PUBLIC POLICY FOR THE

Privatesector

The World Bank Group June 1997

Note No. 117

The Benefits of Privatization—Evidence from Mexico

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Critics often argue that the benefits of privatization come at significant cost to society. This Note reports on a study that looks at whether this criticism is valid for Mexico's privatization program, one of the world's largest case-by-case programs. The study finds dramatic improvements in the performance of the newly privatized firms, with profits rising by 40 percent, for example. To assess the possible costs to society, the analysis focuses on the two most likely channels of such losses—higher prices as firms capitalize on market power, and layoffs and lower wages as they roll back generous labor contracts. It asks: To what extent do price increases explain better performance? Do higher profits result from the expropriation of workers? Or does the improvement reflect better incentives to perform? And a related question: Does deregulation accelerate restructuring in newly privatized firms?

TABLE 1 CHANGES IN THE PERFORMANCE OF PRIVATIZED FIRMS IN MEXICO (percent)

Indicator	Average change
Profitability	40
Costs per unit	–18
Output	42
Employment	– 20
Wages	
Blue collar	120
White collar	78

Note: These are industry-adjusted results using as a benchmark private firms in the same industry and listed on the Mexican stock exchange.
Source: Authors' calculations based on data from the Mexican Ministry of Finance and Public Credit and the Mexican National Statistics Institute.

The Mexican program and the data

Before the 1982 debt crisis in Mexico, the government had been actively involved in the economy through state enterprises set up to meet multiple goals: infrastructure improvement, import substitution, regional development, and job creation. In 1982, there were nearly 1,200 state enterprises, in almost every sector of the economy. They received subsidies and transfers equal to 12.7 percent of GDP, produced 14 percent of national output, employed 4.4 percent of the labor force, and accounted for 38 percent of fixed capital investment.

The government began to unravel the state sector in 1983. First the number of state enterprises was cut, largely through mergers and liquidations. The privatization program began in earnest in 1985—although 96 percent of assets were not sold until 1988–92. By June 1992, 361 firms had been sold. Data are available for 218 of these firms. For each one, the study calculates the changes in profitability, efficiency, employment, wages, investment, output, prices, and taxes paid. It measures change by comparing the indicator value in 1993 to the average value for the four years before privatization. The sample includes both privately owned and publicly traded firms—in sectors ranging from steel to airlines to food. Whenever possible, the study controls for macroeconomic and industry factors, to rule out (isolate) the effects of the rapid economic expansion and great sectoral transformations during the early 1990s in Mexico on the growth in sales and profits seen in privatized firms.

Changes in performance

Empirical analysis of the raw data shows that the profitability of firms in the sample increased significantly after privatization according to four indicators, all ratios—operating income to sales, net income to sales, operating income to fixed assets, and net income to fixed assets. The firms were highly unprofitable before privatization, with a median ratio of net income to sales of –12.97 percent. The mean change in profitability from the preprivatization average to 1993 ranges from a low of 24.1 percentage points for the ratio of operating income to sales to a high of 39.9 percentage points for the ratio of net income to sales. These sharp increases exceed those found in other empirical studies. William Megginson, Robert Nash, and Matthias van Randenborgh, for example, show that in a sample of newly private firms, the cumulative mean change in the ratio of net income to sales in the three years following privatization was 7.5 percent.[1]

Large increases in operating efficiency underpin the gains in profitability in the Mexican sample. Average costs per unit plummeted 21.49 percent, while the average ratio of sales to fixed assets rose 64.64 percent and the average sales per employee nearly doubled. The higher sales per employee had a dramatic effect on the bottom line: the average operating income per employee rose from N$1.67 to N$54.17 (new 1993 pesos). Employment cuts are a big part of the story. Privatized firms reduced the number of both white- and blue-collar employees by half. This figure probably underestimates the total layoffs, however, because the data are based on the average number of employees over only the four years before sale but employment fell steadily throughout the presale period.

In the year before privatization, on average, half the installed capacity of the firms was idle, so no large changes in investment were expected to show up in the analysis. But investment indicators show a moderate increase in the rate of capital accumulation, with the ratio of investment to sales increasing from 3 percent to 4.5 percent. Thus, privatized firms were able to increase sales despite halving their workforce and increasing their capital stock only modestly. In fact, at 54.28 percent, the growth in average output (measured by real sales) is nothing short of spectacular. Moreover, in answer to politicians' prayers, privatized firms became significant taxpayers. Slightly more than half their gains in operating income go to taxes, offsetting transfers from the rest of society that result from privatization.

Adjusted for macroeconomic and sector effects, the performance indicators tell much the same story (table 1). Growth in sales remains strong even relative to the industry norm: the mean industry-adjusted growth in sales for the sample firms was 42.39 percent. In fact, improvements in industry conditions account for only about a fifth of the average growth in sales. The key finding from the industry-adjusted ratios: in 1993, the average privatized firm had profitability very similar to that of its private sector peers despite having previously underperformed this control group by as much as 26 to 40 percentage points (depending on the benchmark ratio used). This result suggests that the big performance gains are being driven by a catch-up effect.

Turning to price data, the analysis shows that the mean increase in the firms' prices relative to the producers price index is only 4.14 percent. One way to gauge how much this price increase may have contributed to the growth in profitability is to compare the increase in the ratio of operating income to sales with the increase that would have occurred if privatized firms had increased output but left prices unchanged (in real terms). Using this method, the study finds that price increases explain about 15 percent of the change in the mean ratio of operating income to sales. Thus, the analysis so far suggests that higher markups are not a big factor in the profitability gains. But to shed more light on this, the study looks at the role of market power.

The role of market power

To assess the extent to which market power explains the success of privatized firms, the study first analyzes changes in profitability for firms grouped into competitive and noncompetitive industries. It then analyzes the behavior of product prices for a subsample of firms for which such data are available. The most interesting finding is how similar the results are for competitive and noncompetitive industries—in profitability, productivity growth (as measured by sales per employee), investment policies, and growth in sales. There is no evidence that profitability improved only for firms in noncompetitive sectors—that is, for those with market power. Nor is there evidence that firms in noncompetitive sectors raised their prices in real terms after privatization. Indeed, some results suggest that prices in noncompetitive sectors not only grew more slowly than those in competitive sectors but actually fell in real terms. In sum, the evidence so far is not consistent with the view that monopoly power is important in explaining the increased profitability of privatized firms.

The role of transfers from workers to shareholders

Can cuts in labor costs explain the large gains in profitability? Since labor costs often make up a large share of total costs, reductions in labor expenditures—through layoffs and wage cuts—could potentially be the driving force behind the large increases in profitability after privatization. The analysis shows that in fact wages increased substantially in the firms in the sample for which data are available, with the mean annual wage rising from N$14,925 in the preprivatization period to N$26,348 in 1993. Interestingly, gains were larger for blue-collar workers than for white-collar workers: the mean blue-collar wage rose from N$9,498 to N$21,977, and the mean white-collar wage from N$27,831 to N$43,368. These large increases in real wages are all the more striking given the stagnation of real wages in the overall economy during the sample period.

To estimate the savings due to layoffs, the study looks at the counterfactual question of how much lower profits would have been if all laid-off workers had been retained at their old wage. As it turns out, the savings are small relative to the layoffs, for two reasons. Wages tend to be low in Mexico, and total wages were equal to only 23.21 percent of sales in the preprivatization period. And after privatization, labor costs were spread over a much wider base, since sales increased rapidly (on average by 60 percent). The mean savings from layoffs were equal to 6.88 percent of sales in 1993, indicating that savings due to layoffs account for roughly a third of the gains in profitability.[2]

The wage increases are also consistent with the catching-up story. That is not to say that transfers from workers to shareholders do not play a part in the success of privatization. But one cannot say for sure whether workers as a group suffered as a result of privatization: the answer depends on the postprivatization wage received by laid-off workers in their new jobs and on the weight given to the income gains of workers who were not laid off.

Deregulation and restructuring

Research on the importance of regulation to privatization has focused almost exclusively on the regulation of natural monopolies and public utilities. But the telephone company is the only utility in the sample, and the study focuses instead on deregulation as a potential complement to privatization for the oligopolistic but structurally competitive industries that dominate the sample.

Like many other countries, Mexico coupled privatization with deregulation to increase the role of market forces in the economy. In 1983, the beginning of the sample period, the prices of almost all goods and services were controlled. Imports were severely restricted, with import licenses required for all but a few essential imports. Foreign direct investment was limited, with foreign majority ownership of local firms ruled out and many sectors off-limits to foreigners. During the sample period, these restrictive regulations were relaxed as a result of both an ideological shift and government efforts to join the GATT and the OECD and to enter into the North American Free Trade Agreement with the United States.

Can deregulation complement privatization, prompting newly privatized firms to restructure for increased competitiveness and thus speeding their convergence to industry benchmarks? To assess the extent of restructuring, the study first evaluates the change in the industry-adjusted performance ratios. The results confirm that by 1993 privatized firms raised their profitability to the average level in their industry. Again, this finding is consistent with the view that much of the restructuring in the postprivatization period reflects firms' efforts to catch up with their more efficient peers in the private sector. And again, there is no evidence that market power explains the large changes in profitability: all privatized firms undertook substantial restructuring, and there is no evidence that firms in noncompetitive sectors did less of it. Finally, the analysis shows that deregulation, particularly the removal of trade barriers and price and quantity controls, is associated with faster convergence to industry benchmarks.

Conclusion

The study assesses how much improved incentives contribute to the observed increases in profitability after privatization, and how much of those gains comes at the expense of the rest of the society. Losses to society as a result of privatization could in theory come from many sources. The study described in this Note focuses on what are perhaps the two most likely channels for social losses—price increases and labor and wage cuts.

The study estimates that price increases account for roughly 15 percent of the large increases in profitability that result from privatization. But these price increases do not appear to be linked to monopolistic power. Firms do not simply increase their markups following privatization. Instead, they undergo a radical restructuring process. They increase their sales quickly in the postprivatization period despite little change in their stock of fixed assets and sharp cuts in their workforce. This increased efficiency translates into large gains in profitability, and privatized firms quickly "catch up" to their private sector peers. The analysis also shows that transfers from laid-off workers to shareholders are a source of increased profitability, accounting for 33 percent of the gains in operating income. But workers who stay with the firm receive large increases in real wages, a finding that also supports the view that productivity gains are the dominant factor in postprivatization outcomes.

The study attributes to productivity gains due to better incentives the share of the growth in operating income not accounted for by higher prices and layoffs (that is, 52 percent).[3] Thus, firms' response to improved incentives to perform makes the biggest contribution to higher profits. Moreover, the analysis shows that transfers from society to the firm are partially offset by taxes, which absorb slightly more than half the gains in operating income.

And in the first empirical analysis of the importance of the interaction between privatization and deregulation, the study finds that deregulation—particularly the removal of trade barriers and price and quantity controls—is associated with faster convergence to industry benchmarks. Governments often expend much energy in restructuring firms to be privatized and designing optimal auction rules. López-de-Silanes (see Viewpoint 116) shows that these efforts often destroy value. Together, these findings support privatization policies that stress speed and promote market competition.

1. "The Privatization Dividend—A Worldwide Analysis of the Financial and Operating Performance of Newly Privatized Firms" (Viewpoint 68, February 1996).
2. Because data on benefits are unavailable, however, it is unclear whether the cuts were in the total wage bill or in benefits.
3. This estimate of the contribution from productivity gains may be too high if other channels for transferring value from society to privatized firms are quantitatively important.

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