public offerings on the stock exchange. Such samples are thus biased toward the largest, and probably the best-performing, firms. A third source of sample selection comes from the greater availability of data from industrialized countries, which may have relatively better-performing firms. Cross-country firm-level analyses are therefore biased because their samples include a disproportionate share of well-performing firms.[22] The fourth source emerges from the intense focus of the studies on oligopolistic or heavily regulated industries, where the gains from privatization may come from market power. Finally, survivorship bias is introduced when firms that went bankrupt after privatization are excluded from the sample that compares pre- and postprivatization performance.

Several early studies on firm performance after privatizations in Latin America suffer from these biases (see table 2). Some of these papers are specific case studies of a limited number of large firms.[23] Others do not include econometric or statistical analysis.[24] Still others are econometric

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20. See Boubakri and Cosset (1998, 1999); Megginson, Nash, and van Randenborgh (1994); and Dewenter and Malatesta (2001).

21. Bayliss (2002).

22. Differences in accounting procedures may also be problematic in determining adequate measures of operating performance (Megginson and Netter, 2001).

23. For example, Galal and others (1994); Chong and Sánchez (2003).

24. Sánchez and Corona (1993); Hachette and Lüders (1994); Birch and Haar (2000).

**T A B L E  2 .**  **Recent Studies on Firm Performance after Privatization in Latin America**

| Study | Sample, period, and methodology | Summary of findings and conclusions |
| --- | --- | --- |
| Birch and Haar (2000) | A descriptive study of the privatization experience in the last two decades in Argentina, Brazil, Chile, Colombia, Mexico, Peru, Venezuela, and some Caribbean countries. | Finds sizeable effects of privatization on short- and long-run macroeconomic conditions; shows a positive effect of privatization on productivity and a negative effect on employment. |
| Chisari, Estache, and Romero (1999) | Assesses macroeconomic and distributional effects of privatization in Argentina's gas, electricity, telecommunications, and water sectors using a computable general equilibrium model. | Concludes that privatization of utilities accounts for total gains of about 3.3 billion dollars (at 1993 prices) or the equivalent of 1.25 percent of GDP. Privatization cannot be blamed for increased unemployment, as this may be due to ineffective regulation. |
| Chong and Sánchez (2003) | A detailed analysis of the contractual arrangements of privatizations and concessions in infrastructure in Brazil, Chile, Colombia, and Peru. | Concludes that clear, homogeneous, transparent, and credible institutional processes during privatization yield positive outcomes. |
| Clarke and Cull (1999) | Tests econometrically how political constraints affect transactions during bank privatization, based on evidence from the privatization program of provincial banks in Argentina during the 1990s. | Finds that provinces with high fiscal deficits were willing to accept layoffs and guarantee a larger part of the privatized bank's portfolio in return for a higher sale price. |
| Galal and others (1994) | Compares postprivatization performance of twelve large firms (mostly airlines and regulated utilities) from Chile and Mexico. | Finds net welfare gains in eleven of twelve cases covered, with average gains equal to 26 percent of the firms' predivestiture sales; uncovers no case in which workers were made worse off and three cases in which workers' conditions improved. |
| Hachette and Lüders (1994) | Analyzes the difference in ten performance indicators of 144 private, public, and privatized firms in Chile in 1974–87. | Finds no significant differences in behavior among public, private, and privatized firms that operate under similar sets of rules and regulations. |
| Petrazzini and Clark (1996) | Uses International Telecommunications Union data through 1994 to test whether deregulation and privatization affect the level and growth of telephone density, prices, service quality, and employment; sample covers twenty-six developing countries, including some Latin American nations. | Deregulation and privatization are both associated with significant improvements in the level and growth of telephone density, but have no consistent impact on the quality of service. Deregulation is associated with lower prices and increased employment; privatization has the opposite effect. |
| Pinheiro (1996) | Analyzes performance of fifty Brazilian firms before and after privatization, using data through 1994; variables used are net sales, net profits, net assets, investment, employment, and indebtedness. | Concludes that privatization has improved the performance of the firms; shows that the null hypothesis of no change in behavior is rejected for the production, efficiency, profitability, and investment variables; and finds a significant negative impact on employment. |
| Ramamurti (1996) | Surveys four telecommunications, two airlines, and one toll-road privatization program in 1987–91; discusses political economic issues and methods used to overcome bureaucratic and ideological opposition to divestiture. | Concludes that privatization had positive results for telecommunications, partly owing to the scope for improvement of technology, capital investment, and attractiveness of offer terms; observes little improvement in airlines and toll road, which had less room for productivity enhancement. |
| Ramamurti (1997) | Examines the restructuring and privatization of Ferrocarriles Argentinos in 1990, testing whether productivity, employment, and the need for operating subsidies changed after divestiture. | Documents a 370 percent improvement in labor productivity and a 78.7 percent decline in employment; an improvement and expansion in services, combined with a reduction in the cost to consumers; and the elimination of the need for operating subsidies. |

**T A B L E   2 .**   **Recent Studies on Firm Performance after Privatization in Latin America (*continued*)**

| Study | Sample, period, and methodology | Summary of findings and conclusions |
| --- | --- | --- |
| Ros (1999) | Uses International Telecommunications Union data and panel data regressions to examine the effects of privatization and competition on network expansion and efficiency in 110 countries in 1986–95. | Countries with at least 50 percent private ownership in the main telecommunications firm have significantly higher telephone density levels and growth rates. Both privatization and competition increase efficiency, but only privatization is positively associated with network expansion. |
| Sánchez and Corona (1993) | Uses a descriptive case-study approach to analyze the privatization experiences of Argentina, Chile, Colombia, and Mexico, focusing on the preparatory measures taken prior to privatization; valuation, sale mechanisms, regulation, and supervision; and the fiscal and macroeconomic impact of privatization. | Finds great differences in the effects of privatization in the countries covered; concludes that firms, institutions, and regulations need sufficient time to prepare for the privatization process to be successful. |
| Trujillo and others (2002) | Uses pooled and panel data with fixed and random effects to examine the macroeconomic effects of private sector participation in infrastructure, based on a sample of twenty-one Latin American countries in 1985–98. | Finds that private sector involvement in utilities and transport has minimal positive effects on GDP. Private investment is crowded out, and private participation reduces recurrent expenditures—except in transport, where it has the opposite effect. The net effect on the public sector account is uncertain. |
| Wallsten (2001) | Explores the impact of privatization, competition, and regulation on telecommunications firms' performance in thirty African and Latin American countries in 1984–97. | Indicates that competition is significantly associated with increases in per capita access to telecommunications services and with decreases in its costs, while privatization is helpful only if coupled with effective, independent regulation. Concludes that competition combined with privatization is best and that privatizing a monopoly without regulatory reforms should be avoided. |

*Comprehensive-sample country studies in Latin America*

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| --- | --- | --- |
| Galiani and others (2004) | Argentina Covers twenty-one federal nonfinancial state-owned firms plus all privatized banks in Argentina, which account for 74 percent of total privatization revenues; tests whether performance indicators of state-owned firms improved after privatization. Period: 1991–2000. | Profitability of nonfinancial firms increased 188 percent after privatization. Investment increased at least 350 percent while employment decreased approximately 40 percent; there was no impact on prices. |
| Capra and others (2004) | Bolivia Covers thirty-two firms, which account for 60 percent of total transactions in Bolivia; tests whether performance indicators of state-owned firms improved after privatization. Period: 1992–99. | Privatization had a significant impact in operating efficiency as profitability increased by over 100 percent and costs per unit dropped by a third. Employment fell by 15 percent but wages for remaining blue- and white-collar workers doubled. |
| Anuatti-Neto and others (2004) | Brazil Includes 102 publicly traded firms (equivalent to 94 percent of total value of transactions in the country); tests whether performance indicators improved after privatization. Period: 1987–2000. | Privatization improved the firms' profitability (14 percent) and reduced their unit costs (33 percent) and investment-to-sales ratio (41 percent). |

(*continued*)

**T A B L E  2 .** **Recent Studies on Firm Performance after Privatization in Latin America (*continued*)**

| Study | Sample, period, and methodology | Summary of findings and conclusions |
|---|---|---|
| Fischer, Serra, and Gutiérrez (2004) | Chile<br>Covers only 37 nonfinancial firms, owing to political and economic turbulence in the 1970s and changes in accounting standards; tests whether performance indicators improved after privatization. Period: 1979–2001. | Profitability did not increase significantly after privatization, and productivity did not vary among regulated and unregulated sectors. Study finds no evidence that firms fired workers after privatization, although layoffs occurred prior to privatization. |
| Pombo and Ramírez (2004) | Colombia<br>Analyzes thirty former IFI Program firms, which account for 95 percent of the total accumulated privatization sales; tests whether performance indicators improved after privatization. Period: 1974–98. | Firms were profitable before privatization. Labor productivity grew 13 percent and investment fell from 5.9 to 2.5 percent per year owing to previous overinvestment; employment was reduced by 23 percent. |
| La Porta and López-de-Silanes (1999) | Mexico<br>Assesses whether the performance of 218 privatized firms improved after divestment; compares performance with industry-matched firms; splits improvements documented between industry- and firm-specific results. Period: 1983–91. | The output of privatized firms increased 54.3 percent, while employment declined by half (though wages for remaining workers increased). Firms achieved a 24 percentage point increase in operating profitability, eliminating need for subsidies that amounted to 12.7 percent of GDP. Higher product prices explain 5 percent of improvements; transfers from laid-off workers 31 percent; and incentive-related productivity gains 64 percent. |
| Torero (2004) | Peru<br>This study covers 36 nonfinancial firms, which account for 90 percent of privatization cases and 86 percent of total transactions. In addition, it includes a separate analysis for the financial sector. It tests whether performance indicators improved after privatization. Period: 1986–2000. | Profitability, operational efficiency and output increased after privatization. The ratio of sales to employees increased by 50 percent in telecommunications, 69 percent in electricity, and 25 percent in the financial sector. After privatization 36 percent of employees retained their jobs. |

Source: Chong and López-de-Silanes (2004b); Megginson and Netter (2001).

studies of one or two heavily regulated sectors.[25] Finally, some provide evidence from cross-country analysis of oligopolistic sectors such as telecommunications.[26]

Overcoming sample selection bias is empirically difficult and requires large amounts of pre- and postprivatization information for nearly complete cross-industry samples of privatized firms of all sizes. La Porta and López-de-Silanes deal with these issues by collecting information from 95 percent of nonfinancial firms privatized in Mexico in the period

25. Ramamurti and Vernon (1991); Ramamurti (1996, 1997); Pinheiro (1996); López-de-Silanes and Zamarripa (1995).
26. Ramamurti (1996); Petrazzini and Clark (1996); Ros (1999); Wallsten (2000).

1983–92.[27] Mexico undertook a comprehensive privatization program in which the goal was to eliminate state ownership across the board, with the exceptions of electricity and oil. As a result, the sample gathered contains large, medium-sized, and small firms that span over forty sectors covering mining, manufacturing, agricultural products, and services as varied as night clubs and soccer teams. These characteristics make it a good sample for testing the validity of the concerns raised above. The study concludes that sample selection bias does not explain the positive results reached by privatization, as profitability of privatized firms increases across sectors and firm sizes, even considering bankrupt firms. The mean firm experienced an increase in operating profitability of 24 percentage points. Moreover, the Mexican government did not sell the crown jewels, given that this oil-rich nation retained petrol and some petrochemicals as state assets.[28]

A recent research effort across Latin America expands the detailed privatization analysis for the region, using comprehensive data and a methodology similar to that described above for Mexico to examine the programs of Argentina, Bolivia, Brazil, Chile, Colombia, Mexico, and Peru.[29] These studies compare firm performance before and after privatization, and they adjust for macroeconomic and industry effects with matching firms. Figure 3 summarizes the data collection efforts of this series of papers. With the exception of Brazil, where access to preprivatization data for firms that are not publicly traded was denied, the coverage across firm sizes for all countries is enough to put to rest the main concerns regarding sample selection. The samples used for Bolivia and Chile are the smallest, around 66 percent in terms of value, while the samples for the rest of the countries cover 80, 90, and even 95 percent of transaction values and number of privatization contracts.
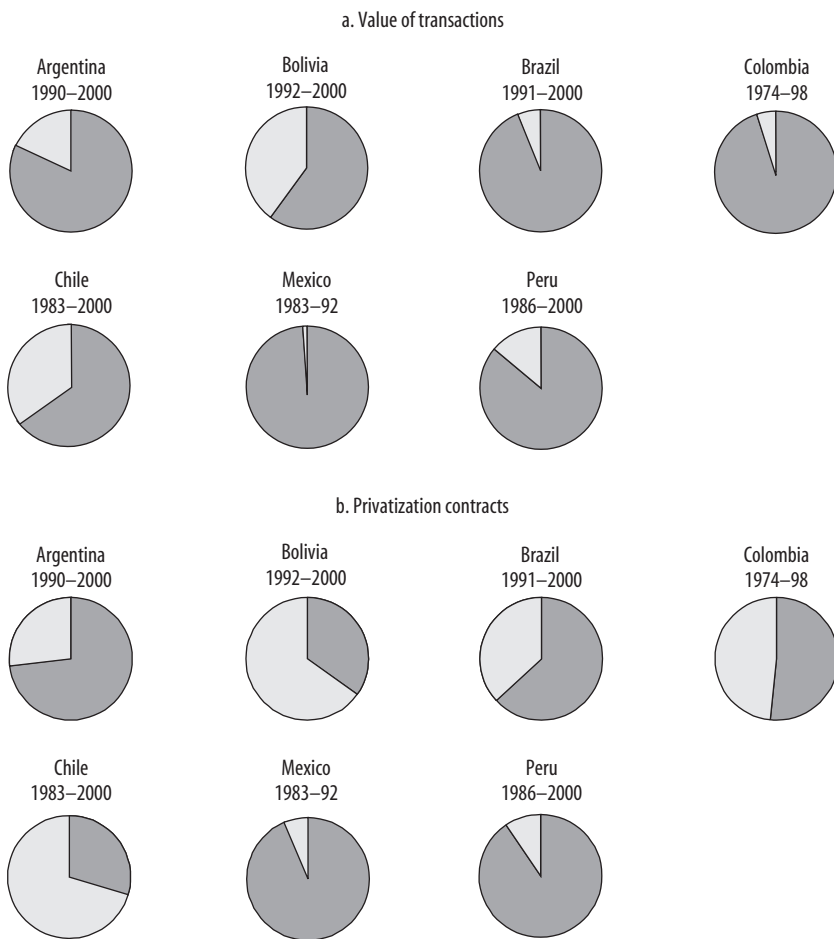
Extensive groundwork and creative ways of accessing nonpublic information allowed researchers to collect comprehensive pre- and postprivati-

27. La Porta and López-de-Silanes (1999). Financial firms privatized in Mexico are analyzed in a separate paper (see López-de-Silanes and Zamarripa, 1995).

28. Sheshinski and López-Calva (2003) make similar claims after they analyze privatization programs and remaining state-owned assets around the world.

29. Chong and López-de-Silanes (2004b). The specific studies in the book are Galiani and others (2004) for Argentina; Capra and others (2004) for Bolivia; Anuatti-Neto and others (2004) for Brazil; Fischer, Serra, and Gutiérrez (2004) for Chile; Pombo and Ramírez (2004) for Colombia; Chong and López-de-Silanes (2004a) for Mexico; and Torero (2004) for Peru.

**F I G U R E  3 .  Availability of Privatization Data on Latin America**[a]

a. Value of transactions

| Argentina 1990–2000 | Bolivia 1992–2000 | Brazil 1991–2000 | Colombia 1974–98 |
| Chile 1983–2000 | Mexico 1983–92 | Peru 1986–2000 | |

b. Privatization contracts

| Argentina 1990–2000 | Bolivia 1992–2000 | Brazil 1991–2000 | Colombia 1974–98 |
| Chile 1983–2000 | Mexico 1983–92 | Peru 1986–2000 | |

Source:  Galiani and others (2004); Capra and others (2004); Anuatti-Neto and others (2004); Pombo and Ramírez (2004); Fischer, Serra, and Gutiérrez (2004); Chong and López-de-Silanes (2004a, 2004b); Torero (2004).

a.  On the pie charts, the gray area indicates sample coverage. Panel A shows the value of transactions included in the studies as a percentage of the total value of privatization transactions in each country. Panel B shows the number of privatization contracts included in the studies as a percentage of the total number of privatization contracts in the country.

zation data. In Peru, for example, Torero obtained preprivatization information from so-called white books, or original privatization documents that were available to prospective bidders when state-owned enterprises were being privatized.[30] He was able to collect comprehensive postprivatization data from preprivatization dossiers, as well as from the National Supervisory Commission of Firms and Securities, the Superintendency of Banks and Securities, and other regulatory agencies. All in all, Torero collected information for nearly 90 percent of privatized firms in Peru. For Argentina, Galiani and others draw a comprehensive sample based on information from individual companies, the Ministry of Economic Affairs, and regulatory agencies.[31] In Colombia, which has smaller privatization programs than those of Argentina and Peru, Pombo and Ramírez collected comprehensive information on the privatization of the Institute for Industrial Promotion (IFI).[32] They construct an unbalanced panel data set with records from the Annual Manufacturing Survey starting in 1974 and ending in 1998. Their panel features over 140 variables covering ninety-four specific groups based on the International Standard Industrial Classification (ISIC), together with survey information on about 6,000 establishments. For Mexico, we use the same database as La Porta and López-de-Silanes, which combines information from the original privatization white books with information collected from surveys sent to privatized firms and data from the various census bureaus.[33] The information for Mexico basically covers the whole program, with 218 nonfinancial state-owned enterprises privatized between 1983 and 1992.

In Bolivia, information on privatized state-owned enterprises is particularly difficult to gather owing to the relatively small size of firms and the lackadaisical record-keeping efforts in the country.[34] The authors complement original information from government institutions with information collected through a survey sent to privatized firms.[35] For Chile, Fischer,

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30. Torero (2004).

31. Galiani and others (2004).

32. Pombo and Ramírez (2004). The role of the IFI in creating new manufacturing enterprises was central during the 1950s and 1960s. The largest private capital enterprises in the steel, chemical, paper, fertilizer, metalworking, and automobile sectors today were former IFI-associated companies (Pombo and Ramírez, 2004).

33. Chong and López-de-Silanes (2003); La Porta and López-de-Silanes (1999).

34. Not surprisingly, the paper by Capra and others represents the first formal empirical study of the impact of privatization on firm performance in Bolivia.

35. Capra and others (2004).

Serra, and Gutiérrez faced significant complications in collecting data owing to the long privatization period (1979–2001) and the change in accounting standards in 1982.[36] Despite these problems, their data provide systematic evidence that complements more descriptive work by others.[37] Finally, Brazil proved to be the most difficult case, since Anuatti-Neto and others were denied access to all preprivatization information for firms that are not publicly traded and were thus restricted to using information on firms traded on the stock exchange. Although their results may suffer from some sample selection bias, it represents one of the most comprehensive data sets in Brazil, covering close to 95 percent of the total value of privatization transactions.

Overall, the coverage and industry-matching techniques of this recent series of privatization studies in Latin America demonstrate that the increased profitability of privatized firms is not the result of sample selection bias.

### Noncomparable Data

There are two additional problems with data collection procedures relating to the comparability of firms before and after the sale. In several countries, governments either split existing state-owned enterprises to sell them as independent units or grouped separate firms together to form packages to be sold as a unit. In both cases, large amounts of data are needed to conduct a firm-by-firm analysis of the pre- and postprivatization period. Having information disaggregated at the plant level and gaining access to financial statements prepared before the sale are essential for keeping units comparable across time. A second set of problems with the data emerges from changes in the sample after privatization, since the state-owned firm may be merged with the acquiring firm or with one of its subsidiaries. This creates a new entity and thus makes it difficult, if not impossible, to make meaningful comparisons.

Table 3 summarizes the different problems faced by the researchers who recently undertook the comprehensive privatization analyses in seven Latin American countries. All countries presented the issues raised above to different degrees. In some instances, the problem was solved by using detailed firm- or plant-level accounting information provided by auditing

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36. Fischer, Serra, and Gutiérrez (2004).
37. For example, Lüders (1991); Sáez (1992).

**T A B L E  3 .  Reasons for Firm Exclusion from the Privatization Sample[a]**

| Country | Merger with private firm | Sale of small minority participation | Firm was liquidated | Missing information | Recent sale | Change in accounting standards |
|---|---|---|---|---|---|---|
| Argentina | Yes | Yes | Yes | Yes | | |
| Bolivia | Yes | | | Yes | Yes | Yes |
| Brazil | Yes | Yes | | Yes | Yes | |
| Chile | Yes | | Yes | Yes | | Yes |
| Colombia | Yes | | | Yes | | |
| Mexico | Yes | | Yes | Yes | | |
| Peru | Yes | | Yes | Yes | | |

Source: Galiani and others (2004); Capra and others (2004); Anuatti-Neto and others (2004); Fischer, Serra, and Gutiérrez (2004); Pombo and Ramírez (2004); Chong and López-de-Silanes (2004a and 2004b); Torero (2004).

a. This table shows the main reasons for excluding some firms from the final sample in each country. "Yes" means some firms were excluded for that particular reason. When the cell is blank it means that the study does not suffer from the potential loss.

companies before privatization.[38] In other cases, this was accomplished by taking advantage of privatization agreements that required firms to keep separate books for different units, thereby allowing data aggregation.[39] Other methods included estimating proxy financial information or disassembling firms into their original constituents.[40]

When none of these efforts could be undertaken, firms were discarded from the sample to ensure clean estimates. The resulting samples typically excluded the following: (1) cases of state-owned enterprises for which data from the preprivatization period were missing, often as a result of mergers or spinoffs; (2) a few instances of very small state ownership shares being sold (Argentina and Chile), firms that underwent changes in accounting (Bolivia and Chile), and some very recent privatization cases (Bolivia and Brazil); and (3) firms that were liquidated after privatization, although robustness checks were applied to ensure results would not be significantly changed with their inclusion.

To summarize, several early privatization studies suffered from biases introduced by noncomprehensive samples and the use of poor data when the nature of the firm changed with privatization. Today, these concerns have largely been put to rest thanks to the recent Latin American studies

38. Torero (2004); Galiani and others (2004); Capra and others (2004).

39. Torero (2004).

40. The former method was used by Pombo and Ramírez (2004), whereas Anuatti-Neto and others (2004) and Fischer, Serra, and Gutiérrez (2004) employed both methods.

outlined in this paper and other efforts, mainly for eastern European countries, that use comprehensive firm-level data across sectors and company sizes.[41] The rest of this section outlines the evidence on performance changes after privatization emerging from the Latin American countries included in our compilation.[42]

### Evidence from Comprehensive Data Samples on Privatization in Latin America

This section examines the recent Latin American evidence on the effects of privatization.[43] As previously explained, the data are some of the most comprehensive and up-to-date for the region, allowing us to address many of the concerns raised about privatization. We analyze profitability, operating efficiency, the behavior of inputs, output, and taxes. Latin American studies find improvements in firms' profitability, which is in line with earlier worldwide evidence.[44] These increases are typically accompanied by reductions in unit costs, boosts in output, and reduced or constant levels of employment and investment. The evidence suggests that higher efficiency, achieved through firm restructuring and productivity improvements, underpins profitability gains. The raw results on firm performance are followed by industry-adjusted information to verify their robustness. Whenever possible, we show the data for median firms, as they are less affected by outliers.

41. Comprehensive privatization studies for eastern European countries also find higher profitability results, although the accounting data for such countries are more problematic. Some examples are Claessens, Djankov, and Pohl (1997) for the Czech Republic, Dyck (1997) for East Germany, and Frydman and others (1999) for the Czech Republic, Hungary, and Poland. For most of these cases, accounting differences before and after privatization are of greater concern than in Latin America, where the state-owned enterprises filed and collected similar information to that of private firms.

42. Chong and López-de-Silanes (2004b).

43. The data presented in this paper come from the series of papers in the book edited by Chong and López-de-Silanes (2004b). Homogeneous data for such extensive samples are difficult to collect, since the same information is not available or reported for all firms in all countries. This section presents comparable information across countries, but the comparisons are not perfect. When we lack strictly comparable information, we do not include those data for these countries in the figures and we only discuss the results in the text. The specific information for each country comes from Galiani and others (2004) for Argentina; Anuatti-Neto and others (2004) for Brazil; Capra and others (2004) for Bolivia; Fischer, Serra, and Gutiérrez (2004) for Chile; Pombo and Ramírez (2004) for Colombia; Chong and López-de-Silanes (2003) for Mexico; and Torero (2004) for Peru.

44. Megginson, Nash, and van Randenborgh (1994); Boubakri and Cosset (1998, 1999); D'Souza and Megginson (1999).

RAW DATA. The evidence from Latin America shows substantial gains in profitability after privatization, measured by net-income-to-sales and operating-income-to-sales ratios (see figure 4). For the countries in the sample, the median net-income-to-sales ratio increased 14 percentage points, while the operating-income-to-sales ratio increased 12 percentage points. The largest gains are in Peru and Argentina, where median changes in net income to sales reached about 20 percentage points, and in Bolivia, where operating income to sales increased more than 15 percentage points. Brazil shows the second smallest gains, between 2 and 3 percentage points depending on the ratio. Colombian state-owned enterprises, unlike their counterparts in other countries, were highly profitable before privatization, which is largely explained by the protective industrial policy implemented by the Colombian government during the 1980s.[45] There is some evidence that profitability dropped in Colombia because firms were already efficient and privatization was coupled with market liberalization that brought increased competition.

The data for Latin America suggest that the main reason behind the profitability gains is the improved operating efficiency brought about by privatization. In figure 5 we explore this issue using costs per unit, the ratio of sales to assets, and the ratio of sales to employment. Costs per unit plummet, with the median decline equivalent to about 16 percent for the countries with available data. The results are statistically significant at 1 percent for all countries except Chile. State-owned enterprises were highly unprofitable before privatization in four of the seven countries, with losses above 10 percent of sales in terms of net income over sales. The exceptions are Chile, whose state-owned enterprises exhibited slightly positive profitability ratios, and Colombia, where the state-owned sector was very profitable compared with private competitors.

The sales-to-asset ratios similarly show a rising trend in four out of five countries. The median country increase in this ratio is 16 percent. Colombia and Peru are the only countries with a fall in sales to assets (about 30 and 20 percent respectively), because privatized enterprises in these countries engaged in large investments that overtook output increases. Finally, the impact on the sales-to-employment ratio is dramatic, with a median gain of 65 percent. Chile and Mexico show the most impressive results, in that sales per employee doubled. Information for Colombia suggests that

45. Pombo and Ramírez (2004).

**F I G U R E  4 .**  **Profitability Changes after Privatization in Latin America**[a]
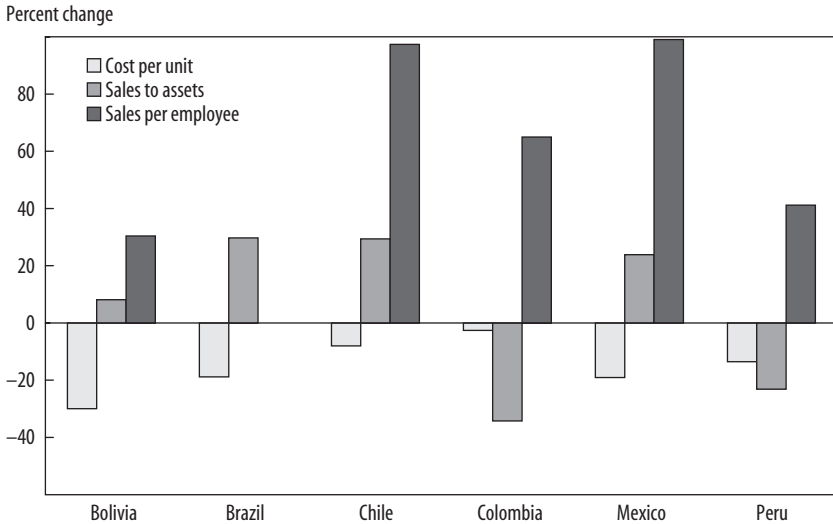
Percentage points change
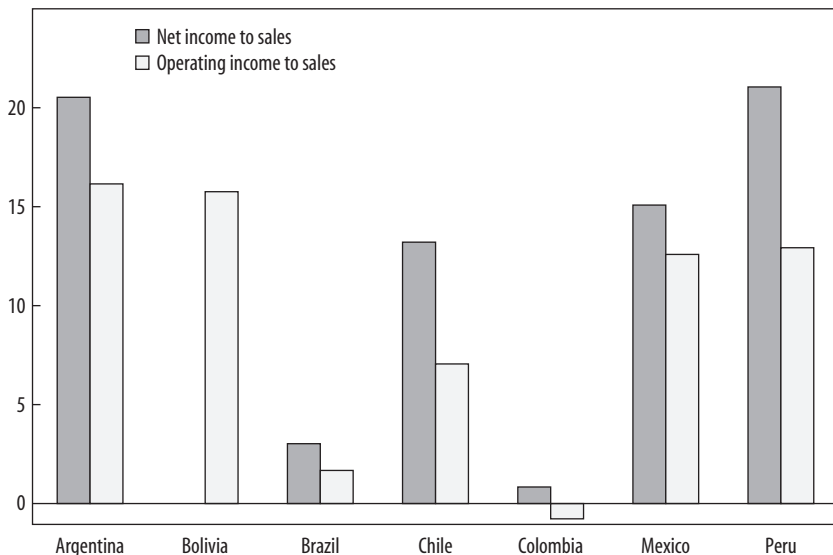


Source:  Galiani and others (2004); Capra and others (2004); Anuatti-Neto and others (2004); Fischer, Serra, and Gutiérrez (2004); Pombo and Ramírez (2003); Chong and López-de-Silanes (2004a); Torero (2004).

a.  The figure presents the median change in the net-income-to-sales ratio and the operating-income-to-sales ratio after privatization. The components of the variables are defined as follows: net income is equal to operating income minus interest expenses and net taxes paid, as well as the cost of any extraordinary items; operating income is equal to sales minus operating expenses, minus cost of sales, and minus depreciation; and sales are equal to the total value of products and services sold, nationally and internationally, minus sales returns and discounts. For Bolivia, the net-income-to-sales ratio is not available.

state-owned enterprises also underwent restructuring with significant efficiency gains. The mean (median) manufacturing firm in Colombia experienced a 48 (65) percent gain in its sales-to-employment ratio, and a 2.4 percent per year increase in its total factor productivity index.

As figure 6 shows, labor retrenchment is a significant component of the privatization experience in Latin America. Privatized firms reduced a substantial percentage of their workforce in almost all countries. The exception to this trend is Chile, where the mean number of workers in privatized firms increased by 15 percent and the median fell by 5 percent. In general, the median country reduced 24 percent of its workforce. Privatized state-owned enterprises in Bolivia, Colombia, Mexico, and Peru show significant reductions: the median firm fired 13 percent, 24 percent, 57 percent,

**FIGURE 5.    Operating Efficiency Changes after Privatization in Latin America[a]**
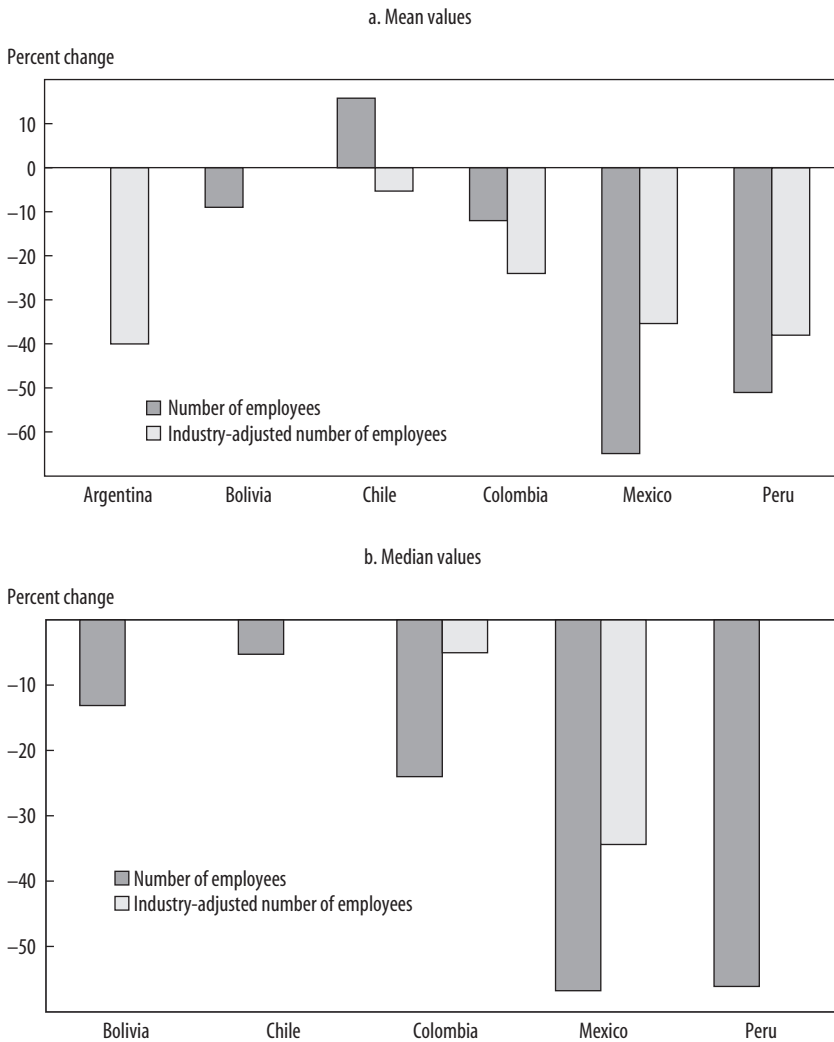
Percent change



Source:  Capra and others (2004); Anuatti-Neto and others (2004); Fischer, Serra, and Gutiérrez (2004); Pombo and Ramírez (2003); Chong and López-de-Silanes (2004a); Torero (2004).

a.  The figure presents the median change in the cost-per-unit ratio, the sales-to-assets ratio and the sales-per-employees ratio for each country after privatization. Cost-per-unit is defined as the ratio of cost of sales to sales. The components of the variables are defined as follows: cost of sales is equal to the direct expense involved in the production of a good (or provision of a service), including raw material expenditure plus total compensation paid to blue-collar workers; sales are equal to the total value of products and services sold nationally and internationally minus sales returns and discounts; employees corresponds to the total number of workers (paid and unpaid) who depend directly on the company; and assets are defined as property, plant, and equipment (PPE), which is equal to the value of a company's fixed assets adjusted for inflation. For Brazil, the sales-per-employees ratio is not available.

and 56 percent of the workforce, respectively. The magnitude of employment reductions in these countries speaks of state-owned firms with bloated workforces, providing evidence in line with the political economy view of the benefits of privatization. The evidence on labor cuts suggests that transfers from workers to shareholders may be a significant component of the success of privatization. We explore this issue later in the paper.

A priori, the impact of privatization on investment is not clear. One could expect privatized firms to avoid new investments since state-owned enterprises usually have ample idle capacity. On the other hand, if the production process used by the state-owned firm is outdated, one could expect a large increase in investment. The data for Latin America confirm the

**F I G U R E  6 .**  **Employment Changes after Privatization in Latin America**[a]

a. Mean values

Percent change



b. Median values

Percent change



Source:  Galiani and other (2004); Capra and others (2004); Fischer, Serra, and Gutiérrez (2004); Pombo and Ramírez (2004); Chong and López-de-Silanes (2004a); Torero (2004).

a.  The figure presents the percentage change in the number of employees and the industry-adjusted number of employees after privatization for each country. Panel A shows mean values; Panel B shows median values. The number of employees corresponds to the total number of workers (paid and unpaid) who depend directly on the company. The industry-adjusted number of employees is computed by augmenting the preprivatization number by the difference between the cumulative growth rate of the number of employees of the firm and the cumulative growth rate of the number of employees of the control group in the postprivatization period relative to the average number of employees before privatization. For Argentina, the mean number of employees is not available; for Chile and Peru, the median industry-adjusted information is not available; for Bolivia, the industry-adjusted information is not available.

**F I G U R E   7 .    Output Changes after Privatization in Latin America[a]**
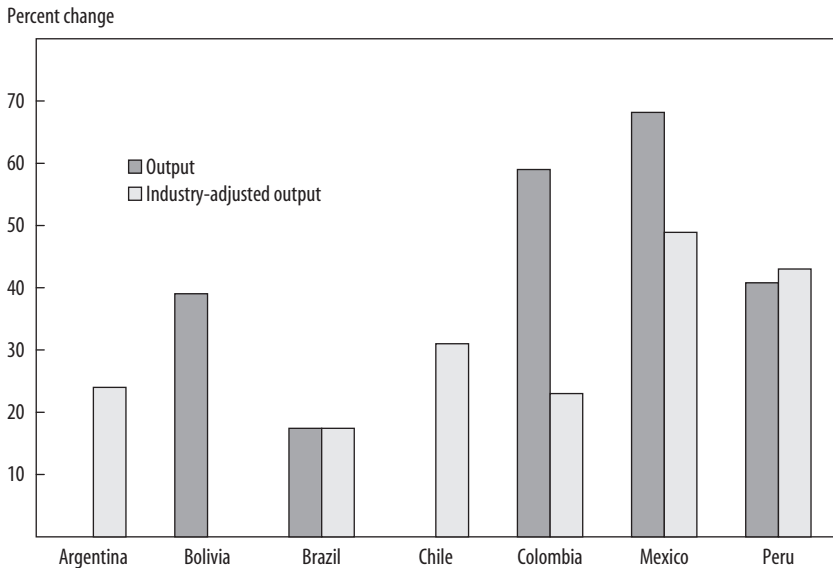
Percent change



Source:  Galiani and others (2004); Capra and others (2004); Anuatti-Neto and others (2004); Fischer, Serra, and Gutiérrez (2004); Pombo and Ramírez (2004); Chong and López-de-Silanes (2004a); Torero (2004).
    a.  The figure presents the median change in output and industry-adjusted output after privatization for each country. Output is defined as the monetary value of sales. The industry-adjusted output is computed by augmenting the preprivatization value by the difference between the cumulative growth rate of output of the firm and the cumulative growth rate of output of the control group in the postprivatization period relative to the average level of output before privatization. For Colombia, the information corresponds to mean values; for Peru, industry-adjusted output information is expressed in mean values; for Argentina and Chile output information is not available; for Bolivia, industry-adjusted output is not available.

initial hypothesis, since investment exhibits modest gains or statistically insignificant changes. The exception is Argentina, where investment increased by over 350 percent.

Our analysis so far suggests that the profitability gains of privatized firms mostly stem from efficiency gains. Most countries show drastic cuts in employment and fairly consistent capital stocks. Perhaps the most striking finding is that the output of privatized state-owned enterprises increased dramatically, despite dwindling employment and modest investment (see figure 7). The median firm in our sample increased output by over 40 percent, with the largest gains achieved by Mexico and Colombia, where median output increased 68 percent and 59 percent, respectively.

The country with the lowest, albeit significant, increase in output is Brazil, where real sales went up 17 percent.

**ADJUSTED RATIOS.** Latin America underwent major economic transformations in the 1990s as countries embraced liberal policies and opened up their borders. Most of these countries expanded and contracted at various points, leading to concerns about the interpretation of the evidence just discussed. In particular, one may argue that the large profitability and output increases and the rapid growth in productivity may only be the result of macroeconomic and industry changes in the region. To isolate the role of privatization, the series of studies in our compilation present industry-adjusted measures that support the patterns discussed so far.[46]

The data displayed in figure 7, for example, allow us to rule out macroeconomic factors as the driving force behind postprivatization output growth: median industry-adjusted sales grew 27.5 percent in the region. In Brazil and Peru, matching private firms basically stagnated, while the median industry-adjusted output of privatized firms in those countries increased at about the same rate as the raw numbers. Meanwhile, the improved economic conditions and industry factors in Mexico and Colombia account for about one-fifth and three-fifths of output growth, respectively.

Relative to industry benchmarks the median (mean) employment of privatized firms fell roughly 20 (35) percent in the region (see figure 6). In contrast, relative investment behavior differs across countries. Median industry-adjusted investment-to-sales and investment-to-assets ratios fell considerably in Brazil and Mexico, but they showed a marked increase in Argentina, Chile, and Colombia.

The second most important finding of this section involves the closing gap between privatized and comparable private firms after privatization (see figure 8). Mexico offers the most dramatic example of convergence: the net-income-to-sales gap between state-owned and private firms disappeared with privatization and even turned slightly in favor of privatized state-owned enterprises.[47] The Argentine data, although not in a comparable format, also show a similar pattern of catching up. The industry-adjusted net-income-to-sales ratio increased 188 percent after privatization,

46. Chong and López-de-Silanes (2004b).
47. Data are from Anuatti-Neto and others (2004); Fischer, Serra, and Gutiérrez (2004); Pombo and Ramírez (2004); Chong and López-de-Silanes (2004a). See the note to figure 8 for definitions.

**F I G U R E   8 .   Net-Income-to-Sales Gap between Privatized and Private Firms before and after Privatization[a]**

Percentage points gap
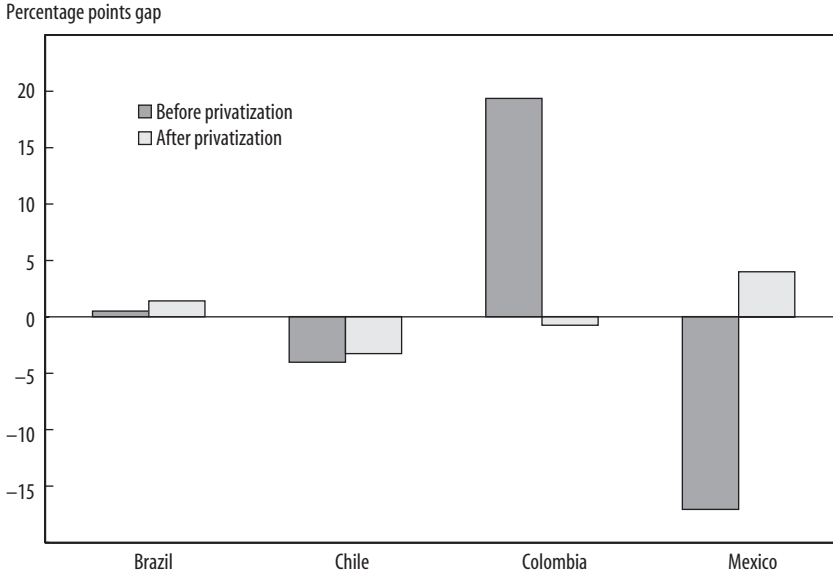


Source:  Anuatti-Neto and others (2004); Fischer, Serra, and Gutiérrez (2004); Pombo and Ramírez (2004); Chong and López-de-Silanes (2004a).

a.  The figure presents the net-income-to-sales gap between privatized state-owned firms and private firms, before and after privatization. The components of the net-income-to-sales ratio are defined as follows: (1) Net income is equal to operating income minus interest expenses and net taxes paid, as well as the cost of any extraordinary items; and (2) sales are equal to the total value of products and services sold nationally and internationally, minus sales returns and discounts. For Colombia information is from the energy sector.

while the operating-income-to-sales ratio rose 129 percent. The profitability gap between Colombian privatized and private firms also closed, albeit from a different starting point.[48] Before privatization, the median firm in manufacturing was almost 4 percent more profitable than its private counterpart, while in the state-owned energy sector, this difference was about 20 percent. Substantially lower levels of protection of these firms explain the narrowing gap with the private sector after privatization. Finally, the Brazilian and Chilean privatized samples also improved their relative profitability with respect to their industry competitors. In the case of Brazil, privatized state-owned enterprises became slightly more profitable

48.  Data for Colombia are from the energy sector.

than their private competitors, while the gap between Chilean privatized and private firms narrowed by about 20 percent.

The gap between privatized and private firms also closed in terms of unit costs.[49] Brazilian privatized firms quickly reduced the 9 percentage point gap to about 2 percentage points. The gap among Chilean firms was 2–3 percentage points both before and after privatization. In Argentina, industry-adjusted unit costs declined 10 percent. Meanwhile, Mexico's privatized state-owned enterprises substantially cut costs to eliminate a large 14 percentage point gap with private competitors. The catching-up effect of privatization is explained by the large gains in operating efficiency that more than survive industry adjustments. Relative to industry benchmarks, median sales per employee went up 9 percent in Argentina, 30 percent in Bolivia, and a massive 88 percent in Mexico. Similarly, median industry-adjusted sales-to-asset ratios increased 20 percent in Mexico, 34 percent in Brazil, and 49 percent in Chile. All of these numbers suggest that a large component of the higher profitability comes from improved efficiency, lining up with the rest of the evidence presented in the following section.

## Who Wins and Loses from Privatization? Concerns about Exploitation of Market Power, Workers, and the Government

Some of the main criticisms against privatization are based on the belief that the gains in firm profitability are achieved at the expense of society. These gains are claimed to be extracted from consumers through the use of market power, from workers by means of lower salaries, and from the government via the transfer of a source of positive cash flow.[50] In this section, we use the recent empirical evidence from Latin America and elsewhere to assess the sources of profitability gains of privatized state-owned enterprises.

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49. The cost-per-unit gap is measured as the ratio of the cost of sales to net sales. The cost of sales is defined as the direct expense involved in the production of a good (or provision of a service), including raw material expenditure plus total compensation paid to blue-collar workers; sales are equal to the total value of products and services sold nationally and internationally, minus sales returns and discounts. Data are from Anuatti-Neto and others (2004); Fischer, Serra, and Gutiérrez (2002); Chong and López-de-Silanes (2004a).

50. Campbell-White and Bhatia (1998); Bayliss (2002).

## Government Revenues

Critics of privatization often argue that the government, and thus society at large, loses from privatization because it gives up a positive stream of cash flows and puts it in the hands of private buyers. The argument is extended to claim that the sale of state-owned enterprises is equivalent to a privatization of gains and a socialization of losses. In other words, well-connected groups are able to reap the profits of privatized firms and receive government-sponsored bailouts when things go wrong. The evidence used to support these claims comes mostly from case studies of profitable state-owned enterprises that were privatized, unprofitable state-owned enterprises that turned out to be great moneymakers after privatization, and state-owned enterprises that became money losers and went into financial distress. This perception has swayed public opinion because of the excessive costs levied on society in some cases of botched privatizations. In Mexico, for example, the bailouts granted to keep banks and highways from going bankrupt increased public debt from less than 25 percent of GDP to over 50 percent.[51]

Yet recent evidence points in the opposite direction in at least three areas. First, several papers show that state-owned enterprises are less efficient than private firms in developed and developing countries.[52] Second, state-owned enterprises' inefficiency may be the natural result of political meddling when governments use them to achieve political objectives. This political use of state production leads to excessive employment, inefficient investments, and inadequate location of production sites, among other things.[53] Finally, the large body of empirical work generated over the last ten years (reviewed in previous sections) shows that, by and large, privatization leads to substantial increases in the profitability of firms.

Criticisms of privatization that center on what the government gives up disregard the fact that state-owned enterprises are typically money-losing entities before privatization. Moreover, the visible losses may underestimate the real bottom line, because their precise magnitude is obscured by large cross-subsidies from other state-owned enterprises and soft loans from the government. In fact, tax collection from state-owned enterprises improved after privatization in most Latin American countries analyzed in

51. See López-Calva in this volume.
52. Shleifer and Vishny (1994); Shleifer (1998).
53. See López-de-Silanes, Shleifer, and Vishny (1997).

our book.[54] Brazil, the country with the smallest gains in profitability, experienced a 1 percentage point decrease in its net-taxes-to-sales ratio, although it was still positive after privatization (the difference is not statistically significant). In Mexico, the same ratio increased 7.6 percentage points. We do not have direct information for Argentina, Chile, and Peru, but given that net income over sales increased between 12 and 20 percentage points, it is safe to assume that net taxes over sales also increased by a few percentage points. Increased fiscal revenues mean more resources that can be channeled to address pressing social needs, thereby benefiting society at large.

Higher tax revenues, if managed appropriately, should allow governments an increased capability for welfare-improving activities to benefit the poorest segments of society. Argentina, Mexico, and Peru are examples of countries where privatization revenues and the increased tax receipts from non-profit-making firms were probably large enough to offset the costs of job losses.[55] Privatization revenues need not be a blessing, however, if they are misused. Anuatti-Neto and others point out that in Brazil privatization brought about high macroeconomic costs because its revenues may have delayed fiscal adjustment and helped prop up an overvalued currency.[56] This is obviously not an argument against privatization, but rather an argument against the political misuse of the resources it generates.

Overall, the empirical literature on privatization shows that it affects the government's budget by reducing its previous subsidies to state-owned enterprises, raising substantial revenue from the sale, and generating taxes on the increased profits. The benefits of a well-managed privatization program could be substantial, not only for the privatized firm, but also for society.

## Worker Exploitation

The second potential source of gains after privatization is transfers from workers to shareholders as cuts in labor costs may account for a large fraction of reduced total costs. Labor cost reductions can come from two sources: fewer workers or lower wages and benefits. As explained above,

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54. Chong and López-de-Silanes (2004b).
55. Rama (1999); Chong and López-de-Silanes (2003).
56. Anuatti-Neto and others (2004).

the set of papers that looks at comprehensive samples from Latin America finds that direct employment by the median state-owned firm falls between 5 to 57 percent after privatization, depending on the country (see figure 6). Layoffs explain part of the cost reduction and thus higher profits after privatization. The other potential component is cuts in wages and benefits. The hypothesis that privatization leads to redistribution of income from workers to the new owners predicts a reduction in real wages and benefits for those workers that remain in the firm. Data on wages at the firm level are scarce, but for those countries with available information (Argentina, Bolivia, Mexico, and Peru) the evidence shows the exact opposite: real and industry-adjusted wages of workers in privatized firms increase.[57] Both real and industry-adjusted wages for the median firm increased by about 100 percent in Mexico and Peru. Bolivia enjoyed real wage increases of almost 110 percent, while in Argentina, the industry-adjusted increase was about 70 percent.[58]

The two components of the transfers from workers to profits move in opposite directions. The fraction of profitability changes that may be attributed to labor cost savings thus encompasses the lower costs stemming from layoffs and the higher costs from wage increases for the remaining workers. Following the methodology in La Porta and López-de-Silanes, recent studies by Galiani and others, Capra and others, and Torero compute the impact on profits from lower labor costs after privatization.[59] The evidence from Argentina, Bolivia, Mexico, and Peru in figure 9 shows that even with the extreme assumption that laid-off workers had zero productivity, the median savings from labor costs is equivalent to 16 percent of the gains in net income to sales after privatization, or 20 percent of the gains in operating income to sales. The range of calculations extends

57. Real average wages are defined as the inflation-adjusted total compensation paid to the average worker; the consumer price index was used as the deflator. Industry-adjusted wages are computed by augmenting the preprivatization value by the difference between the cumulative growth rate of real wages per worker of the firm and the cumulative growth rate of real wages per worker of the control group in the postprivatization period relative to the average real wage per worker before privatization. Data are from Galiani and others (2004); Capra and others (2004); Chong and López-de-Silanes (2004a); Torero (2004).

58. For Mexico, Bolivia, and Peru, information is for a subsample of firms that have available wage evidence.

59. La Porta and López-de-Silanes (1999); Galiani and others (2004); Capra and others (2004); Torero (2004). See the note to figure 9 for the calculation of savings from lower labor costs.

**F I G U R E 9 .** **Transfers from Workers as a Percentage of Increased Profitability after Privatization[a]**
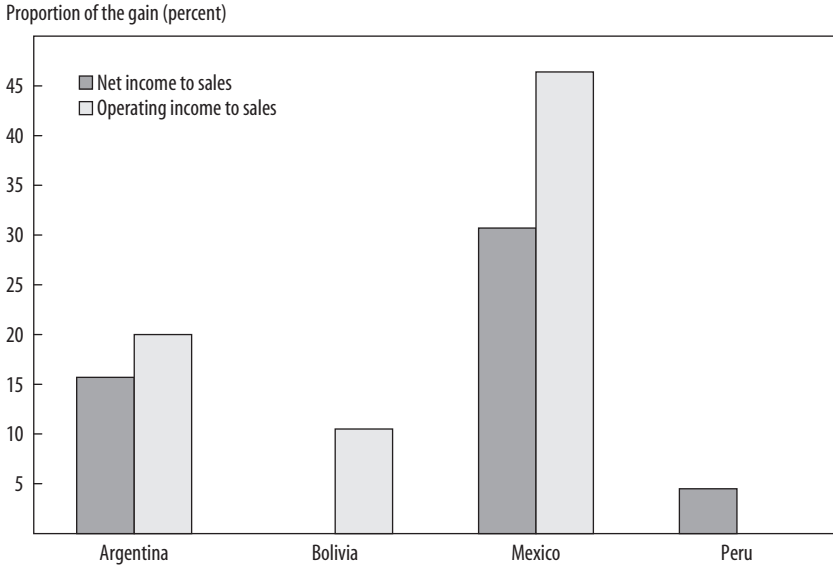
Proportion of the gain (percent)



Source: Galiani and others (2004); Capra and others (2004); Chong and López-de-Silanes (2004a); Torero (2004).

a. The figure shows the median gain in net income to sales and operating income to sales explained by savings in labor costs stemming from layoffs after privatization. Savings from layoffs are calculated as follows:

$$\frac{WAGE_{bp}\,(L_{bp} - L_{ap})}{SALES_{ap}},$$

where $WAGE_{bp}$ is the average wage of employees in state-owned enterprises before privatization; $L_{bp}$ is the number of workers employed before privatization; $L_{ap}$ is the number of workers employed after privatization; and $SALES_{ap}$ is the monetary value of sales after privatization. The resulting number is thus expressed as a fraction of sales. We then divide by the percentage point increase in the operating-income-to-sales ratio to determine the percentage of the increase that is due to transfers from workers. For Mexico, Bolivia, and Peru, information is for a subsample of firms that have available wage evidence. For Bolivia, net-income-to-sales data are not available. For Peru, data on savings in labor costs as a percentage of operating income to sales are not available.

from close to 5 percent in Peru to 45 percent in Mexico. This back-of-the-envelope calculation is extreme since we are assuming zero productivity of laid-off workers. If we assume that these workers are half as productive as those retained by the firm, the median savings from reduced labor costs for the countries with data falls to 8 percent of the gains in net income to sales and 10 percent of the gains in operating income to sales. Overall, the evidence indicates that labor cost reductions are a source of the gains after

privatization, but these savings do not explain the bulk of the higher observed profitability.

The welfare of displaced workers after privatization is another issue for consideration. The calculations above overstate the losses to workers to the extent that some of those laid off found alternative employment or attach some value to leisure. There is evidence that this is, in fact, the case. Galiani and others, for example, carried out a survey among displaced workers in Argentina. Their findings show that the labor force participation rate was high among displaced workers and that although unemployment rates were above those of the rest of the population, many workers found alternative jobs in which they felt their situation was stable.[60] Taking all factors into account, the authors estimate that the welfare loss to displaced workers was equivalent to 39 to 51 percent of their preprivatization earnings and that 40 percent thought they were not worse off after privatization. This is surprising since most theories and evidence suggest that workers in state-owned enterprises are overpaid and have very low productivity. Further work is needed in this area to provide clearer evidence on the extent of welfare losses to workers, but the available evidence thus far suggests that while laid-off workers do lose in this process, the losses may not be as large as previously thought.

Finally, privatization could also have compositional effects on the labor force and hurt unskilled workers disproportionately. The empirical evidence on this issue is inconclusive for the two Latin American countries with disaggregated wage and employment data, but it suggests that blue-collar workers actually fare better than their white-collar counterparts. In Bolivia, only 5 percent of blue-collar workers were laid off, while over 27 percent of white-collar workers were fired by the median firm. In terms of wages, unskilled workers who remained saw their real wages increase 103 percent versus a 99 percent rise for skilled workers. In Mexico, blue-collar workers suffered higher layoffs than white-collar ones in the median firm: 61 percent (32 percent industry-adjusted) for blue-collar workers versus 46 percent (31 percent industry-adjusted) for white-collar workers. Wages again exhibited the same trend, with sharp rises in blue-collar real and industry-adjusted wages (148 percent and 122 percent, respectively) and smaller, though still substantial, wage increases for white-collar workers (100 percent real and 48 percent industry-adjusted). Therefore, for

60. Galiani and others (2004).

neither of these countries can we conclude that unskilled workers fared worse than skilled labor as a result of privatization.

## *Abuse of Market Power and Consumer Exploitation*

The last concern about the sources of postprivatization gains is that the increase in firm profitability may come at the expense of consumers through weak regulation and abuse of market power. The recent series of papers on Latin America reviewed earlier provides useful data for assessing these claims. If market power is a significant determinant of the gains, we should expect firms in noncompetitive sectors to experience large gains in operating income owing to higher product prices. Since profits are likely to be higher in noncompetitive sectors than in competitive sectors both before and after privatization, the relevant comparison for establishing the facts for this section is relative changes among privatized firms in competitive and noncompetitive sectors.

For the Latin American countries with data disaggregated by competitive and noncompetitive sectors, we find that changes in profitability are generally larger in the competitive sector than among noncompetitive industries.[61] This evidence goes against the hypothesis that market power explains most of the gains. The median ratio of operating income to sales in Mexico increased 14.5 percentage points for privatized firms in the competitive sector and only 8.5 points for firms in noncompetitive industries. Bolivia shows the same trend, in that operating income to sales increased 12.4 percentage points among competitive firms but only 7.5 points among noncompetitive firms. Competitive firms in Colombia performed relatively better than their noncompetitive counterparts: their median profitability decreased by only 2 percentage points compared to the 13 point drop for noncompetitive sectors, which underwent severe deregulation. Data for Peru reinforce this trend. Firms in noncompetitive

61. Firms are classified as competitive and noncompetitive as follows: (1) for Chile, firms are classified as noncompetitive if they are in telecommunications, electricity, or social services sectors; (2) for Colombia, noncompetitive firms are those in the energy sector; (3) for Mexico, firms are classified based on the description of the industry provided in the privatization prospectus of the firm; and (4) for Peru, the noncompetitive sector comprises firms in the electricity, financial, and telecommunications sectors. The data for competitive industries in Peru include the whole sample, whereas they encompass the competitive industries only in the other three countries. Profitability is defined as the median operating-income-to-sales ratio, except for Peru, where it is the mean net-income-to-sales ratio. Data are from Chong and López-de-Silanes (2004a); Fischer, Serra, and Gutiérrez (2004); Pombo and Ramírez (2004); and Torero (2004).

sectors increased their profitability by an average of 27 percentage points, while the mean increase in the whole sample was 32 percentage points. In Chile, although the noncompetitive sectors' profitability increased more (8.5 percentage points), it is not statistically different from the 5.5 percentage point increase in competitive sectors.

Regression analysis for Peru using concentration proxies also contributes to assessing the role of market power. Market concentration in Peru was found not to be a significant determinant of profits. Finally, information on firms' product prices before and after privatization in Mexico also suggests that market power is not a large source of gains. Cumulative price increases in the noncompetitive sector in Mexico were only 6 percent higher than the growth of the industry-matched producer price index (PPI) over the postprivatization period. La Porta and López-de-Silanes use these product price data to draw a quick calculation of the contribution of changes in prices to the observed change in profitability of the whole sample of privatized firms.[62] Their data show that price increases accounted for only 5 (7) percent of the change in mean (median) operating income to sales after privatization.[63]

If market power were an important source of profits for privatized firms, those in noncompetitive sectors would show lower growth in employment, investment, and output than firms in competitive sectors.[64] Available evidence for Latin America does not support these claims.[65] In

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62. La Porta and López-de-Silanes (1999).

63. To isolate the contribution of changes in relative prices as a factor behind the observed profitability gains, the calculation compares the observed percentage-point increase in operating income to sales with what would have taken place if privatized firms had increased output but left real prices unchanged at preprivatization levels. Specifically, the formula used for the price contribution is

$$PRICECONTRIB = \frac{SALES_{ap} - COST_{ap}}{SALES_{ap}} - \frac{\left[SALES_{ap}/(1+\pi)\right] - COST_{ap}}{SALES_{ap}/(1+\pi)},$$

where $SALES_{ap}$ represents sales in the postprivatization period, $COST_{ap}$ represents operating costs in the postprivatization period, and $\pi$ is the increase in real prices.

64. See La Porta and López-de-Silanes (1999).

65. The variables used in this analysis are defined as follows: employment corresponds to the total number of workers (paid and unpaid) who depend directly on the company; output is the monetary value of sales. Firms are sorted as competitive and noncompetitive as described above. For Peru, the information is expressed in mean values. For Chile, output information is not available. Data are from Chong and López-de-Silanes (2004a); Fischer, Serra, and Gutiérrez (2004); Pombo and Ramírez (2004); and Torero (2004).

Mexico and Colombia, employment dropped 46 percent and 24 percent, respectively, for firms in the competitive sector, and it only decreased 19 percent and 10 percent for noncompetitive firms. In Chile, the pattern is even more striking: employment increased in both sectors, rising 16 percent in competitive industries and 32 percent in noncompetitive sectors. For Peru, employment data show no divergence in results between competitive and noncompetitive sectors, as employment fell 50 percent in noncompetitive sectors and 51 percent for the whole sample. The only exception to this trend is Bolivia, where employment fell 36 percent in the noncompetitive sector and only 14 percent in the competitive one. Output growth data for Bolivia, Mexico, and Peru reinforce this trend. In Bolivia, output of noncompetitive firms increased almost 40 percent, while that of competitive firms increased only 32 percent. In Peru, output growth for both sectors was very similar, with noncompetitive firms increasing sales 47 percent and the sales of the whole sample going up 50 percent. Similarly, in Mexico, output of competitive firms increased 56 percent, while sales in the noncompetitive sector went up 78 percent.

Additional evidence comes from investment patterns. Investment per employee grew 49 percent and 154 percent in the noncompetitive sectors of Mexico and Colombia, respectively. Meanwhile, the same ratio grew only 29 percent in competitive sectors of Mexico and stagnated in Colombia's competitive industries. The evidence for Chile here runs in the opposite direction, but it is hardly conclusive of market power abuse. Although investment per employee grew 74 percent in Chile's competitive sectors, it also grew almost 50 percent in noncompetitive industries.

Overall, the Latin American evidence presented in this section does not support the claim that consumer exploitation is a significant source of privatization gains. These studies suggest that a large source of the gains may lie in deep firm restructuring that leads to lower costs and higher efficiency. Evidence from Chile and Mexico is suggestive of this pattern. Unit costs in the competitive sector fell 3 percent in Chile and 13 percent in Mexico, while those of noncompetitive industries decreased 8 percent and 24 percent in each respective country. Abuse of market power may be an issue for some firms, but the bulk of the evidence suggests it is not the main explanation of privatization gains across the board.

## *Other Dimensions of Consumer Welfare beyond the Effect on Prices*

Beyond its effect on prices, privatization may affect consumer welfare through decreased access, worsened distribution, and reduced quality of goods and services.[66] These concerns are significant because the poorest segments of society are generally the main consumers of goods and services previously produced by state-owned enterprises. The evidence presented earlier on increased output, firm restructuring, and prices should alleviate some of these concerns, particularly for the case of standardized goods and products. Output and price are suitable proxies for measuring the availability of most of these goods. In the area of public utilities and services, however, access and distribution may still be a concern, since some segments of the population may lack access to the network and may thus be unable to purchase these services regardless of their price. Similarly, the quality of services such as water, electricity, telecommunications, or transportation may be reduced to try to meet price regulations. In all of these circumstances, consumer welfare may suffer as a result of privatization.

Some reviews of privatization cases are pessimistic about its success in the utilities sector. Bayliss points to examples of botched privatizations in Puerto Rico and Trinidad and Tobago, where water privatization led to price hikes and no apparent improvement in provision.[67] Similarly, the privatization of the electricity sector in the Dominican Republic is claimed to have led to frequent blackouts and increases in utility prices, culminating in civil unrest and the deaths of several demonstrators. One can always find cases of failure and cases of success. Therefore, the only way to address this question fully is to gather data that allow a systematic and economically robust analysis.

A first generation of privatization studies sheds light on this subject by analyzing case studies in several countries. Galal and others, for example, analyze twelve privatization cases in Chile, Malaysia, Mexico, and the United Kingdom, including firms in sectors such as airlines and telecommunications.[68] Their results indicate that privatization led to welfare gains

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66. Bayliss and Hall (2000); Bayliss (2001); Akram (2000); Freije and Rivas (2002); and Birdsall and Nellis (2002).

67. Bayliss (2002).

68. Galal and others (1994).

of about 25 percent of preprivatization sales in eleven of the twelve cases. Early work on the privatization experience in Argentina also shows significant gains in access to services such as water, power, and port infrastructure.[69] Ramamurti concludes that privatization had a positive effect on Latin American telecommunications and railroad infrastructure because it led to a technological overhaul of the sectors and increased both access and the quality of service.[70] Similarly, Ros examines the effect of privatization on the telecommunications sector in 110 countries and finds that the transfer of control from the public to the private sector led to significantly higher telephone density levels.[71] Although the level of competition had a positive effect on industry efficiency, only privatization was related to network expansions.

A new generation of studies based on more detailed data and new econometric approaches corroborates the early results in terms of access and quality. For instance, Torero and Pasco-Font show the number of telephone lines in Peru increased from 2.9 to 7.8 per 100 inhabitants and the electrification coefficient jumped from 48 to 70 percent between 1993 and 1998.[72] Another study by Torero, Schroth, and Pasco-Font tests the impact of the privatization of telecommunications in Peru; it finds large gains in efficiency, access, and quality of service.[73] Similarly, Fischer, Serra, and Gutiérrez find improvements in access and service quality in the telecommunications sector in Chile, where the number of phone lines in operation increased sixfold, bringing density levels from 4.7 lines per 100 inhabitants in 1987 to 23.1 lines in 2001.[74] The average length of the waiting period for a new phone line dropped from 416 days in 1993 to only six days in 2001, while the waiting list for a phone dropped from a peak of 314,000 households in 1992 to only 32,000 by 2001.[75]

The region offers a number of similar examples of improvements in access to water, electricity, telecommunications, and other services that

69. Crampes and Estache (1996); Estache and Rodríguez (1996); Carbajo and Estache (1996).
70. Ramamurti (1996, 1997).
71. Ros (1999).
72. Torero and Pasco-Font (2001).
73. Torero, Schroth, and Pasco-Font (2003).
74. Fischer, Serra, and Gutiérrez (2004).
75. Trujillo and others (2002) provide evidence for twenty-one Latin American countries between 1985 and 1998 and find that private sector involvement in utilities and transport yielded marginally positive results on per capita GDP.

have created benefits beyond lower prices. Nonetheless, one may still be concerned about the distributional impacts of the increased coverage, as it may not be reaching the poorest sectors of society. Bayliss recognizes that privatization has the potential for welfare-enhancing outcomes if it allows low-income households to gain access to the service network.[76] However, her review of cases suggests that the drive to seek higher profits in the private provision of services will almost invariably lead to a loss for the poor. Birdsall and Nellis also argue that privatization may lead to improvements in efficiency and profitability while worsening income distribution and wealth.[77] They conclude that the gains in profitability are probably not worth the distributive effects they create.

Recent detailed econometric analyses with better samples provide some answers to these concerns. Galiani and others offer some of the best data available for the municipal level in Argentina, where about 30 percent of localities privatized water delivery services.[78] Their results show a significant increase in the proportion of households connected to water services in municipalities that privatized compared with those that did not. Their regression estimates suggest that the number of households connected to the water network increased by 11.6 percent as a result of privatization (with the exception of Buenos Aires, where 98 percent of households were already connected). Using less comprehensive data from Bolivia, Barja, McKenzie, and Urquiola find that privatization increased access to water relative to both the existing trend and nonprivatized areas.[79] They further report that the relative benefits of water privatization are greatest for the poorest segments of the population, who gained from the largest increases in access.

Galiani and others cleverly design tests that map water delivery to infant mortality in an effort to directly address the concerns about quality after privatization.[80] Their regressions show that, controlling for other factors, Argentine child mortality fell by 5 to 7 percent more in areas that privatized water services than in those that did not. The effect was largest in the poorest municipalities that privatized, where child mortality fell

76. Bayliss (2002).
77. Birdsall and Nellis (2002). They indicate that these results are less valid for Latin America than for transition economies and less relevant for utilities than for banks or oil.
78. Galiani and others (2004).
79. Barja, McKenzie, and Urquiola (2002).
80. Galiani and others (2004).

24 percent. Privatization translated into 375 child deaths prevented per year. Mookherjee and McKenzie provide an overview of four studies from Argentina, Bolivia, Mexico, and Nicaragua that use household surveys to measure the impact of privatization on welfare.[81] They conclude that the sale of state-owned enterprises brought positive welfare effects and that the poorest segments of the population appear to be relatively better off. In Argentina, for example, they report falling electricity prices that improved the welfare of all income deciles. For Bolivia, they report welfare gains from increased electricity access for all but the top income deciles; the gains exceeded 100 percent for the lowest deciles despite real price increases. The price of electricity increased in Nicaragua, but the welfare loss to households that already had access was less than one percent of their per capita expenditure, because the budget share allocated to electricity is typically low. On the other hand, the value of gaining access to electricity was positive and of a larger magnitude for lower income deciles who had relatively less access before privatization. The net positive impact of electricity privatization for these low-income groups reached nearly 16 percent of per capita expenditure.

So far, the paper has provided evidence that counters most of the criticisms of privatization. What remains unaddressed, however, is how to make sense of the cases of privatization failures pointed out by several authors.[82] It will always be possible to find instances of failed privatizations, but analysts should not distort this information and turn it into an argument against privatization itself. The overwhelming evidence showing that it can be done right suggests that we should look for the reasons why it failed in certain instances. In the next two sections, we argue that many of these failures have two roots: the role of politicians in the privatization process, which may lead to corruption, renegotiation, and opportunistic behavior, and the lack of an appropriate postprivatization regulatory and corporate governance framework that sets the boundaries for nonabusive corporate behavior and facilitates investment.

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81. McKenzie and Mookherjee (2003).
82. See Bayliss (2002) and Birdsall and Nellis (2002) for reviews.

## What Is the Best Approach for Selling? Concerns about the Privatization Process

Privatization requires heavy government involvement because the politicians involved are frequently setting up the method and running the process through which they end up either selling their own firms or firing themselves or their friends.[83] Looking at the privatization process in this light shows the relevance of understanding the impact of the process's characteristics and the opportunities for corruption they may provide. Privatization may be the last chance for politicians to appropriate cash flows or deliver favors that further their political objectives. The role of politicians in privatization is central in three areas: the method of privatization chosen, the restructuring of firms before they are sold off, and the types of contracts written.

### The Method of Privatization

The way the privatization process is carried out is of utmost importance. A successful program can increase social welfare and bring about efficiency gains across the board, while a botched process may create opportunities for inefficiency and corruption. In Argentina, as in other countries, an obscure bidding process raised suspicions of corruption and political favoritism. When governments fail to ensure a crystal clear process, the perception of corruption can breed unease among the public and may lead to a backlash against privatization. In principle, a clear and homogeneous privatization process should be established from the start, and special emphasis should be placed on making the auction results as transparent as possible. In reality, however, only a handful of countries have followed this path. Many fail to establish clear guidelines because their privatization programs were originally planned as small affairs or because they lack the necessary skills to do so. Alternatively, politicians may have strong incentives to create obscure and arbitrary privatization mechanisms that allow them to extract high rents for themselves or their constituencies. To empirically analyze the validity of such claims, one could use systematic

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83. Perotti (1995); Biais and Perotti (2002); Bortolotti, Fantini, and Scarpa (2001); Earle and Gehlbach (2003).

evidence of the impact of the privatization process on sale prices and on subsequent firm performance. This is difficult, though not impossible.

The existing empirical literature has taken two approaches to address these issues. The first approach is to use cross-country comparisons. Chong and Riaño, for example, analyze 285 privatizations in industrialized and developing countries and find a positive relationship between bureaucratic quality, lack of corruption, and privatization prices.[84] Their results show that when they control for macroeconomic conditions and firm characteristics, a one-point increase in their ten-point index of bureaucratic quality is associated with a 10.2 percent increase in the price paid per dollar of assets in privatizations, while a similar increase in the ten-point lack-of-corruption index results in a 9.6 percent rise in the price paid per dollar of assets. Bortolotti, Fantini, and Scarpa, who analyze data for forty-nine countries, conclude that strong legal institutions and adequately developed capital markets substantially contribute to successful privatizations.[85] Finally, Chong and Sánchez provide data for infrastructure privatization contracts in Brazil, Chile, Colombia, and Peru to show that establishing a clear and transparent contractual arrangement helped achieve the privatization objectives set out by these governments.[86] These results together suggest that the success or failure of privatization programs is influenced by the honesty and efficiency of the government and by the simplicity and transparency of contractual agreements.

The second approach to analyzing the impact of the method of privatization is to use within-country data. López-de-Silanes for Mexico and Arin and Okten for Turkey are able to control for potentially omitted variables and therefore provide a full analysis of the impact of several restructuring measures and privatization mechanisms on the net price of state-owned enterprises.[87] The case of Mexico is a good illustration of the

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84. Chong and Riaño (2003).
85. Bortolotti, Fantini, and Scarpa (2001).
86. Chong and Sánchez (2003).
87. López-de-Silanes (1997); Arin and Okten (2002). The net price in these studies is defined as the net privatization price (after the costs of privatization and restructuring are deducted) divided by the dollar value of the firms' assets. The benefit of focusing on this measure is that it provides a useful framework for comparing across firms and gives a benchmark against which to think about the relative price of other privatization goals pursued by the government. Privatization programs are typically designed with the aim of pursuing revenue generation, to get out of a fiscal crisis, or to serve redistributive purposes. For Mexico, Peru, Brazil, and Colombia, the price paid was a crucial motivation in selecting

impact of specific differences in the privatization process, since the program lasted over a decade and was executed by different administrations. An additional benefit of this sample is that although the general method of first-price sealed-bid auction was the rule throughout the period, certain firms were privatized with specific requirements that provide useful variations to analyze. Between 1982 and 1988, privatization was not conducted as a centralized program, but rather each ministry was allowed to sell enterprises in its realms of operations. This resulted in a plethora of requirements for bidders and methods of payment. The administration that took power in 1988 established a centralized privatization office and developed a homogeneous process, which improved transparency by mandating public disclosure of the bidding stages through the press. Econometric estimations show that, once the analyst controls for macroeconomic and firm-level characteristics, firms privatized under the second period sold at a premium of about 15 percent.[88] The gains in efficiency owing to improved coordination and the presumably reduced room for corruption and political meddling have a clear mapping in the price received for enterprises sold.

Econometric work with firm-level data from Mexico also shows that different auction requirements make a substantial difference in the net price received by the government for state-owned enterprises. Firms sold under restrictions banning foreign bidders, requiring a prequalification stage, or asking for cash-only payments had significantly lower prices per dollar of assets sold. Such requirements thus have an effect that is independent of the fact that they reduce competition in the auction: this evidence suggests that idiosyncratic and arbitrary privatization processes come at a direct cost to the government in terms of the price paid for state-owned enterprises.

The speed at which each privatization takes place may also have an impact on net prices raised. The theoretical literature is split between the benefits and costs of a short process. While rushing a sale carries potential

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winners for almost all privatized state-owned enterprises (López-de-Silanes, 1997; Torero, 2004; Anuatti-Neto and others, 2004; Pombo and Ramírez, 2004). Furthermore, economists generally endorse the goal of maximizing revenues. Bolton and Roland (1992) show that a policy of maximizing net sales revenue is likely to be consistent with a policy of maximizing social welfare since the proceeds from the sale can be used to subsidize employment, investment, a social safety net, and other public goods.

88. López-de-Silanes (1997).

costs such as not attracting enough bidders or not having enough time to set up an appropriate regulatory framework, the advocates of a speedy process point to the benefits of quickly disposing of money-losing firms and avoiding costly restructuring.[89] The recent literature addresses this issue by measuring the impact of the length of the privatization process on the price paid for the specific state-owned enterprise. Some believe that a lengthy privatization process should come at no cost, either because managers' concern for their reputation will lead them to run the firm efficiently or because the announcement of privatization may improve stakeholders' incentives and thus boost company performance.[90] On the other hand, to the extent that the privatization process is similar to the situation of a firm in financial distress, the privatization announcement may be followed by a deterioration of incentives and performance.[91]

Within-country firm-level panel data are ideally set up for resolving this dispute. Evidence from Mexico and Turkey shows that after one controls for firm and industry characteristics, lengthy privatization processes come at a substantial cost to the government. The announcement of privatization in these countries brought a considerable deterioration in performance, which is probably due to the collapse of managers' incentives and to the performance of disgruntled workers who see their futures as highly uncertain.[92]

### Restructuring Firms before Privatization

Government restructuring of state-owned enterprises prior to their sale is an issue that is likely to be fraught with political difficulties given that this is probably the last chance for government officials to extract benefits. As with other policies, restructuring programs can be defended rationally on grounds that it may increase revenues from the sale or ensure that firms are sent out to the market in the best conditions to minimize layoffs and secure their survival.[93] As a result, there is great ambivalence about the optimal policy approach toward restructuring prior to privatization.

89. Coes (1998).
90. Bolton and Roland (1992); Caves (1990).
91. Altman (1984); Wruck (1990).
92. López-de-Silanes (1997); Arin and Okten (2002). The evidence for the case of Turkey should be regarded as tentative since the lack of data has thus far prevented a robust instrumental variables analysis for this country.
93. Nellis and Kikeri (1989); Kikeri, Nellis, and Shirley (1992); Kikeri (1999).

López-de-Silanes summarizes the theoretical arguments for and against various measures of prior restructuring and suggests that the issue should be resolved empirically.[94] This is not a straightforward proposition, however, even with firm-level data. Restructuring measures are not undertaken randomly, but are selectively targeted to firms that need them most. We would expect the government to absorb debt of highly indebted state-owned enterprises, to fire workers when firms face serious overemployment, and to invest in new machinery when production processes are outdated. If the endogenous nature of these measures is not considered, we run the risk of reaching the wrong conclusions because regression coefficients would capture not only the effect of the restructuring measure, but also the negative effects of being in distress or having a bloated workforce.

Available empirical evidence strongly suggests that restructuring policies do not lead to better net prices per dollar of assets sold. For the case of Mexico, López-de-Silanes shows that, after he controls for endogeneity, the optimal policy seems to be to refrain as much as possible from engaging in the restructuring of state-owned enterprises.[95] Some of the most popular measures, such as debt absorption, do not increase net prices, while measures such as the establishment of investment and efficiency programs actually reduce net prices. These facts may be the result of politicians themselves carrying out the restructuring programs and emphasizing their political preferences when deciding what to invest in and what to do with existing infrastructure. It is disingenuous to think that the government can satisfy the desires of the new owners better that they could themselves. In Mexico's case, a few changes to the privatization mechanism could have yielded large benefits: an emphasis on speed, firing the chief executive officer before privatization, and refraining from costly restructuring measures would have increased net prices by 135 percent. A similar study by Chong and Galdo analyzes a cross-country sample of telecommunications firms that were privatized between 1985 and 2000; the authors' ordinary least squares (OLS) and instrumental variables regressions yield no evidence that streamlining before privatization is linked to higher net prices.[96] Finally, evidence from Turkey also supports the conclusion that restructuring measures are either useless or counterproductive in raising net prices.[97]

94. López-de-Silanes (1997).
95. López-de-Silanes (1997).
96. Chong and Galdo (2004).
97. Arin and Okten (2002).

One of the most sensitive topics in the area of firm restructuring prior to privatization is that of labor force retrenchment. To analyze the impact of such retrenchment policies beyond their effects on privatization prices, we construct (in an earlier paper) a worldwide privatization database containing detailed preprivatization firm and labor force characteristics, labor restructuring measures undertaken by the government, and information on postprivatization labor rehiring policies, among other things.[98] Table 4 shows that despite heavy unionization rates, most governments around the world downsize the labor force of state-owned enterprises before privatization. Labor retrenchment occurred in 78 percent of the sample, while only 33 percent of all firms experienced voluntary downsizing programs. Employment guarantees were established as part of privatization in 28 percent of the cases, while pay cuts before privatization were very infrequent (7.5 percent). Asia is the only region of the world with a significantly lower frequency of labor downsizing before privatization. Governments in Latin America deviated little from this pattern; the only notable exception is the low frequency of employment guarantees, which were only used in 8 percent of all firms privatized in the region. Table 4 also shows that Latin American state-owned enterprises were heavily unionized and active: two-thirds of state-owned enterprises privatized in the region experienced labor strikes in the three years before privatization.

Following our earlier methodology, we ran OLS and instrumental variables regressions for the ninety-four state-owned enterprises privatized in Latin America to test whether labor restructuring policies in this region translated into higher net prices per dollar of firm sales.[99] The first column of table 5 shows the OLS results, which suggest that labor downsizing before privatization has a significant negative impact equivalent to 28 percent of the average net price per dollar of sales. The instrumental variables results in column 2 show that once we control for endogeneity, the coefficient drops essentially to zero and loses all signifi-

98. Chong and López-de-Silanes (2003).

99. Chong and López-de-Silanes (2003). The net price is calculated as the cash that accrues to the government after all privatization and restructuring costs are taken into account. This number is adjusted by the percentage of the firm's shares sold and divided by the average of net sales during the three years prior to privatization The sample for Latin America includes firms in the following countries: Argentina, Barbados, Belize, Bolivia, Brazil, Chile, Colombia, the Dominican Republic, El Salvador, Grenada, Guatemala, Guyana, Jamaica, Mexico, Panama, Peru, Saint Vincent and the Grenadines, Puerto Rico, St. Kitts and Nevis, Trinidad and Tobago, and Venezuela.

**T A B L E  4 .   Labor Restructuring before Privatization, by Region[a]**
Percent

| | Latin America | Asia | Africa and Middle East | Developed countries | Transition economies | All |
|---|---|---|---|---|---|---|
| Number of firms | 101 | 24 | 64 | 77 | 42 | 308 |
| *Unionization and strikes before privatization* | | | | | | |
| Firms with | | | | | | |
|    Unions before privatization | 92.1 | 58.3 | 81.2 | 83.1 | 88.1 | 84.4 |
|    Strikes before privatization | 66.3 | 29.2 | 45.3 | 29.8 | 47.6 | 47.4 |
| *Type of restructuring measure before privatization* | | | | | | |
| Downsizing | 82.2 | 58.3 | 79.7 | 79.2 | 76.2 | 78.2 |
| Voluntary downsizing | 32.5 | 12.5 | 45.3 | 28.6 | 14.3 | 32.5 |
| Employment guarantee | 8.4 | 20.1 | 51.6 | 13 | 52.4 | 28.2 |
| Pay cut | 8.9 | 0 | 1.6 | 13 | 7.1 | 7.5 |

Source:  Chong and López-de-Silanes (2003).

a. The table shows the number of firms included for each region, the regularity of unions and strikes, and the frequency of restructuring measures undertaken before privatization. The variables are defined as follows: (1) firms with unions before privatization is the percentage of privatized state-owned enterprise that had a union up to three years before privatization; (2) firms with strikes before privatization is of state-owned enterprises that suffered any kind of protest such as picketing or strikes during the three years before privatization; (3) downsizing is a dummy variable equal to 1 if the firm undertook any downsizing of the labor force up to three years before privatization and 0 otherwise; downsizing may be classified as voluntary or compulsory, and may be neutral (no particular group targeted) or targeted according to age (age-biased downsizing), skills (skill-biased downsizing), or gender (female-biased downsizing); (4) voluntary downsizing is a dummy variable equal to 1 if the state-owned enterprise reduced its labor force in an exclusively noncoercive manner during the three years before privatization and 0 otherwise; the most common methods of voluntary downsizing are incentive-based measures such as severance packages and pension enhancements; (5) employment guarantee is a dummy variable equal to 1 if the state-owned enterprise made any promise regarding the employment status of workers during the three years before privatization and 0 otherwise; (6) pay cut is a dummy variable equal to 1 if there were any reductions in the salary or wage of workers during the three years before privatization and 0 otherwise.

cance.[100] The results for Latin America reflect those for other regions: labor downsizing before privatization is not priced by the buyers. From the point of view of increased government revenues, if a state-owned enterprise is overstaffed, it is probably best for governments to wait and let the new owners make the decisions after they buy the firm.

100. We apply a two-step instrumental variables approach by estimating a nonlinear reduced-form equation that describes the probability that a particular labor restructuring policy will be implemented. The instruments used are classified in two groups: firm-level and macroeconomic-level determinants. The firm-level variables included the presence of a leading agent bank, involvement of a ministry before privatization, the political affiliation of unions, and sectoral dummies. The macroeconomic variables include the average GDP growth rate and the degree of openness in the three years prior to privatization, as well as the legal origin of the country. None of these variables are statistically significant when included in the price equation. The $F$ statistic for the excluded instruments is statistically significant at 1 percent in all cases.

**TABLE 5.** **Labor Restructuring and Privatization Prices in Latin America[a]**

| Explanatory variables | OLS (1) | IV (2) | OLS (3) | IV (4) |
|---|---|---|---|---|
| *Firm and privatization characteristics* | | | | |
| Net total liabilities | 0.0176 | 0.0168 | 0.0216 | 0.0153 |
| | (0.041) | (0.043) | (0.040) | (0.042) |
| Mining | 0.3265*** | 0.3406*** | 0.2930*** | 0.3466*** |
| | (0.071) | (0.067) | (0.074) | (0.061) |
| Industry | 0.2580*** | 0.2711*** | 0.2104*** | 0.277*** |
| | (0.076) | (0.074) | (0.075) | (0.065) |
| Services | 0.4106*** | 0.4232*** | 0.3565*** | 0.4177*** |
| | (0.069) | (0.066) | (0.072) | (0.057) |
| Foreign | 0.0561* | 0.0737** | 0.0666** | 0.0856** |
| | (0.033) | (0.036) | (0.033) | (0.038) |
| *Labor characteristics* | | | | |
| Unions | −0.1592 | −0.1821 | −0.1878 | −0.1814 |
| | (0.131) | (0.149) | (0.122) | (0.143) |
| *Labor policies* | | | | |
| Downsizing | −0.1683*** | −0.0201 | | |
| | (0.044) | (0.027) | | |
| Voluntary downsizing | | | −0.1213*** | −0.0558* |
| | | | (0.038) | (0.032) |
| *Macroeconomic variable* | | | | |
| Gross domestic product | 0.0673*** | 0.0681*** | 0.0687*** | 0.0713*** |
| | (0.010) | (0.010) | (0.010) | (0.011) |
| Constant | −1.2120*** | −1.3512*** | −1.2715*** | −1.4746*** |
| | (0.334) | (0.341) | (0.311) | (0.350) |
| *Summary statistic* | | | | |
| Number of observations | 94 | 94 | 94 | 94 |
| $R^2$ | 0.47 | 0.38 | 0.53 | 0.41 |
| F statistic | 11.36 | 10.32 | 11.59 | 12.35 |
| Prob > F | 0.000 | 0.000 | 0.000 | 0.000 |

Source: Chong and López-de-Silanes (2003).

* Statistically significant at the 10 percent level; ** at the 5 percent level; *** at the 1 percent level.

a. The dependent variable is the net privatization price/sales, which is defined as the amount that accrues to the government from the sale of the state-owned enterprise after all privatization and restructuring costs are taken into account, adjusted by the percentage of company shares sold and divided by the average net sales of the state-owned enterprise during the three years prior to its privatization. The present value of the resulting number as of 2000 is used. The independent variables are defined as follows: (1) net total liabilities is a dummy variable equal to one if net total liabilities of the firm were greater than zero up to three years prior to privatization and zero otherwise; (2) dummy variables for sectors (mining, industry, and services) are equal to one if the state-owned enterprise is part of that sector and zero otherwise; (3) foreign is a dummy variable equal to one if foreign firms were allowed to bid on the sale of the state-owned enterprise and zero otherwise; (4) unions is a dummy variable equal to one if the state-owned enterprise had a union up to three years prior to privatization and zero otherwise; (5) downsizing is a dummy variable equal to one if the firm undertook any downsizing of the labor force up to three years prior to privatization and zero otherwise; downsizing may be classified as voluntary or compulsory, and may be targeted according to age (age-biased downsizing), skills (skill-biased downsizing), or gender (female-biased downsizing) or may be neutral (no particular group targeted); (6) voluntary downsizing is a dummy variable equal to one if the state-owned enterprise reduced its labor force in an exclusively noncoercive manner during the three years prior to privatization and zero otherwise; the most common methods of voluntary downsizing are incentive-based measures such as severance packages and pension enhancements; (7) gross domestic product is the log of the average GDP in the country (in U.S. dollars at purchasing power parity) during the three years prior to privatization. All regressions include firm size controls. Columns 1 and 3 provide estimates from OLS regressions, while columns 2 and 4 show the second stage of the two-step instrumental variables procedure used in order to account for the endogenous nature of the labor downsizing variables. The instrumental variables approach is carried out according to the procedure outlined in Chong and López-de-Silanes (2004b). Robust standard errors are given in parentheses.

The other two regressions in table 5 focus on the effect of labor retrenchment in the form of voluntary downsizing programs in which governments offer monetary incentives for workers to quit. Even after controlling for endogeneity, voluntary downsizing leads to a marginally significant discount in the net price paid by private buyers. This negative effect might be explained by adverse selection, in that workers with the highest productivity or the best chances of finding alternative work are more likely to leave. Voluntary downsizing may therefore hurt firms, since it tends to result in the termination of valuable workers and the retention of less productive ones.[101] Despite the fact that voluntary separation programs are politically palatable, the findings here show that these programs may weaken firms and distort the composition of the workforce, as predicted by theoretical models.[102]

To shed further light on the "quality of firing" carried out by governments before privatization, we collected data on the hiring policies of state-owned enterprises after privatization.[103] While hiring new workers probably responds to the legitimate business needs of privatized firms, rehiring previously fired workers could mean that the downsizing programs before privatization went too far. After all, why else would a firm rehire a worker who was deemed expendable a relatively short time before? Figure 10 shows that close to 45 percent of all firms that underwent labor retrenchment programs in the three years prior to privatization hired back some of the fired workers after privatization. Across countries, only 10 percent of firms with government-run retrenchment programs ended up hiring back some of those workers to their previous positions within eighteen months after privatization. Latin America is the region with the highest percentage of firms rehiring workers (53 percent) and rehiring to the same jobs that they had previously held (20 percent).

Table 6 analyzes the determinants of the probability that the privatized state-owned firm with labor retrenchment programs before privatization would hire new workers (new hires) or old workers previously fired by the government (rehires). Results show that the existence of a voluntary downsizing program before privatization does not predict a higher probability of firms hiring new workers after privatization (column 1), but it increases by

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101. Fallick (1996); Rama (1999).
102. Kahn (1985); Diwan (1994); Jeon and Laffont (1999).
103. Chong and López-de-Silanes (2003).

**FIGURE 10.** **Rehiring after Privatization, by Region**[a]
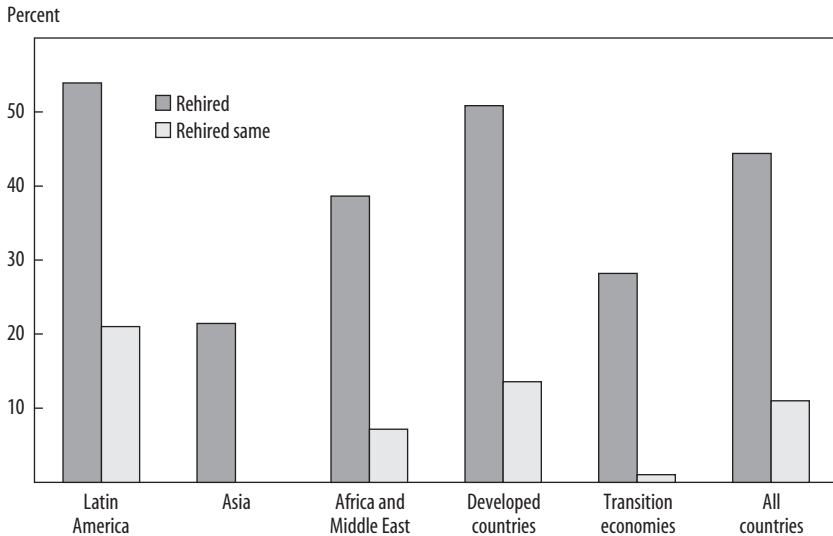
Percent



Source: Chong and López-de-Silanes (2003).

a. The figure presents the percentage of privatized firms that rehired workers after privatization in each geographic region. Variables are defined as follows: rehired is a dummy variable equal to one if the privatized firm rehired previously fired workers up to eighteen months after privatization, and zero otherwise; rehired same is a dummy variable equal to one if the privatized firm rehired previously fired workers and places them in the same department from which they were fired up to eighteen months after privatization, and zero otherwise. Previously fired workers are those who were terminated during the three years prior to privatization.

34 percentage points the probability that the private buyer will rehire some of the workers who were previously fired by the government.[104]

The hiring behavior of firms in the postprivatization period says a great deal about the quality of the firing process and provides further evidence against the wisdom of government restructuring before privatization. Based on the evidence in this section, governments should think hard before restructuring the workforce of state-owned enterprises intended for privatization. The political costs are high, the impact on net prices is low, and the firm could end up losing some of its most valuable employees.

104. Regressions control for labor rigidities coming from the collective relations laws from each country, as the incidence of rehires after privatization could also reflect the firing costs and rigidities of the labor market.

**T A B L E  6 .    Rehires and New Hires in Privatized Firms in Latin America[a]**

| Explanatory variable | Probit (1) | dF/dX | Probit (2) | dF/dX |
|---|---|---|---|---|
| Voluntary downsizing | 0.6035 (0.3835) | [0.1600] | 0.9004** (0.3826) | [0.3370] |
| Strikes | 0.6026 (0.4310) | [0.1408] | 1.0382** (0.4230) | [0.3961] |
| Foreign participation | −0.3092 (0.4074) | [−0.0852] | −0.2469 (0.3879) | [−0.0943] |
| Collective relations laws | −0.2898 (0.4835) | [−0.0767] | −0.8634* (0.5221) | [−0.3340] |
| Constant | 0.1453 (4.2973) | | −10.1961** (4.3490) | |
| *Summary statistic* | | | | |
| Number of observations | 76 | | 76 | |
| Log likelihood | −29.49 | | −33.99 | |
| Wald chi-squared | 6.58 | | 13.60 | |

Source:  Data collected by the authors; Botero and others (2003); Chong and López-de-Silanes (2003).

* Statistically significant at the 10 percent level; ** at the 5 percent level.

a.  The dependent variable in the first regression is new hires, which is a dummy variable equal to one if the privatized firm hired new workers up to eighteen months after privatization, and zero otherwise; in the second regression, it is rehires, which is a dummy variable equal to one if the privatized firm rehired previously fired workers up to eighteen months after privatization, and zero otherwise. The independent variables are defined as follows: (1) voluntary downsizing is a dummy variable equal to one if the state-owned enterprise cut its labor force in an exclusively noncoercive manner during the three years prior to privatization, and zero otherwise; the most common methods of voluntary downsizing are incentive-based measures such as severance packages and pension enhancements; (2) strikes is a dummy variable equal to one if there were any protests, picketing, or strikes up to three years prior to privatization, and zero otherwise; (3) foreign participation is a dummy variable equal to one if foreign firms were allowed to bid for the state-owned enterprise, and zero otherwise; (4) the collective relations laws index ranges from 0 to 3 and measures the level of protection granted to workers by labor and employment laws (higher values of the index represent more stringent laws regarding worker protection); it measures the areas of collective bargaining, worker participation in management, and collective disputes. All regressions include a partial privatization dummy, sectoral dummies, and country macroeconomic controls. Standard errors and marginal effects are given in parentheses and brackets, respectively.

## Type of Privatization Contract

The type of privatization contract written is another potential area that may leave room for opportunistic behavior from politicians and private buyers. The simplest contracts are straightforward outright sales of assets in which the government disconnects itself completely from the operational future of the privatized firm. Other types of contracts may actually lead to a perverse relationship between the privatized firm and the state as managers and bureaucrats collude to serve their interests at the expense of consumers and taxpayers. These contracts could take the form of the provision of services, the construction of infrastructure projects, or the establishment of joint ventures between private companies and the government.

The common element in all of these cases is that the umbilical cord between the government and the firm has not been severed, leaving ample room for a complex set of problems. Shleifer and Vishny develop a theoretical model to help understand the incentives faced by firms in instances of partial privatization.[105] When privatized firms depend significantly on the state, they may not restructure as expected because it is easier for them to extract rents from the government than to undergo painful reforms. Politicians, on the other hand, have incentives to keep them afloat by subsidizing them and shielding them from competition. These arrangements persist because they are beneficial for both parties, although they reduce social welfare. As Bayliss points out, water privatization programs in Guinea and Côte d'Ivoire are examples of poor deals in which the private sector was able to make substantial profits controlling the distribution and fee collection of the service, while the government spent resources maintaining the infrastructure.[106]

To find a solution to the complications that these relationships generate, Engel, Fischer, and Galetovic analyze the Chilean infrastructure concessions of the 1990s and note that franchising programs can provide a better alternative to the traditional approach of full state financing for infrastructure projects, particularly for governments that are financially and politically constrained.[107] The regulatory framework, however, must be effective if governments are to reap the potential benefits of franchising and avoid falling into hold-up problems in which firms underbid to get the contracts but then threaten with bankruptcy if a renegotiation is not granted.

Guasch provides empirical evidence that renegotiations in concessions are fairly common.[108] He analyzes over 1,000 concessions granted in Latin American countries during the 1990s and finds that over 60 percent of them were substantially renegotiated within three years. Infrastructure projects are usually very risky because of the difficulty inherent in forecasting demand. Firms therefore press for income guarantees and other explicit or implicit insurance mechanisms that end up costing the government too much. It may occasionally be in a country's best interest to give

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105. Shleifer and Vishny (1994).
106. Bayliss (2002).
107. Engel, Fischer, and Galetovic (1999, 2001).
108. Guasch (2001).

out these guarantees, but they should be explicit and transparent and they should ideally be made in exchange for a fee.[109]

In all of these situations, the solution should also include very clear disclosure and monitoring mechanisms to avoid related party transactions at unfair terms. Such transactions may end up bankrupting the joint venture or the asset that the government has an interest in keeping afloat to the benefit of the private corporation, as happened in the case of highways and commercial banks in Chile and Mexico.[110] These are not easy issues to solve, and many of the failures of privatization can be linked to perverse incentives provided by misguided privatization concession contracts.

The evidence in this section can be understood from a political economy perspective. Privatization involves politicians with incentives and objectives. Therefore, the design of the privatization process, the contracts ultimately written, the restrictions attached to the sale of state-owned enterprises, and the restructuring measures adopted before privatization should be understood as opportunities for politicians to extract rents and hand out favors. This perspective helps rationalize instances in which corruption in privatization leads to disastrous results. The policy lesson is clear: a transparent and expeditious privatization process leaves less room for corruption and collusion among politicians and businessmen who may try to benefit from opaqueness. One must also consider the time needed to set up an effective privatizing agency and build the regulatory framework that should be in place before state-owned enterprises with market power are sold. We turn to this topic in the next section.

## Complementary Policies: Reregulation and Corporate Governance

The previous section analyzed some of the main privatization failures emerging from policies or decisions taken before or at the time of privatization. In this section, we turn to the impact of the regulatory and institutional framework after privatization. Privatization should not be looked at in isolation. Its success is likely to depend on at least two sets of complementary policies. The first is deregulation and reregulation of sectors with

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109. Engel, Fischer, and Galetovic (2003).
110. Ramírez (1998); La Porta, López-de-Silanes, and Zamarripa (2003); Johnson and others (2000).

market power or in which government ownership represented a substantial percentage of total assets prior to privatization. The second is the establishment of a set of institutions that promote good corporate governance, which facilitates access to capital and allows recently privatized firms to finance their growth without dependence on the state. Many privatization failures can be explained by a lack of careful consideration of these two complementary sets of policies.

### Privatization, Reregulation, and Deregulation

An appropriate regulatory framework after privatization is a key component of the success or failure of the program, particularly in utilities and services. A common element across many failed examples of privatization is inadequate regulation leading to suboptimal levels of competition or allowing producers to keep the gains from privatization without sharing them with consumers.[111] The classic position of critics is to turn this into an argument against further privatization. However, the ample empirical evidence surveyed here shows that privatization can be done correctly and can lead to social gains. This should be enough to discard a simplistic interpretation of cases of failures.

Regulation should be carefully revised in conjunction with privatization in two prominent situations: industries characterized as natural monopolies or by the presence of an oligopolistic market and industries in which the government owns most of the assets in the industry even if no individual firm has substantial market power. Sectors with heavy state presence tend to be protected by a web of regulations originally instituted to cut the losses of state-owned firms and reduce fiscal deficits. In some of these cases, the necessary regulatory effort can be best understood as deregulation to eliminate protective structures that shield companies from competition and allow privatized firms to make extraordinary gains at the cost of consumers. As explained in both the early and more recent literature, competition and deregulation should be carefully considered in privatization.[112] Winston argues that deregulation has the power to produce efficiency improvements, which can benefit consumers and producers.[113] There is no reason to believe that deregulation should lead to different out-

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111. Megginson and Netter (2001); Boubakri and Cosset (1999).
112. Yarrow (1986); Allen and Gale (2000).
113. Winston (1993).

comes in the case of privatization of overprotected industries.[114] In sectors with oligopolistic power, the deregulation effort needs to be complemented by a reregulation that clearly establishes a new package of rules and disclosures that will enhance supervision and reduce abuse of market power.

Reregulation of oligopolistic sectors is complicated because of weaknesses in regulatory governance. As Fischer and Serra explain, regulators are often subject to pressures from populist politicians and industry lobbyists, and their low salaries make then susceptible to capture.[115] Moreover, regulatory systems often operate within the context of an inefficient and perhaps even corrupt judicial system.

Deregulation complements privatization in two ways.[116] First, product market competition provides a tool for weeding out the least efficient firms. This process may take too long—or not work at all—if regulation inhibits new entry or makes exit costly. Wallsten undertakes an econometric analysis of the effects of telecommunications privatization and regulation in a panel of thirty countries in Latin America and Africa.[117] His results show that competition from mobile operators and privatization combined with the existence of a separate regulator are significantly associated with increases in labor efficiency, mainlines per capita, and connection capacity. A casual interpretation of his results suggests that privatization of oligopolistic industries without concurrent reforms may not necessarily improve welfare.

Second, deregulation may also complement privatization by raising the cost of political intervention. Whereas an inefficient monopoly can squander its rents without endangering its existence, an inefficient firm in a competitive industry would have to receive a subsidy to stay afloat. The introduction of competition forces politicians to pay firms directly to engage in politically motivated actions, whereas previously the costs of these measures were absorbed by a state-owned firm that did not have to worry about market performance. In fact, competition is often restricted precisely because it raises the costs of political influence. Colombia and

114. For the case of Mexico, La Porta and López-de-Silanes (1999) find that deregulation—particularly the removal of price or quantity controls and trade barriers—is linked to faster convergence of privatized firms to industry benchmarks.
115. Fischer and Serra (2002).
116. La Porta and López-de-Silanes (1999).
117. Wallsten (2001).

Mexico provide good examples of deregulatory policy actions that, when coupled with privatization, can be used as a lever to transform the economic landscape and reduce political interference in the economy. In the early 1990s, Colombia began an economic openness program through the promotion of market competition and deregulation. As Pombo and Ramírez describe, privatization was perceived as an instrument for economic deregulation and the promotion of market competition.[118] A decade earlier, Mexico started to transform its previously closed economy characterized by capital controls, price regulation, restrictions on foreign direct investment, high tariffs, import quotas, and a large state-owned public sector. As in the case of Colombia, privatization coupled with deregulation played a key role in the drive to restructure the economy and help privatized state-owned enterprises catch up to their private peers.[119]

Generally speaking, reregulation or deregulation can take place at three different moments: before privatization, at the time of privatization, or after the state-owned enterprise has been sold. The literature emphasizes the importance of having efficient regulation at an early stage. Reregulation or deregulating before privatization of the industry may increase the pace of divestiture and help sell companies at a higher price if it reduces regulatory risk.[120] Wallsten finds that countries that established a separate regulatory authority in telecommunications prior to privatization not only benefited from increased telecommunications investment and telephone penetration, but also gained from investors' willingness to pay more for the telecommunications firms.[121] Establishing effective preprivatization regulation is not easy, however, for at least three reasons. First, changes to the regulatory regime prior to privatization are likely to lower the profits of state-owned enterprises, which translates into higher financial needs for the government at a very difficult time. Second, the political will for a true regulatory reform might not materialize without the pressure of imminent privatization. Finally, governments with little experience in privatization often find it difficult to carry out an effective preprivatization regulatory reform.

Deregulation and reregulation at the time of privatization solves the first two problems and reduces regulatory risk discounts. As long as a suit-

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118. Pombo and Ramírez (2004).
119. La Porta and López-de-Silanes (1999).
120. See Bortolotti, Fantini, and Siniscalco (2001) for the case of the electricity sector.
121. Wallsten (2002). Chong and Galdo (2004) find similar results.

able regulatory framework is in place at or before the time of privatization, consumers and the government should benefit from the process. Chisari, Estache, and Romero use a computable general equilibrium model for Argentina to show that the gains from efficient regulation are nontrivial.[122] Their model estimates the gains from the private operation of utilities at about 0.9 percent of GDP and those of effective regulation at an additional 0.35 percent of GDP. Moreover, the distribution of the gains across income classes is driven by the effectiveness of the regulators. In short, they claim that clear reregulation is good for the poor.

Lack of regulatory capabilities at the time of privatization, coupled with a desire to maximize price at the time of the sale, has led several governments to postpone full and clear reregulation. Establishing an adequate regulatory scheme after privatization, however, may be problematic from a political economy perspective. Since the agency in charge of enforcing and regulating the contracts is often the same as or subordinated to the agency that carried out the privatization, the people involved have an incentive to implement lax enforcement to avoid exposing past mistakes. Chong and Sánchez document that for a broad number of concessions in infrastructure projects, the private sector was able to bargain and keep protective regulation after privatization because of the threat of bankruptcy, withdrawal, or desertion of future investment commitments.[123] All of these affect the reputation and credibility of privatizing politicians. According to Guasch, concession contracts in developing countries often led to renegotiations over the last fifteen years.[124] In Latin America and the Caribbean, 40 percent of all concession contracts were renegotiated just over 2.2 years after they were signed. Engel, Fischer, and Galetovic argue that opportunistic renegotiations of concessions are common because of a "privatize now, regulate later" approach.[125] Cost overruns in concessions and unclear rules governing contingencies provide private owners with the opportunity to extract economic rents from the government. Finally, attempting to substantially alter the regulatory framework after the sale is further complicated by the fact that new constituencies against reregulation are created at the time of privatization. Shareholders and managers of privatized state-owned enterprises are joined by workers

122. Chisari, Estache, and Romero (1999).
123. Chong and Sánchez (2003).
124. Guasch (2001).
125. Engel, Fischer, and Galetovic (2003).

and even consumers who could benefit from the protective regulatory status of firms.

The political economy approach explains why it is hard to bring about changes in regulation after privatization and why privatized firms are frequently able to renegotiate their contracts on more favorable terms. It is therefore advisable to push for changes in the regulatory framework at the time of privatization or earlier, if possible. Perfecting the new regulatory framework may take a lot of time, however, and this should not be used as an excuse for postponing the privatization of money-losing entities.

### Privatization and Corporate Governance

The last issue we address in this paper is the connection between the success of privatization and the establishment of an institutional framework that promotes good corporate governance. The absence of this framework increases the cost of capital and thus prevents privatized firms from undertaking the investments needed to operate in a more competitive environment. Access to alternative sources of finance at a low cost allows firms to survive and grow without state help.

The development and appropriate functioning of stock and credit markets needs a solid regulatory framework that promotes investor protection and disclosure. Recent research shows a strong link between firms' access to capital and efficiently enforced laws.[126] In countries where large numbers of firms have been sent out to the private market and deregulation has increased competition and lowered trade barriers, there is an urgent need for institutions that can efficiently channel resources to the new private sector. The old laws and institutions might have been efficient in covering the needs of state-owned enterprises, but private enterprises and privatized firms require different services and stand to benefit from the development of deep stock and credit markets. Ariyo and Jerome argue that the absence of developed capital markets and the lack of appropriate legal and judicial structures have hindered the success of privatization in Africa.[127]

Before privatization, government banks are typically used as a source of financing. Yet in most privatization programs, the banking sector is one

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126. La Porta and others (1997, 1998, 2000b, 2002); La Porta, López-de-Silanes, and Shleifer (2003).
127. Ariyo and Jerome (1999).

of those turned over to private hands. If financing for privatized state-owned enterprises is expected to come from privatized banks—or from any other private credit institution—then creditor rights, embedded in bankruptcy laws, and the efficiency of courts must be strengthened and streamlined. Without proper bankruptcy procedures that allow for the expedient recovery of assets, financial institutions will be reluctant to lend in fear of potential losses, and they may end up failing to satisfy the financial needs of the private sector. The banking system itself is rendered more vulnerable to crises without effective creditor rights, since it loses its ability to repossess collateral expediently.[128]

The development of large stock markets where firms can access long-term funds is also an important complementary measure to privatization. In some cases, governments have provided a boost to stock markets by privatizing state-owned enterprises through initial public offerings. This is not enough, however, to ensure the development of the market and its usefulness as a source of future financing for these firms. Privatization without a commitment to improve shareholder rights in corporate and securities laws will probably lead to widespread abuse and appropriation of benefits by managers or those in control, with only small gains for minority investors in the form of dividends, for example.[129] The failure to institute appropriate securities laws and effective enforcement may be responsible for many of the scandals that are now blamed on privatization in countries such as the Czech Republic.[130] An additional benefit of corporate governance reform is that the improvement in disclosures and accounting standards facilitates the work of regulators. As Carey and others and Campos-Méndez, Trujillo, and Estache argue, postprivatization regulators end up relying on standard accounting data instead of imposing specific regulatory accounting needs.[131] If this is the case, enhanced accounting standards should be of great benefit to regulators of privatized firms, particularly in the area of disclosure of related-party transactions and conflicts of interest.

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128. La Porta, López-de-Silanes, and Zamarripa (2003).
129. See La Porta and others (2000a); La Porta, López-de-Silanes, and Shleifer (2003); and López-de-Silanes (2002).
130. Dyck (2001); Glaeser, Johnson, and Shleifer (2001).
131. Carey and others (1994); Campos-Méndez, Trujillo, and Estache (2001).

The reform of corporate governance institutions through the establishment and enforcement of effective securities, corporate, and bankruptcy laws should become an essential complementary policy to prevent expropriation by controlling investors and to promote the development of stable sources of funds to which privatized firms can turn to finance their growth. Bear in mind that many financially troubled private firms became state-owned in the last fifty years as a result of the limited access to capital that pushed them to seek government financing.[132]

## Conclusions

The push for privatization and the drive to restructure the role of the state in production has lost its appeal. A strong political backlash to privatization has been brewing for some time, and public opinion and policymakers in Latin America and other regions of the world have now turned against privatization. The goal of this paper is to help set the privatization record straight by analyzing systematic evidence emerging from comprehensive studies around the world. In this quest, we benefit from a recent series of academic papers focusing on the Latin American experience. Given their extensive coverage and systematic econometric approach, these papers are able to address the series of concerns voiced against privatization.

The evidence lines up: countries that privatize benefit, and the gains are not only kept by firm owners—they are also distributed to society. These findings do not mean that failures do not occur, but rather that they are not the norm. Most instances of failure can be explained by three factors. First, opaque processes with heavy state involvement open the door to corruption and opportunistic behavior. Second, poor contract design and regulatory capture are linked to a lack of deregulation and inadequate reregulation. Third, deficient corporate governance institutions raise the cost of capital, hamper restructuring efforts, and may throw firms back into the hands of the state. The understanding of the political economy mechanisms behind the causes of failure should be used to improve privatization, not to stop it.

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132. López-de-Silanes (1994).