

The Financial and Operating Performance of Newly Privatized Firms: Evidence from Developing Countries

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ABSTRACT

This paper examines the change in the financial and operating performance of 79 companies from 21 developing countries that experienced full or partial privatization during the period from 1980 to 1992. We use accounting performance measures adjusted for market effects in addition to unadjusted accounting performance measures. Both unadjusted and market-adjusted results show significant increases in profitability, operating efficiency, capital investment spending, output, employment level, and dividends. We also find a decline in leverage following privatization but this change is significant only for unadjusted leverage ratios. Our results are generally robust when we partition our data into various subsamples.

PRIVATIZATION HAS TURNED INTO a major worldwide phenomenon, in both developed and developing countries. Over the last decade, privatization of state-owned enterprises (SOEs) has been occurring at an increasing rate, particularly in developing countries. The share of these countries in global privatization revenues has actually risen from 17 percent in 1990 to 22 percent in 1996 (*The Economist*, March 22, 1997). This paper examines how privatization in developing countries affects the financial and operating performance of the former SOEs. This issue is important because developed and developing countries are not equally endowed with those factors likely to influence the success of a privatization program. Indeed, the privatization efforts of most developing countries are inhibited by embryonic financial markets, a weak

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regulatory capacity, and a public sector that accounts for a large share of the GDP.¹ Moreover, many of these countries, particularly those with relatively low per capita income, lack some of the main ingredients for a successful privatization, such as competent managers, entrepreneurs, and capital (Vernon-Wortzel and Wortzel (1989)). On the other hand, some of these countries have large markets and a fast rate of economic growth, which makes the success of government divestiture more likely (Galal et al. (1994)). Analysis of the privatization phenomenon in a wide set of developing countries should allow us to determine whether privatization is beneficial in the economic environments and the institutional settings specific to these countries.

Few empirical studies have examined the privatization phenomenon in developing countries. The existing empirical literature has focused on the experience of developed countries with the notable exceptions of Galal et al. (1994) and Megginson, Nash, and van Randenborgh (1994; henceforth MNR).² In a World Bank study, Galal et al. (1994) assess the welfare gains or losses resulting from the privatization of 12 companies operating mostly in non-competitive markets and in four countries: Chile, Malaysia, Mexico, and the United Kingdom. The authors report net welfare gains in 11 of the 12 cases, finding no cases in which workers show an overall loss from privatization. However, as pointed out by the authors, their sample is small and unrepresentative of the universe of privatized firms in developing countries, and any generalization of their evidence should be avoided.

A major study by MNR compares the pre- and postprivatization financial and operating performance of 61 firms from 18 countries (12 industrialized and 6 developing) and 32 industries for the period from 1961 to 1990. The authors present strong evidence that, following privatization, their sample firms become more profitable, increase their real sales and investment spending, and improve their operating efficiency. Furthermore, these companies significantly lower their debt levels and increase dividend payments. Perhaps more surprisingly, they find that employment levels increase after privatization. Their results are generally unchanged when they partition the data into smaller subsamples. As impressive as MNR's sample of privatized firms is, it includes only a small number of firms headquartered in developing countries (from 3 to 12, depending on the financial and operating performance measure). Therefore, the sample size is too small to be considered as indicative of the actual experience of privatizations in developing countries.

¹ Although the total privatization proceeds in developing countries increased from \$2.6 billion in 1988 to \$24.5 billion in 1993, note that the percentage share of SOEs in GDP for these countries has remained constant at around 11 percent since 1978 (The World Bank, 1995).

² We limit our review of the empirical literature to these two important studies because they are not restricted to a single country. A discussion of the early empirical literature on the relative performance of state-owned versus privately owned firms appears in Boardman and Vining (1989) and Vickers and Yarrow (1991). More recent single-country studies appear in Menyah and Paudyal (1996) for the United Kingdom and in La Porta and López-de-Silanes (1997) for Mexico. Readers are also referred to Dewenter and Malatesta (1997) and Jones et al. (1996) for recent studies of the determinants of privatization initial returns.

The terms of share issue privatizations (SIPs) in developing countries have a few features that distinguish them from the terms of SIPs discussed in MNR. First, as capital markets in developing countries have limited absorptive capacity, the traditional public offering of shares is often not feasible, and private sales of SOEs thereby become the predominant method of divestiture. Second, although SIPs in developed countries are typically pure secondary sales, most SIPs in our sample are at least partially primary sales that bring capital flows into the firms. Third, gradual sales are a dominant characteristic of privatization in our sample.³ Finally, in addition to the objectives of privatization discussed by MNR, developing countries face other goals. For example, under the pressure of international agencies such as the World Bank and the IMF, privatization in developing countries is generally implemented as an integral part of a structural adjustment program, which includes measures such as liberalization of trade and payment systems. Privatization can also serve the government's objectives to control certain economically strong groups, including ethnic (Chinese Malays, Indian Africans), geographic (urban elites), and concentrated power groups (economic dynasties).

Our study builds on the previous contributions made in the area but differs in several aspects. First, we consider a large set of newly privatized firms (79) headquartered in 21 developing countries that experience full or partial privatization during the period from 1980 to 1992. The sample covers a wide range of developing countries in terms of development level and capital market sizes. Thus, according to the World Bank classification appearing in the 1987 World Development Report (based on the country level of Gross National Product per capita), our sample includes countries identified as low-income economies (Bangladesh, India, Pakistan), lower-middle-income economies (Chile, Jamaica, Nigeria, Philippines, Thailand, Tunisia, Turkey), and upper-middle-income economies (Argentina, Brazil, Greece, Malaysia, Mexico, Portugal, Singapore, South Korea, Taiwan, Trinidad and Tobago, and Venezuela). The sample also includes firms operating in competitive and noncompetitive markets. Second, in addition to companies privatized through public share issues considered by MNR, our sample also includes companies privatized through direct sales to one or several investors, and those privatized with a combination of both techniques. Direct sales accounted for the vast majority of privatizations in developing countries from 1988 to 1993, 58 percent by value and 80 percent by the number of transactions (Sader (1994)). Third, some of the differences between pre-privatization and postprivatization performance could be due to economy-wide factors. To take account of this possibility and to isolate the effect of privatization from the impact of macroeconomic changes on the financial and operating performance of SOEs, we use both raw and market-adjusted accounting performance measures.

For both unadjusted and market-adjusted accounting performance measures, we find that newly privatized firms exhibit significant increases in

³ Perotti (1995) derives a model which establishes that privatization sales should be gradual to maximize investors' confidence over government policy risk.

profitability, operating efficiency, capital investment spending, real sales, employment level, and dividends. We also note a decline in leverage following privatization but this change is significant only for unadjusted leverage ratios. Additionally, our results are generally robust when we partition our data into various subsamples. However, our evidence suggests that privatization yields greater benefits for companies operating in developing countries with high income per capita and for companies whose governments surrender voting control.

The remainder of the paper is organized as follows. Section I describes the data and the sample selection and Section II presents the methodology. In Section III, we present and discuss our results and in Section IV, we summarize our results.

I. Data and Sample Collection

We started collecting our data in the spring of 1994 by identifying newly privatized firms in developing countries. To avoid any potential bias in the generated sample, great care was taken to gather as many firms as possible so that information would not reflect only the most successful privatizations. The initial source used was the World Bank survey of privatization programs (Candoy-Sekse and Ruig Palmer (1988)). For more recent privatizations, that survey was supplemented with other publications such as the special issue of *The Columbia Journal of World Business* of Spring 1993, *World Debt Tables 1994–1995*, and studies such as those by Perotti and Guney (1993) and Sader (1993). Further sources included local governmental agencies in charge of privatization programs—for example, those of Brazil, Malaysia, Philippines, Portugal, and Turkey. Using these different sources, the initial sample numbered 203 companies from 26 developing countries.

Once we obtained the companies' addresses, we sent them a questionnaire and a request for their privatization sale prospectus as well as their pre- and postprivatization annual reports (three years before through three years after privatization). In some cases, local securities regulatory boards provided us with the privatization sale prospectuses. Answers to the questionnaires provided information on possible changes in the accounting and fiscal environments of the firm, the method of sale used, ownership structures of the firm, constraints imposed on the management of the firm after the privatization (for example, on output and employment levels and on pricing policy), and government subsidies before and after privatization. In several cases, we supplemented financial statements sent to us with data from secondary sources, namely, the Disclosure databases, Moody's International, and the Pacific Basin Capital Markets database. For Mexico, Turkey, and Venezuela we obtained the financial statements of some companies from the Bolsa Mexicana de Valores, the Istanbul Stock Exchange, and the Fondo de Inversiones de Venezuela, respectively. In some cases, we included a company by relying on secondary sources exclusively.

Of the 203 newly privatized companies, many could not be included for the following reasons: they were privatized after 1992 and no postprivatization data were available (23 companies); the pre- and postdivestment data for some companies privatized through direct sale to another company were not comparable because only consolidated financial statements were available for the postprivatization period (2 companies); data were missing for at least one year of the (-2, +2) window (68 companies); finally, failure to comply with our request for annual reports (31 companies).

Our final sample consists of 79 newly privatized firms from 21 countries that are among the most active privatizers in the developing world. Of these 79 companies, 34 answered our questionnaire. For the remaining 45 firms, we gathered as much information as possible from annual reports, prospectuses, and secondary sources. The Appendix provides the following descriptive information on these companies: the type of industry in which each firm operates, the date of government sale, the number of employees in the year of privatization, the value of each issue in U.S. dollars, and the government shareholdings before and after privatization. The sample is well diversified, exhibiting a wide geographical dispersion and different levels of country development. The firms also belong to different types of industries and market structures (competitive and noncompetitive) and vary in size.

II. Methodology

The analysis conducted in this paper seeks to determine whether the privatization of SOEs in developing countries is truly desirable and lives up to the expectations of governments and development agencies for the performance of newly privatized firms. In particular, the study tries to determine whether, following privatization, the firms increase (1) their profitability, (2) their operating efficiency, (3) their capital expenditures, and (4) their output. We also examine the impact of privatization on employment levels, capital structure, and dividend policies.

We use the same ratios as in MNR to allow a constructive comparison between their sample of mostly developed countries and our sample of developing countries. We first compute empirical proxies for each company for a seven-year period (from three years before to three years after privatization). We then compute means of each variable for the preprivatization (years -3 to -1) and postprivatization (years +1 to +3) periods. However, it is important to note that we included companies in our sample as long as we had observations from at least year -2 to year +2. Furthermore, the year of the privatization, year 0, is excluded from the analysis because it includes both the public and private ownership phases of the firm. The date of privatization is the date on which the government sold, for the first time, a certain amount of shares. We then use the two-tailed Wilcoxon signed-rank test to test for significant changes in the variables, as well as a proportion test to determine whether the proportion (p) of firms experiencing a change in a given direction is greater than what would be expected by chance, typically testing whether $p = 0.5$.

Because most of the privatizations covered in this study took place over a relatively short period of time (1989–1992), the sample firms' performance is likely to be influenced by economy-wide changes. To take account of this possibility and to isolate the effect of privatization on the financial and operating performance of SOEs from other determinants of this performance, we also use market-adjusted accounting performance measures. Firms operating in the financial and real sectors exhibit different operating and financial profiles. Consequently, for banks and insurance companies, we use a market index comprising financial corporations. For other firms, the market index consists of nonfinancial corporations. We estimate the market index for each year as the median ratio for all financial or nonfinancial firms in the country on the Disclosure databases (excluding all privatized firms, whether in our sample or not). Hence, the market-adjusted accounting performance measure of a firm is the difference between its accounting performance measure and the market median accounting performance measure of its country.⁴

III. Empirical Results

In the following sections, we present and discuss the empirical results using unadjusted performance measures for the whole sample of 79 privatized firms, and market-adjusted performance measures for the 39 privatized firms for which market-adjusted ratios could be computed (Tables I and II).⁵ At the end of each section, we also discuss the market-adjusted and unadjusted results for the following partitionings of our data. First, we determine whether the effect of privatization varies according to the prevailing market structure, since competition can greatly improve monitoring possibilities and hence incentives for productive efficiency (Vickers and Yarrow (1991)). To this end, we partition the full sample into competitive and non-competitive firms. Second, to determine whether postprivatization performance varies with the level of economic development, we partition our sample of developing countries into two subsamples: upper-middle-income countries and low-income and lower-middle-income countries. Kikeri, Nellis, and Shirley (1992) argue that a market-friendly policy framework and a relatively well-developed regulatory policy, two factors prone to favor the success of privatization, are correlated with income. Privatization in high- or middle-

⁴ We also intended to consider an industry performance benchmark. However, we were unable to perform industry adjustments for more than 13 firms, mainly because several sample firms were monopolies and only a limited number of firms from developing countries were available in the databases. Therefore, we do not report results with this alternative performance benchmark. However, our analysis of this sample of 13 firms reveals that the results with market-adjusted and industry-adjusted performance measures are similar. For a thorough study of the impact of British Airways' privatization on the airline industry, see Eckel, Eckel, and Singal (1997).

⁵ To assess possible differences in the findings across samples, Table II reports market-adjusted and unadjusted results for the "market-adjustment" sample of 39 companies. We obtain very similar unadjusted results using the entire sample of 79 companies (Table I) and the subsample of 39 companies (Table II).

income countries should therefore yield greater benefits. Third, we contrast the postdivestiture performance of totally and partially privatized firms. In this regard, Boardman and Vining (1989) argue that partial privatization may not be the best strategy for a government wishing to move away from reliance on state ownership. Fourth, we contrast the postdivestiture performance of *control privatizations*, in which governments surrender voting control, and *revenue privatizations*, in which governments sell a minority ownership stake and do not surrender voting control. Boycko, Shleifer, and Vishny's (1996) model suggests that, in order to facilitate restructuring, both cash flow rights and voting control rights should pass from governments to private hands. For each of these partitions, we examine whether each group of firms records significant changes in the values of variables following the privatization. We also verify whether the value changes for the two subsamples are significantly different.

For the sake of space, we only report the unadjusted results for the subsamples of competitive and noncompetitive firms, and privatized firms operating in upper-middle-income countries and in low-income and lower-middle-income countries (Tables III and IV). Although they are discussed in the text, we do not report the unadjusted results for the other two partitions. Furthermore, we discuss the market-adjusted results for the subsamples but we do not report them. The tables of the unreported results are available from the authors upon request.

A. Profitability

As firms move from public to private ownership, their profitability should increase. Privatization typically transfers both control rights and cash flow rights to the managers who then show a greater interest in profits and efficiency than did the politicians (Boycko et al. (1996)). We measure profitability by the return on sales (net income to sales), return on assets (net income to total assets), and return on equity ratios (net income to equity).⁶ Table I reports all three ratios, whereas the subsequent tables rely only on the return on sales ratio. We focus on this ratio because it is based on two flow measures that are less sensitive to inflation and to accounting conventions than are the two other profitability ratios.⁷

⁶ The tax figure reported on a firm's annual reports may include tax credits or carryforwards that do not pertain to the current year's performance. Therefore, we compute profitability and efficiency ratios with income before and after taxes. For the 48 companies for which we have data on both net income measures, we obtain qualitatively similar results.

⁷ In a high-inflation environment, unadjusted historical-cost information may not be meaningful (White, Sondhi, and Fried (1994)). For example, rates of return on assets may be overstated because of undervaluation of fixed assets and underprovision for depreciation. The high-inflation countries of Latin America require companies to use general price level accounting (also known as constant dollar accounting). In countries with moderate inflation rates, such as Jamaica, Nigeria, and Turkey, financial statements are partially adjusted, except for those of AIICO, a Nigerian firm. However, the results of the tests for the full sample and the subsamples excluding AIICO were unchanged.

Table I
Summary of Results for the Sample of All Privatized Firms

This table presents the unadjusted empirical results for the total sample of privatized firms. For each performance measure, it provides the mean and median values for the three-year period before and after privatization, the number of available observations, and the change in mean and median values. It also provides the Wilcoxon Z statistic for the difference in medians, the proportion of firms that performed as predicted by governments and the models discussed in the text, and a test of significance for this proportion.

Variable	Mean Before (Median)	Mean After (Median)	N	Mean Change (Median)	Z-Statistic for Difference in Medians (After-Before)	Proportion of Firms That Performed as Predicted (%)	Z Statistic for Significance of Proportion Change
<i>Profitability</i>							
Return on sales = Net income/sales	0.0493 (0.0460)	0.1098 (0.0799)	78	0.0605 (0.0181)	3.155*	62.82	2.289**
Return on assets = Net income/total assets	0.0513 (0.0241)	0.0666 (0.0550)	79	0.0152 (0.0029)	1.427***	54.43	0.791
Return on equity = Net income/equity	0.1635 (0.1283)	0.1805 (0.1348)	77	0.0170 (0.0129)	0.630	51.94	0.341
<i>Efficiency</i>							
Sales efficiency = Real sales/employees	0.9224 (0.9056)	1.1703 (1.1265)	56	0.2479 (0.2414)	4.788*	80.35	4.598*
Net income efficiency = Net income/employees	0.8055 (0.6700)	1.4362 (1.2911)	56	0.6306 (0.4365)	3.189*	69.64	2.975*

<i>Capital Investment spending</i>							
Capital expenditures/sales	0.1052 (0.0649)	0.2375 (0.1043)	48	0.1322 (0.0137)	2.277**	62.50	1.736**
Capital expenditures/total assets	0.0609 (0.0470)	0.0864 (0.0705)	48	0.0254 (0.0143)	2.308**	60.41	1.445***
<i>Output</i>							
Real sales = Nominal sales/consumer price index	0.9691 (0.9165)	1.2220 (1.1225)	78	0.2530 (0.1892)	5.192*	75.64	4.578*
<i>Employment</i>							
Number of employees	10672 (3388)	10811 (3745)	57	139 (104)	1.481***	57.89	1.195
<i>Leverage</i>							
Total debt/total assets	0.5495 (0.5575)	0.4986 (0.4789)	65	-0.0508 (-0.0162)	-2.483**	63.07	2.108**
Long-term debt/equity	1.1565 (0.4167)	0.7149 (0.3199)	62	-0.4415 (-0.0574)	-2.155**	64.51	2.303**
<i>Dividends</i>							
Dividend/sales	0.0284 (0.0089)	0.0528 (0.0305)	67	0.0244 (0.0130)	4.366*	76.11	4.280*
Dividend payout = Dividend/net income	0.3423 (0.1798)	0.4873 (0.4314)	67	0.1449 (0.1114)	2.995*	85.07	5.749*

*, **, *** Significant at the 1, 5, and 10 percent levels, respectively.

Table II
Comparison of Market-Adjusted and Unadjusted Results for the Sample of Market-Adjusted Firms

This table presents, for the sample of firms for which we could compute market-adjusted accounting performance measures, both unadjusted and adjusted results. Market-adjusted proxies are obtained by subtracting the market median empirical accounting proxy from the firm's accounting proxy in our sample. The market proxies are calculated for a sample of control firms available on the Disclosure database and which were not privatized. The table provides, for selected accounting performance measures, the mean and median values for the three-year period before and after privatization, the number of available observations, and the change in mean and median values. It also presents the Wilcoxon Z statistic for the difference in medians, the proportion of firms that performed as predicted by government and the models discussed in the text, and a test of significance for this proportion.

Variable	Mean Before (Median)	Mean After (Median)	N	Mean Change (Median)	Z-Statistic for Difference in Medians (After-Before)	Proportion of Firms That Performed As Predicted (%)	Z Statistic for Significance of Proportion Change
<i>Profitability</i>							
Return on sales = Net income/sales							
Unadjusted	0.0421 (0.0475)	0.1260 (0.1055)	38	0.0839 (0.0381)	3.241*	68.42	2.274**
Adjusted	-0.0175 (-0.0409)	0.0695 (0.0294)	38	0.0870 (0.0638)	2.951*	71.05	2.598*
<i>Efficiency</i>							
Sales efficiency = Real sales/employees							
Unadjusted	0.8126 (0.8180)	1.2570 (1.2347)	16	0.4443 (0.4234)	3.464*	93.75	3.500*
Adjusted	0.0379 (0.0825)	0.2477 (0.2475)	16	0.2097 (0.3275)	1.758**	75.00	2.000**
<i>Capital Investment spending</i>							
Capital expenditures/sales							
Unadjusted	0.1612 (0.1132)	0.5567 (0.1548)	11	0.3954 (0.0416)	1.689**	72.72	1.514***
Adjusted	0.0093 (0.0033)	0.0362 (0.0190)	11	0.0269 (0.0614)	1.333***	63.63	0.908

<i>Output</i>									
Real sales = Nominal sales/consumer price index									
Unadjusted									
		0.9651	1.2514	39	0.2863	3.656*	69.23	2.374*	
		(0.9268)	(1.1541)		(0.2146)				
Adjusted									
		-0.0204	1.1484	39	1.1688	1.828**	64.10	1.762**	
		(-0.0118)	(0.1530)		(0.1511)				
<i>Employment</i>									
Number of employees									
Unadjusted									
		11584	12185	12	601	1.412***	63.63	0.946	
		(3217)	(3685)		(149)				
Adjusted									
		8490	8851	12	361	1.568**	66.66	1.156	
		(2930)	(3431)		(154)				
<i>Leverage</i>									
Total debt/total assets									
Unadjusted									
		0.5627	0.4890	33	-0.0737	-2.188**	63.63	1.566***	
		(0.5555)	(0.4378)		(-0.0336)				
Adjusted									
		0.1080	0.0623	33	-0.0457	-1.223	60.60	1.218	
		(0.1091)	(0.0291)		(-0.0340)				
<i>Dividends</i>									
Dividend/sales									
Unadjusted									
		0.0371	0.0593	31	0.0221	2.821*	77.41	3.080*	
		(0.0116)	(0.0416)		(0.0193)				
Adjusted									
		0.0067	0.0226	31	0.0159	1.842**	67.74	1.993**	
		(-0.0119)	(0.0001)		(0.0125)				

*, **, *** Significant at the 1, 5, and 10 percent levels, respectively.

Table III
Summary of Results for the Noncompetitive versus Competitive Privatized Firms

This table presents a comparison between the unadjusted performance changes of noncompetitive privatized firms versus competitive privatized firms. It provides, for selected performance measures, the mean and median values for the three-year period before and after privatization, the number of available observations, and the change in mean and median values. It also provides the Wilcoxon Z statistic for the difference in medians, the proportion of firms that performed as predicted by governments and the models discussed in the text, and a test of significance for this proportion.

Variable	Mean Before (Median)	Mean After (Median)	N	Mean Change (Median)	Z-Statistic for Difference in Medians (After-Before)	Proportion of Firms That Performed as Predicted (%)	Z Statistic for Significance of Proportion Change
<i>Profitability</i>							
Return on Sales = Net income/sales							
Noncompetitive	0.0464 (0.0380)	0.1091 (0.0591)	37	0.0627 (0.0181)	2.278**	62.16	1.482***
Competitive	0.0519 (0.0464)	0.1104 (0.0900)	41	0.0585 (0.0193)	2.235**	63.41	1.719**
<i>Efficiency</i>							
Sales efficiency = Real sales/employees							
Noncompetitive	0.9189 (0.9348)	1.1361 (1.1135)	30	0.2171 (0.2041)	3.506*	80.00	3.296*
Competitive	0.9263 (0.8671)	1.2098 (1.1452)	26	0.2834 (0.2875)	3.314*	80.76	3.138*
<i>Capital Investment spending</i>							
Capital expenditures/sales							
Noncompetitive	0.1116 (0.0535)	0.1749 (0.0970)	26	0.0632 (0.0078)	1.231	57.69	0.784
Competitive	0.0977 (0.0723)	0.3116 (0.1093)	22	0.2138 (0.0181)	1.996**	68.18	1.715**

<i>Output</i>									
Real sales = Nominal sales/consumer price index									
Noncompetitive									
	0.9194 (0.9119)	1.1856 (1.1138)	36	0.2662 (0.1835)	3.864*	80.55	3.680*		
Competitive									
	1.0116 (0.9350)	1.2534 (1.1425)	42	0.2417 (0.1930)	3.494*	71.42	2.781*		
<i>Employment</i>									
Number of employees									
Noncompetitive									
	15757 (6534)	16080 (6282)	31	323 (94)†††	1.508***	58.06	0.905		
Competitive									
	4608 (2402)	4527 (2601)	26	-81 (117)	0.317	57.69	0.784		
<i>Leverage</i>									
Total debt/total assets									
Noncompetitive									
	0.6074 (0.6194)	0.5329 (0.4876)	23	-0.0745 (-0.0205)	-2.539*	73.91	2.299**		
Competitive									
	0.5178 (0.5540)	0.4798 (0.4538)	42	-0.0379 (-0.0117)	-1.294***	57.14	0.927		
<i>Dividends</i>									
Dividend/sales									
Noncompetitive									
	0.0265 (0.0066)	0.0542 (0.0179)	30	0.0277 (0.0126)	3.362*	80.00	3.296*		
Competitive									
	0.0299 (0.0116)	0.0516 (0.0376)	37	0.0217 (0.0130)	2.941*	72.97	2.801*		

*, **, *** Significant at the 1, 5, and 10 percent levels, respectively.

††† The difference between the value changes for the two subsamples of firms is significantly different at the 10 percent level.

Table IV
Summary of Results for the Privatized Firms in Upper-Middle-Income Countries (UMIC) versus Those Privatized in Low-Income and Lower-Middle-Income Countries (LILMIC)

This table compares the unadjusted results of privatized firms from UMIC versus those from LILMIC. Such a classification is based on the 1987 World Development Report. The table provides, for selected performance measures, the mean and median values for the three-year period before and after privatization, the number of available observations, and the change in mean and median values. It also provides the Wilcoxon Z statistic for the difference in medians, the proportion of firms that performed as predicted by governments and the models discussed in the text, and a test of significance for this proportion.

Variable	Mean Before (Median)	Mean After (Median)	N	Mean Change (Median)	Z-Statistic for Difference in Medians (After-Before)	Proportion of Firms That Performed as Predicted (%)	Z Statistic for Significance of Proportion Change
<i>Profitability</i>							
Return on Sales = Net income/sales							
UMIC	0.0196 (0.0342)	0.1079 (0.0851)	43	0.0882 (0.0247) ^{††}	3.266*	69.76	2.600*
LILMIC	0.0857 (0.0497)	0.1121 (0.0688)	35	0.0264 (0.0026)	0.868	54.28	0.509
<i>Efficiency</i>							
Sales efficiency = Real sales/employees							
UMIC	0.8520 (0.8682)	1.1779 (1.1589)	35	0.3259 (0.2716) [†]	4.684*	91.42	4.930*
LILMIC	1.0397 (0.9642)	1.1576 (1.0665)	21	0.1179 (0.1282)	1.512***	61.90	1.091
<i>Capital Investment spending</i>							
Capital expenditures/sales							
UMIC	0.1107 (0.0642)	0.2855 (0.0970)	26	0.1748 (0.0168)	1.739**	57.69	0.784
LILMIC	0.0989 (0.0649)	0.1808 (0.1105)	22	0.0820 (0.0131)	1.379***	68.18	1.715**

<i>Output</i>		Real sales = Nominal sales/consumer price index							
UMIC		0.9324 (0.9047)	1.2616 (1.1376)	43	0.3291 (0.2416) ^{††}	4.648*	81.39	4.130*	
LILMIC		1.0141 (0.9627)	1.1734 (1.0931)	35	0.1595 (0.1118)	2.473*	68.57	2.210**	
<i>Employment</i>		Number of employees							
UMIC		9073 (4645)	9205 (3965)	35	132 (94)	0.638	51.42	0.169	
LILMIC		13215 (2487)	13365 (2686)	22	150 (118)	1.834**	68.18	1.715**	
<i>Leverage</i>		Total debt/total assets							
UMIC		0.5215 (0.5112)	0.4342 (0.4181)	32	-0.0873 (-0.1301) ^{††}	-2.767*	71.87	2.485*	
LILMIC		0.5766 (0.6175)	0.5611 (0.5658)	33	-0.0155 (-0.0045)	-0.679	54.54	0.521	
<i>Dividends</i>		Dividend/sales							
UMIC		0.0201 (0.0039)	0.0385 (0.0349)	35	0.0184 (0.0185)	3.341*	77.14	3.230*	
LILMIC		0.0374 (0.0181)	0.0684 (0.0246)	32	0.0310 (0.0106)	2.758*	75.00	2.840*	

* ** *** Significant at the 1, 5, and 10 percent levels, respectively.

†, ††, ††† The difference between the value changes for the two subsamples of firms is significantly different at the 1, 5, and 10 percent levels, respectively.

Our results show significant improvements in profitability after divestiture. For example, the mean (median) unadjusted return on sales goes from 4.9 percent (4.6 percent) before privatization to 11 percent (8 percent) after privatization. This significant increase (at the 1 percent level) is achieved by 63 percent of the sample firms. As in MNR, the results are more significant for the return on sales (at the 1 percent level) and return on assets (at the 10 percent level) ratios. The increase in the market-adjusted return on sales ratio is equally significant for 71 percent of the firms.

Our subsamples of firms operating in both competitive and noncompetitive industries, of firms from upper-middle-income countries, of partially privatized firms, and of both control and revenue privatizations show a significant (at the 5 or 1 percent level) increase in return on sales following divestiture (for both unadjusted and market-adjusted ratios). For the subsamples of fully privatized firms, profitability also increases significantly at the 10 percent level for unadjusted return on sales and at the 5 percent level for the market-adjusted return on sales ratio. Only for firms from low-income and lower-middle-income countries is the increase in profitability insignificant (for both unadjusted and market-adjusted return on sales ratios).

One possible explanation for the increase in profitability is that governments "manage" reported earnings. For example, governments may have the incentive to decrease reported earnings prior to privatization in order to convince employees that privatization is the only viable solution. In this regard, as the timing of asset acquisitions and sales can affect reported earnings, our measure of net income excludes income from discontinued operations and extraordinary items. Similarly, the choice of depreciation methods can affect reported earnings. For instance, choosing accelerated depreciation instead of straight-line depreciation is income-decreasing. Consequently, we reran the tests for the 46 companies for which we had data on operating income before depreciation. We obtained qualitatively similar results.⁸

B. Operating Efficiency

Following privatization, firms should employ their human, financial, and technological resources more efficiently because of greater stress on profit goals and a reduction of government subsidies (Kikeri et al. (1992), and Boycko et al. (1996)). We measure operating efficiency with the sales efficiency (real sales per employee) and net income efficiency (net income per employee) ratios.

The sales efficiency ratio shows a significant median increase following privatization for both raw (at the 1 percent level) and market-adjusted (at the 5 percent level) performance analyses. This increase is achieved by 80 per-

⁸ However, firms might be able to manipulate their operating income by increasing their inventory and their accounts payable. Similarly, the decision of managers to tighten credit terms to decrease sales and hence accounts receivable could lead to a decrease in operating income. A preliminary analysis of inventories, accounts payable, and accounts receivable shows no evidence of manipulation of this kind.

cent and 75 percent of the sample firms, respectively. For example, unadjusted real sales per employee go from an average (median) of 92.2 percent (90.6 percent) of the year 0 level during the preprivatization period to 117 percent (112.6 percent) of the year 0 level during the postprivatization period. Unadjusted net income per employee also increases dramatically (63 percent (mean) and 43.6 percent (median)). Overall, divested firms seem to improve their operating efficiency and thus to reach the objective most frequently put forward by governments launching privatization programs. However, these improvements seem to be less significant (at the 5 percent level rather than the 1 percent level) when adjusted for market effects.

The increase in sales efficiency is also very significant for all the subsamples, except for firms operating in low-income and lower-middle-income countries, for which it is significant only at the 10 percent level. This result for privatized firms in developing countries is similar to that of privatized firms in developed countries (MNR), and suggests that divested firms utilize their resources in a more efficient way than in the past.

The results also indicate that the value changes for the partitions based on income are significantly different. First, the value changes in both profitability and efficiency are significantly larger for firms from upper-middle-income countries than for those from low-income and lower-middle-income countries at the 5 and 1 percent levels, respectively. This evidence lends support to Kikeri et al.'s (1992) argument that high-income or upper-middle-income countries should be in a better position to privatize successfully.⁹ Second, the value changes in both profitability and efficiency are significantly larger for control privatizations than for revenue privatizations at the 10 percent level. The evidence is consistent with Boycko et al.'s (1996) model, suggesting that in order to facilitate restructuring and improve performance governments should surrender voting control.

Once we adjust for market conditions, we also document an increase in the sales efficiency ratio for all of our subsamples. A high percentage of the small number of observations making up each subsample shows such an increase. For the three subsamples including at least ten observations (non-competitive industry firms, control privatizations and firms operating in upper-middle-income countries), the increase in the sales efficiency ratio is significant at conventional levels for the last two partitionings.

Many of the privatization programs in developing countries reserve a fraction of the shares issued (from 5 to 20 percent) for the firm's employees. We partition the sample into firms sponsoring (44) or not sponsoring (26) employee stock ownership plans (ESOPs) and we compare the performance of these two groups of firms. Our findings (not reported here in the interest of

⁹ Since a country with a fairly developed capital market is likely to have a market friendly framework that favors the success of privatization, we partition our sample using the median of the 1985–1990 average stock market capitalization per GDP. We find that privatization yields greater benefits for countries with a fairly developed stock market than for those with less developed stock markets.

space but available from the authors) reveal that the difference between the value changes in profitability and operating efficiency is significantly larger for the ESOP firms than for the non-ESOP firms. This is consistent with the proposition that ESOPs favor employees' support for the privatization policy and performance improvements, and is contrary to Boycko et al.'s (1996) prediction that workers make poor stockholders/monitors.

C. Capital Investment Spending

Governments expect that greater emphasis on efficiency will lead newly privatized firms to increase their capital investment spending. Once privatized, firms should increase their capital expenditures because they have greater access to private debt and equity markets (especially in fairly developed capital markets) and have more incentives to invest in growth opportunities (MNR). To estimate the degree of capital investment, we use two ratios: capital expenditures divided by sales and capital expenditures divided by total assets. We observe an increase in the capital expenditures to sales and to assets ratios after privatization, for both raw and market-adjusted data. For example, the unadjusted (market-adjusted) capital expenditures to sales ratio increases on average from 10.5 percent (0.9 percent) to 23.7 percent (3.6 percent). This increase is achieved by 62 percent (unadjusted) and 64 percent (market-adjusted) of the sample firms. MNR also document an increase in both ratios, although this increase is not significant for the capital expenditures to total assets ratio. These results seem to confirm the importance of privatization as an incentive to improve efficiency and to spend more on investment activities.

The postdivestiture increase in investment spending is equally significant, using unadjusted data, for the following: firms in competitive industries (at the 5 percent level), firms operating in upper-middle-income countries (at the 5 percent level) and in low-income and lower-middle-income countries (at the 10 percent level), fully privatized firms (at the 1 percent level), and control privatizations (at the 1 percent level). The market-adjusted ratios also show an increase in investment spending, but the number of observations for each subsample of newly privatized firms is too small to allow any strong conclusions regarding the influence of privatization on investment spending. In contrast, the increase in postprivatization investment spending for firms in noncompetitive markets is insignificant, using raw and market-adjusted data. This evidence, combined with that of MNR, suggests that, in both developing and developed countries, competitive environments spur newly privatized firms to increase capital investment spending.

D. Output

Privatization, when correctly conceived and implemented, should foster efficiency and stimulate investments and, therefore, new growth and employment (Kikeri et al. (1992)). Our results confirm such expectations. Indeed, the increase in real sales is significant for both unadjusted (at the 1 percent

level) and market-adjusted data (at the 5 percent level). Of the sample firms, 76 percent (unadjusted) and 64 percent (market-adjusted) experience such an increase. For example, the unadjusted real sales go from an average (median) of 96.9 percent (91.6 percent) of the year 0 level during the (-3, -1) preprivatization period to 122.2 percent (112.2 percent) of the year 0 level during the (+1, +3) postprivatization period.

All of our subsamples also show significant increases in real sales following privatization. Whatever the subsample, a large majority of divested firms (at least 68 percent) experience an increase in real sales. Once adjusted for market conditions, the results remain significant for competitive industry firms, firms from upper-middle-income countries, partially privatized firms, and control privatizations. The observed increase in output seems to be a reflection of the increased productivity of the privatized firms. As consistent as this result is with the evidence provided by MNR for a sample of mostly developed countries, it is contrary to Boycko et al.'s (1996) model which predicts that upon privatization, the firms would decrease their production from the inefficient levels observed when these firms were state-owned. Even though they implicitly assume that reform is occurring in a formerly communist or socialist country (Russia or eastern Europe), we believe that the implications of their model are also relevant for noncommunist countries. In particular, as the government transfers both control and cash flow rights to private shareholders, restructuring and change in performance will follow.

E. Employment

Prior to privatization, most SOEs tend to be overstaffed. Consequently, in order to increase efficiency, extensive layoffs would be expected following government divestiture and the reduction of subsidies. Interestingly, however, employment seems to have increased significantly (at the 10 percent level) according to the unadjusted results, and even more significantly (at the 5 percent level) once we adjust the number of employees for market effects.¹⁰ The unadjusted (market-adjusted) increase in employment is on average 139 (361) employees and is observed for 58 percent (67 percent) of the sample firms. This evidence, combined with that of MNR, suggests that privatization does not necessarily mean a decline in employment level.¹¹ As Kikeri et al. (1992) predicted, our evidence suggests that higher levels of investment and efficiency lead to more output and employment.

¹⁰ The answers to our questionnaires do not suggest that these findings might result from the firms' commitment to maintain the number of employees in the postprivatization period. Only 5 of the 34 firms that filled out our questionnaire and none of the 34 prospectuses mentioned such a commitment.

¹¹ In contrast with these results, La Porta and López-de-Silanes (1997) find a sharp decline in employment for their sample of Mexican privatized firms. Except for this indicator, their results are consistent with those reported here. In particular, Mexican privatized firms experience large increases in profitability, operating efficiency, and output. Furthermore, their results suggest that privatized firms in competitive and noncompetitive sectors experience similar performance improvements.

As far as the subsamples are concerned, the unadjusted increase in the number of employees is very significant (at the 1 percent level) for revenue privatizations. It is likewise significant (at the 5 percent level) for partial privatizations and for firms operating in low-income and lower-middle-income countries and is significant (at the 10 percent level) for noncompetitive firms. The employment results also indicate that the difference between the value changes in the number of employees is significantly larger for noncompetitive firms and control privatizations than for competitive firms and revenue privatizations, respectively. As expected, newly privatized firms operating in competitive industries are more inclined to reduce employment levels. With the exception of the subsample of upper-middle-income countries for which the increase in the employment level is significant at the 10 percent level, the small number of observations (less than 10) for each subsample of newly privatized firms does not allow us to draw strong conclusions regarding the impact of privatization on the employment level, once we adjust for market effects. However, with the exception of the fully privatized firms, we observe an increase in the employment level for each subsample.

F. Leverage

The switch from public to private ownership should lead to a decrease in leverage because the government's removal of debt guarantees will increase the firms' cost of borrowing and because firms will have increased access to public equity markets (MNR). We measure leverage by the total debt to total assets and by the long-term debt to equity ratios. As do MNR, we focus on the first leverage measure. We document a significant decrease (at the 5 percent level) in the debt to assets ratio and in the long-term debt to equity ratio for the unadjusted data.¹² The average (median) declines in the total debt/total assets ratio of 5.1 percentage points (1.6 percentage points), and in the long-term debt/equity ratio of 44.1 percentage points (5.7 percentage points), are important.¹³ However, the decrease in leverage is no longer sig-

¹² A particular feature of the privatization programs in some countries, particularly in Latin America, is the prior debt restructuring of the firms upon privatization (López-de-Silanes (1997)). By writing off the debt or part of the debt of the firm to be privatized, the government can increase the attractiveness of the firm to be sold. A thorough investigation of this issue shows that debt restructuring occurs in six of our sample companies operating in the following countries: Argentina (1), Brazil (4), Trinidad and Tobago (1). We rerun the tests excluding these firms to determine whether debt restructuring drives the leverage decrease of our sample firms; we obtain virtually identical results. For a study of other restructuring methods accompanying privatizations, see Barberis et al. (1996), who provide evidence from a sample of privatized Russian shops.

¹³ Unlike a secondary offering where the government keeps the proceeds and no capital flows into the firm, privatization through a primary offering raises new capital. We partition our SIPs into (1) pure secondary offerings and (2) at least partially primary issues. On the basis of our analysis of questionnaires, prospectuses, and annual reports, we are able to identify 15 pure secondary offerings and 21 at least partially primary issues. For both offerings, we observe a significant decrease in the debt to assets ratio. This suggests that primary issue privatizations do not drive leverage decreases.

nificant when we adjust for market effects. This suggests that the leverage of newly privatized firms does not decline in comparison with other firms in their national markets in the postprivatization period.¹⁴

As for our subsamples, the unadjusted decrease in leverage after privatization is significant for competitive and noncompetitive firms, for firms operating in upper-middle-income countries, for partially privatized firms, and for revenue privatizations, but the market-adjusted decrease in leverage is significant only for firms headquartered in upper-middle-income countries.

G. Dividend Policy

Following privatization, dividend payments should increase because, unlike governments, private investors generally demand dividends, and dividend payments are a classic response to the atomized ownership structure to which most privatization programs lead (MNR). The dividend to sales ratio and the dividend payout ratio (dividend payments divided by net income) show significant increases for both unadjusted and market-adjusted data. For example, the average (median) unadjusted dividend to sales ratio increases from 2.8 percent (0.9 percent) before privatization to 5.3 percent (3 percent) after privatization. Using unadjusted and market-adjusted data, 76 percent and 68 percent of the privatized firms, respectively, distribute more dividends as a proportion of their sales. This evidence combined with that of MNR suggests that, whatever the level of development, newly privatized companies increase their dividend payments markedly.

We also observe an increase in the dividend to sales ratio for all of our subsamples. The unadjusted increase in dividend to sales ratio is highly significant (at the 1 percent level) for all the subsamples except of revenue privatizations, for which it is significant at the 10 percent level. Once we adjust the dividend to sales ratio for market effects, we still note an increase in dividend payments for all subsamples, although it is significant at the 5 percent level only for competitive firms, control privatizations, and firms headquartered in upper middle-income countries. For all of our subsamples, a fair majority of newly privatized firms (at least 60 percent) experience an increase in the market-adjusted dividend to sales ratio.

IV. Conclusion

This study examines the financial and operating performance of newly privatized firms in developing countries. A large sample of newly privatized firms is drawn from a wide set of developing markets. To take account of the possibility that some of the differences between preprivatization and postprivatization

¹⁴ A possible explanation for the insignificant decrease in the market-adjusted leverage is provided by Singh (1995) who gives evidence that in recent years, developing countries have tended to use more equity than debt to finance their growth. We would thus expect the market median to exhibit a decrease in leverage and hence to reduce the possibility that the market-adjusted debt to asset ratios of the newly privatized firms decline significantly.

tization performance could be due to economy-wide factors, we use accounting performance measures adjusted for market effects in addition to unadjusted accounting performance measures. For our full sample, both unadjusted and market-adjusted results show significant increases in profitability, operating efficiency, capital investment spending, output (adjusted for inflation), employment level, and dividends. We also observe a decline in leverage following privatization but this change is significant only for unadjusted leverage ratios. It is of interest to note that the results are generally less significant when we adjust the performance ratios for market effects.

Our results are generally robust when we partition our data into various subsamples. In particular, in the case of unadjusted performance measures for which there are a sufficient number of observations, we note strong performance improvements for companies operating in competitive and noncompetitive environments, for firms from upper-middle-income countries, for full and partial privatizations, for control privatizations where governments surrender voting control, and for revenue privatizations where governments sell a minority ownership stake. We also present evidence of weaker performance improvements for firms from low-income and lower-middle-income countries. Furthermore, we find that the differences in the increase of profitability and efficiency are significantly larger for control privatizations and firms from upper-middle-income countries than for revenue privatizations and firms from low-income and lower-middle-income countries, respectively.

In any event, ownership seems to be important. Indeed, privatization brings with it private owners who place greater emphasis on profit goals and also carry out new investments that lead to increased output and employment. As a result, efficiency improves and profitability follows. These improvements cannot be attributed to the prevailing market structure or the terms of share issue privatizations. Nevertheless, our results, combined with those of MNR, suggest that, both in developing and developed countries, newly privatized firms improve their performance. Furthermore, as far as developing countries are concerned, it appears that privatization yields greater benefits for companies headquartered in countries with high income per capita.

Appendix

The Sample of Privatized Firms in Developing Countries, 1980 to 1992

This table provides descriptive information for our sample of firms from developing countries, fully or partially privatized during the period 1980 to 1992.

Company Name	Industry	Date of Sale	Number of Employees	Value of Issue (U.S. \$millions)	Government Shareholdings (%)	
					Before Privatization	After Privatization
Argentina Somisa ^a	Steel	Nov. 1992* June 1993	7,523	163.35	100 20.03	20.03 0
Bangladesh Pubali Bank	Banking	Sept. 1983	6,295	6.46	100	5
Brazil Companhia Electromecânica Usinas Siderúrgica de Minas Gerais	Electro-mechanic Steel	Nov. 1991 Nov. 1991*	1,578 15,423	91.1 1429.7	89.10 ^b 85.57 ^b	0 16.25
Companhia Siderúrgica de Tubarão	Steel	July 1992	4,219	347.6	89.50 ^c	0.49
Companhia Aços Especiais Itabira	Steel	Oct. 1992	7,375	451.5	92.23/76.85 ^{b,d}	0/30.35
Goiás Fertilizantes	Fertilizers	Oct. 1992	499	13.1	99.99 ^b	0
Chile Chilgener S.A.	Electricity	1985* 1986	719		99.99 95.20	95.20 64.57
		Sept. 1987			64.57	34.95
		Jan. 1988			34.95	0
Compañía de Acero del Pacífico	Steel/Mining	Dec. 1985* Dec. 1986	6,659	6.9 72.16	96.80 89.33	89.33 48.09
		July 1987 ^e			48.09	0
Empresa Eléctrica de Melipilla S.A.	Electricity	Oct. 1986	181		100 ^f	0.24
Empresa Nacional de Telecomunicaciones	Telecommunication	Nov. 1986* 1987	1,386		99.97	69.97
		June 1988		190	69.97	66.97
		June 1989			66.97 37.74	37.74 1.11

Appendix—Continued

Company Name	Industry	Date of Sale	Number of Employees	Value of Issue (U.S. \$millions)	Government Shareholdings (%)		
					Before Privatization	After Privatization	
Chile (<i>continued</i>)							
Compañía de Teléfonos de Chile	Telecommunication	1986*	7,185	89	92.11	89.45	
		May 1987			89.45	75	
		Jan. 1988			125.36	75	14.20
		1989			14.20	2.90	
		Sept. 1990		98	2.90	0	
Greece							
Hellenic Bottling Co.	Bottling	June 1991	1,089	106.75			
Heracles General Cement	Cement	Mar. 1992	1,999	671.21	69.8		
India							
Industrial Credit & Investment Corp.	Finance	Feb. 1991	1,021	52.42	82	63.8 ^g	
Hindustan Petroleum	Petroleum/ Petrochemicals	July 1992*	10,517	119.69	99.99	79.99	
		Jan. 1993		67.98	79.99	74.99	
		July 1993		48.4	74.99	70.06	
		Mar. 1994		179.76	70.06	63.06	
		Feb. 1995		193.74	63.06	60.31	
Bharat Petroleum	Petroleum/ Petrochemicals	Aug. 1992*	11,168	94.20	100	80	
		Dec. 1992		126.4	80	70	
		Mar. 1994		43.83	70	65 ^h	
Steel Authority of India	Steel	Sept. 1992	189,195	101.81	5 ⁱ	80 ^j	
Indian Petrochemicals Corp.	Petroleum/ Petrochemicals	Jan.-Mar. 1992*	11,845	7.1	100		
		Nov. 1992		130.1	80	71.97	
		Mar. 1995			71.97	59.48	
Jamaica							
National Commercial Bank	Banking	Nov. 1986 ^k		16.19	100	49	
Radio Jamaica Ltd. ^l	Broadcasting	Dec. 1991	100	0.73	25.10	0	
South Korea							
Korea Electric Power	Electricity	1987	24,324		21 ⁱ		

Appendix—Continued

Company Name	Industry	Date of Sale	Number of Employees	Value of Issue (U.S. \$millions)	Government Shareholdings (%)	
					Before Privatization	After Privatization
Portugal (<i>continued</i>)						
Companhia de seguros Tranquilidade	Insurance	Dec. 1989*	1,525	172.03	100	51 ^q
		Oct. 1990		141.49	51	0
Jornal de Noticias	Newspaper	May 1990	701	50.6	86.26	0 ^q
Central de Cervejas	Brewing	Nov. 1990	2,700	260.98	100	0 ^q
Banco Portugues do Atlantico S.A.	Banking	Dec. 1990*		372.4	100	67 ^q
		May 1992		378.82	67	49.40
		July 1993		181.27	49.40	24.40
		Mar 1994		89.91	24.40	0
Sociedade Financieira Portuguesa (Banco Mello)	Banking	May 1991	106	106.8	100	0 ^q
Banco Espirito Santo e Commercial de Lisboa	Banking	July 1991*	6,729	406.0	100	60 ^q
		Feb. 1992		632.13	60	0
Banco Foncecas & Burnay	Banking	Sept. 1991*	3,000	250.72	100	20
		July 1992		71.41	20	0
Mundial Confiança	Insurance	Apr. 1992		239.54	100	0 ^q
Petroleos de Portugal	Oil & Energy	June 1992	3,982	320.05	100	75
Imperio	Insurance	Nov. 1992		177.24	100	0 ^q
Credito Predial Portugues	Banking	Dec. 1992		278.17	100	0 ^q
Uniao de Bancos Portugueses	Banking	Dec. 1992	3,607	166.39	61.11	43.11 ^q
Singapore						
Sembawang Shipyard	Ship Repairing & Building	Apr. 1973			100	75
		1988*	1,956		75	≈30
Keppel Corp	Shipbuilding	Sept. 1980*	6,600	47.29	100	55 ^r
		1988–89			68	≈30
Neptune Orient Lines Ltd.	Shipping	Apr. 1981*	1,632	66.4	100	67.70 ^s
		Apr. 1984			67.70	62.30
		Dec. 1987	88	88	62.30	52.80
		Nov. 1988		154.1	52.80	30

Singapore International Airlines	Airlines	Nov. 1985*	14,963	233	77 ^t	63
DBS Land	Real Estate	June 1987		284	63	53.50
		Sept. 1987	325	150.11	100	48.80 ^a
Taiwan						
China Steel Corp.	Steel	1989*	9,715		100	97.20
		Apr. 1991			97.20	91.10
		May 1992 ^v		904	91.10	76.50
Thailand						
Thai Airways International	Airlines	Mar. 1992	19,286	237.5	100	92.7 ^w
Tunisia						
Société Industrielle de Textile	Textile	1989	1,750	4.42	43.40	0
Turkey						
Arcelik	Electronics	Apr. 1990	3,434	19.89	13.32	7.49
Bolu Cimento	Cement	Apr. 1990		8.27	35.33	24.95
Celik Halat	Metal Products	Apr. 1990		7.75	29.28	16.03
Cukurova Elektrik	Electricity	Apr. 1990*	1,475	38.83	18.65	13.20
		Feb. 1993 ^x		81.1	11.50	0.25
Eregli Edemir	Iron & Steel	Apr. 1990	8,595	53.11	52	45.72
Kepez Elektrik	Electricity	Apr. 1990*		9.39	43.68	35.54
		Feb. 1993 ^x		41.3	35.2	0
Petkim Petro Kymia	Petrochemical Products	June 1990	7,192	150.62	99.97	91.88
Adana Çimento Sanayii	Cement	Feb. 1991	819	27.96	47.28	12.96
Migros Turk	Supermarket Chain	Feb. 1991		5.61	42.22	5.82
Tofas Otomobil Ticaret	Automobile	Feb. 1991*	229	13.07	39	23 ^y
		June 1991		0.97	23	21.64
		1992		0.9	21.64	20.64
		1993		5.3	20.64	13.64
Oyşe-Nidge Çimento	Cement	May 1991*		2.65	99.83	87.11
		Mar. 1992 ^z		22.5	87.11	
Petrol Ofisi	Petroleum	May 1991*	7,871	14.39	100	95.98
		1992		2.5	95.98	95.48
		1993		2.5	95.48	94.48

Appendix—Continued

Company Name	Industry	Date of Sale	Number of Employees	Value of Issue (U.S. \$millions)	Government Shareholdings (%)	
					Before Privatization	After Privatization
Turkey (<i>continued</i>)						
Tüpras	Petroleum	May 1991* 1992 1993	4,810	6.04 4.5 7.2	100 98.36 97.36	98.36 97.36 95.36
Gima Gida	Supermarket Chain	June 1991* Mar. 1993 ^{aa}		0.41 10.96	54.68 50.38	50.53 6.71
Trinidad and Tobago						
Trinidad Cement Ltd.	Cement	1989–90* 1994	389	6.3 10.8	100 29.10	29.10 ^{bb} 9.10
Venezuela						
Compañía Anónima Nacional Teléfonos de Venezuela	Telecommunication	1991	20,087	1858.86	100	49

* When there is more than one share issue per company, this indicates which issue we considered in our empirical tests.

^a 79.97 percent of total shares were actually sold to a consortium made up of Propulsora Siderurgica and Siderca in November 1992. The remaining government shares were sold to employees in June 1993.

^b 10 percent of the shares were offered to employees.

^c 12.4 percent of the shares were offered to employees.

^d These percentages refer to voting and nonvoting shares.

^e At the end of 1987, employees owned 33.63 percent of all shares.

^f The government shares were actually sold to EMEL employees.

^g 5 percent of the issue was allocated to employees.

^h In March 1994, 5 percent of the shares were offered to the employees with a lock-in period of 3 years.

ⁱ Percentage of shares sold at the date of privatization.

^j 5, 10, and 84 percent of the shares issued in 1992 were reserved for employees, existing bondholders, persons whose lands were acquired for the Ghandar Project, and the general public, respectively.

^k This offer was 216 percent oversubscribed. In March 1991 and February 1992 further issues of shares were made and led to full privatization.

^l Full privatization occurred in 1990 although partial privatization took place in 1980. We considered the latest date because no financial statement was available for the 1980 period.

^m In all of these cases, the issue of ordinary shares was reserved for (a) Bumiputra institutions and investors (from 21.3 to 59.2 percent), (b) directors and employees of the company (from 3.8 to 13.6 percent), and (3) Malaysian and foreign individuals, companies, and institutions (from 31.4 to 38.4 percent) of which at least either 30 or 35 percent was to be set aside strictly for Bumiputra applicants.

ⁿ As the holder of a special share, the government could veto certain major decisions of the company (for example, substantial disposals of assets, mergers, and takeovers).

^o In 1984, the company was listed on the Kuala Lumpur Stock Exchange but the government remained the single largest shareholder. In 1990, the government divested a large block of shares (53.97 percent of CIMA shares) to United Engineers Malaysia Berhad, and through subsequent sales the company was totally privatized.

^p The company was actually transferred to the employees who made the highest bid for the purchase of 51 percent of the shares.

^q In all of these cases, the issue was split into four or five tranches with allocations for, among others, employees, small investors, shareholders, and the general public.

^r This offer was 7 times oversubscribed and 10 percent of the issue was allocated to employees.

^s 10 percent of the issue was allocated to employees.

^t Employees already owned 23 percent of the stock at the time of the privatization. 6.1 percent of the issue was allocated to them.

^u 5 percent of the issue was allocated to employees.

^v In May 1992, the offering of shares was distributed to qualified institutional buyers in the United States, institutional investors outside the United States, and China Steel employees.

^w 6.9 and 0.4 percent of the shares were sold to private investors and employees, respectively.

^x There was an issue of a block of shares purchased by Rumeli Elektrik in February 1993.

^y Fiat Automobiles purchased the block of shares issued in February 1991.

^z There was an issue of a block of shares purchased by Oyak-Sabanci in March 1992.

^{aa} There was an issue of a block of shares purchased by Bilfer-Bedeman in March 1993.

^{bb} Employees could purchase up to 20 percent of the stock offered at a 10 percent discount while foreign investors could not acquire more than 20 percent of the share issue.

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