The International Monetary Fund and the Global Spread of Privatization
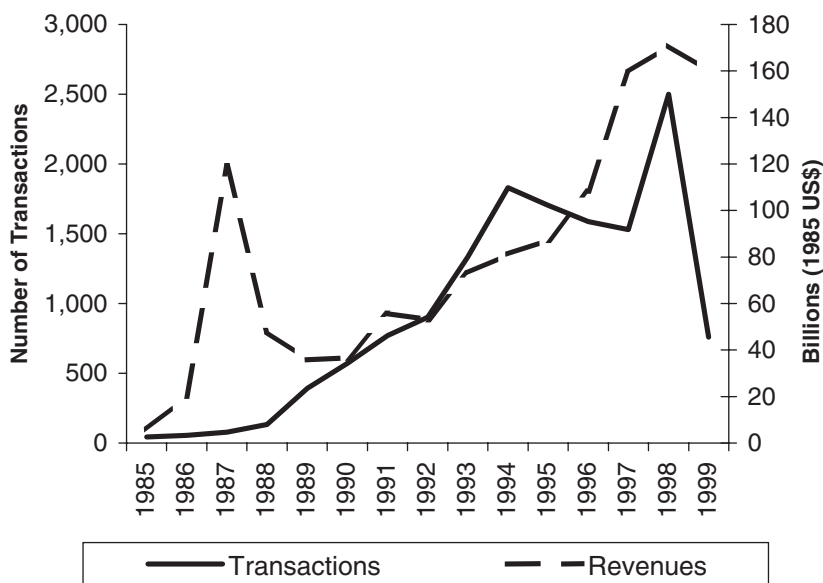
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Well over a trillion dollars worth of state-owned firms have been privatized since 1980. The traditional argument is that governments choose to privatize in response to fiscal pressures. In this study, the authors examine the impact of IFI conditionality on privatization and find that IMF conditionality, in particular, has an important indirect economic benefit. Investors are willing to pay more for privatized assets in countries that owe the IMF money (and hence that are subject to the policy constraints attached to the loans). The reason for this is that investors view IMF conditionality as a signal of credible policy reform. The magnitude of this effect is striking. For every dollar a developing country owed the IMF in the early 1980s, it subsequently privatized state-owned assets worth roughly 50c. Admittedly, this "credibility bonus" of IMF lending may not justify the policy conditions typically imposed by the IMF. However, the additional capital drawn into developing countries as a result of the IMF-privatization nexus is no doubt helpful to these economies. [JEL L3, F33, F34]

The sale of state-owned assets—privatization—has been a defining characteristic of the global economy in the last two decades of the twentieth century. More than 8,000 acts of privatization were completed around the world between

Figure 1. Privatization Over Time

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1985 and 1999 (Brune, 2004).[1] These sales were valued at more than $1.1 trillion (in constant 1985 U.S. dollars). After an initial large spike in 1987 (when almost $120 billion in state-owned assets were sold in only 77 transactions, mostly by Organization of Economic Cooperation and Development (OECD) countries), privatization swept the globe in the 1990s (see Figure 1). From an average of roughly $50 billion per year (on 500–1,000 transactions) in the early 1990s, revenues from global privatizations grew to $87 billion on more than 1,700 transactions by 1995, peaking in 1998 at $171 billion of assets sold in 2,500 transactions. Although almost two-thirds of the privatization activity in terms of revenues took place in high-income countries, the bulk of privatization transactions occurred in low- and middle-income countries (see Table 1).

Appendix I presents country-level data for 1985 to 1999. Privatization revenues exceeded $100 billion (in 1985 dollars) in Italy, Japan, and the United Kingdom, and over $50 billion in Australia, Brazil, and France. Relative to their GDPs, the five largest privatizers were Bolivia, Guyana, Hungary, Panama, and Portugal, each of which had sold state-owned assets worth more than 30 percent of their 1985 GDPs by 1999. Privatization revenues exceeded 25 percent of 1985 GDP in another four countries—Australia, Chile, Malaysia, and New Zealand. By 1999, total revenues from privatization exceeded 5 percent of 1985 GDP in 60 countries.

What explains the spread of privatization around the world? In most economic theories, privatization increases productivity, efficiency, and output. Even though

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[1]These numbers do not include, nor do we analyze, the disposition of assets by mass/voucher privatization in the former socialist countries. Our analysis of privatization transactions counts separately different tranches of a firm's assets where it was not completely sold in one transaction.

Table 1. Privatization by Region and Per Capita Income, 1985–1999

	Revenues (billions, 1985 US$)	Average Revenues (percent 1985 GDP, unweighted)	Transactions	Average Revenues per Transaction (millions, 1985 US$)
By region:				
East Asia and the Pacific	318.0	13.3	831	382.7
Eastern Europe and Central Asia	23.3	14.0	2,453	9.5
Latin America and the Caribbean	197.3	13.9	1,601	123.2
Middle East and North Africa	19.9	6.9	419	47.5
North America and Western Europe	522.2	8.9	871	599.5
Southeast Asia	11.4	5.2	335	34.1
Sub-Saharan Africa	9.5	5.4	1,662	5.7
By per capita income:[1]				
Low income	62.0	8.4	2,782	22.3
Middle income	265.9	10.2	4,269	62.3
High income	773.7	9.9	1,121	690.2
Total	1,101.6	9.6	8,172	134.8

Source: Brune, 2004.
[1]Based on per capita GDP (atlas method) in 1980.

the empirical evidence is somewhat mixed, most economists continue to support privatization. But if it is efficient to sell off state-owned assets, why have we observed dramatic variations among countries in the extent and pace of privatization? Were countries more likely to privatize if they had large state-owned sectors initially, or if they confronted economic crises, or for other reasons?

In this paper we concentrate on the impact of lending by international financial institutions, both the IMF and World Bank, on privatization around the world. We demonstrate that countries that borrowed from the IMF subsequently privatized more assets (in terms of market valuations at the time of sale), controlling for the effects of the initial size of the state-owned sector, fiscal imbalances, per capita income, the depth of capital markets, and the quality of government. Indeed, we estimate that for every dollar a country owed the IMF, it subsequently privatized assets worth approximately 50 cents. In contrast, World Bank loans were not significantly associated with increased privatization revenues, though there was no evidence that countries with loans from the World Bank privatized less.

Two interpretations are consistent with these results. On the one hand, IMF conditionality (which is generally considered to be more constraining than that imposed by the World Bank) could have forced recipient governments to privatize more state-owned assets (in terms of volume). On the other hand, global capital markets could have valued more highly the sale of (a given volume of) state assets

in countries that received assistance from the IMF—as a result of the increased credibility of commitments to market-promoting policies in these countries. We cannot easily distinguish between the conditionality and credibility interpretations because it is extremely difficult to isolate the volume of privatized assets independently from their valuation. Our results show that IMF conditionality was associated both with higher privatization revenues and with more privatization transactions, but the revenues' effects were stronger and very robust. Thus, we subscribe to the credibility interpretation of our IMF effect over a simpler conditionality interpretation: the imposition of IMF conditions in a country won the approval of global capital markets for its privatization program (in a similar argument to that proposed by Perotti and van Oijen, 2001).

I. Privatization: Efficiency or Commitment?

Privatization is an economic policy whose cross-national spread has a familiar logistic S-shape. After the initial wave of sales of state-owned assets in Britain in the early 1980s (and earlier still in Chile), privatization programs began to emerge in other countries: at first in other OECD nations but then in developing and transition economies as well.[2]

Why did privatization spread in this fashion? There is some prima facie evidence that countries with larger state-owned sectors were also in economic difficulty in the early 1980s, particularly with respect to fiscal imbalances. It is plausible that they privatized in response to these problems. But the connection between economic distress and privatization presupposes that countries were confident that privatization would help their economies.

The evidence on this critical point, however, is mixed—particularly from studies completed before the mid-1990s. Research on early privatizations in the United Kingdom suggested that firm and sector performance improved only when privatization was coupled with the creation of truly competitive markets (Vickers and Yarrow, 1988). Some cross-national studies subsequently found that privatization improved performance at the firm level (Megginson, Nash, and van Randenborgh, 1994; Megginson and Netter, 2001; Ramamurti, 1996, 1997; Galal and others, 1994; Galal and Shirley, 1994), but other studies disputed this conclusion (Black, Kraakman, Tarassova, 2000; Bevan and others, 2001). In an important recent article, Dewenter and Malatesta (2001) found that firms that were subsequently privatized performed better in the three years before they were sold off (as governments prepared them for sale) but that the performance of these firms once privatized was no better than that of other firms. But even if one were to accept Megginson and Netter's (2001) conclusion that privatization, on balance, has been good for firms and economies, it would still be important to note that the empirical evidence was not available to the governments that chose to privatize in the late 1980s and early 1990s. The lateness of empirical support for the benefits of privatization coupled with its relative weakness should caution against a rapid endorse-

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[2]Bangladesh, Germany, Mali, and South Africa also privatized tiny shares of their state-owned assets in the early 1980s.

ment of a simple efficiency explanation for the spread of privatization in the past couple of decades.

In this paper, we explore another potential causal path that does not require the assumption that privatization directly improves firm or sector performance. Governments in countries with economic problems, as well as high levels of state ownership, face a credibility problem. Even good firms will not attract sufficient funding because of political uncertainty. Perotti and van Oijen (2001) argue that privatization provides the appropriate commitment technology to attract investors in the case of distressed economies. They present evidence that national credit ratings subsequently improved in countries that privatized significant state-owned assets.

If this line of argument is correct, privatization could still be beneficial to economies by attracting investment, even if it does not improve the efficiency of either privatized firms or the product markets in which they compete. There is, however, a chicken and egg problem in this privatization-credibility dynamic. Governments without strong credit ratings, particularly in emerging economies, are likely to be forced to privatize initially at discounted prices to attract investors, given the time needed for investors to gain confidence that governments are indeed credibly committed to pro-market reforms.

It is at this point that the international financial institutions (IFIs) may play a pivotal role. Both the IMF and the World Bank provide loans (and in the latter case, some grants as well) to developing countries, but they stipulate conditions for disbursement.[3] Since governments in developing countries often need IFI financing to stabilize their economies or fund their development programs, conditionality may generate credible commitments to the IFIs' agendas—at least to the extent that the IMF and the World Bank themselves are internationally credible market reformers. In turn, this credibility could increase future investors' confidence in buying shares in firms privatized in countries that owe money to the IMF or the World Bank.

IMF conditionality is generally considered to be much more binding than is the World Bank's. The Fund plays a strong role in monitoring and enforcing compliance, and failure to meet any specified condition often means that the next tranche of loans is not released. In contrast, World Bank performance criteria for loans are often not stated as quantitative targets, and punishment for failure to perform is rare (Polak, 1994). It should also be noted that the Fund and World Bank do not stipulate cross-conditionality, whereby failure to meet a condition of one institution's loan constitutes suspension of the other institution's loans to that country.

Since 1997, the IMF has made information on its conditionality requirements publicly available. Recent agreements (letters of intent) confirm what was previously conjecture—namely, that for more than a decade, the IMF has included privatization as a standard condition of its structural adjustment lending (Davis and others, 2000). Insiders often attribute the birth of the idea of privatization conditionality to a speech by Secretary of State James Baker at the Seoul meetings of the IMF and World Bank in 1985 (Polak, 1994). The idea quickly gained other

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[3]Though the Bretton Woods-era charters of the two organizations differ significantly, they have evolved into institutions with overlapping jurisdictions regarding structural adjustment lending.

adherents inside the Washington-based international policy community beltway so much so that John Williamson (1993) included privatization among the policies in the Washington Consensus between the U.S. Treasury and the IFIs in the late 1980s and early 1990s.[4]

It is not clear whether the IFIs' efforts to condition financing on privatization and other reforms has improved macroeconomic performance. Przeworski and Vreeland (Przeworski and Vreeland, 2000; Vreeland, 2003) recently found that participation in IMF loan programs actually reduced national economic growth, even after selection bias among slow-growth countries was taken into account. Using a similar methodology, Abouharb (2001) argued that World Bank loans have had no discernible impact on growth rates in recipient countries.

As we have suggested, the case for privatization need not rest upon direct efficiency gains. The value of an acquisition or share purchase is influenced by expectations about the future, with respect both to economic performance (at the firm, sector, and national levels) and to government policy (regulation, taxes, nationalization, etc.). Participation in IFI programs may signal that a country is credibly committed to economic reforms from which asset holders will benefit. If a country privatizes when it is subject to an IFI program, investors may be more likely to buy shares in state assets that are sold and to pay a higher price for them, expecting that government policy will be more market friendly.

Recent studies have explored the effect of IFI lending on capital flows. Bird and Rowlands (1997, forthcoming) find limited support for the argument that IMF lending has a catalytic effect on capital flows in general. Mody and Saravia (2003), however, claim that the IMF does have a catalytic effect but only when country conditions (debt and reserve ratios) are such that the IMF has a credible influence on policies. In this paper, we extend the inquiry by exploring whether there is a more focused effect of IMF (and World Bank) lending on privatization.

II. The Data

Data Sources

The privatization data used in this paper are derived from the Global Privatization Database (GPD) (Brune, 2004). Almost half of the privatization transactions in GPD were originally reported in the World Bank Privatization Database (WBPD) (2000) on developing countries.[5] Three other published sources were used to compile GPD: the World Bank Private Participation in Infrastructure Database (PPID) (2000) for developing countries, the World Bank African Privatization Database (WBAPD) (2002), and the Thomson Financial IFR Platinum Privatization International Database (PID) (1999) focusing on high and upper middle-income countries. GPD also includes almost 6,000 transactions derived from a variety of

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[4]Williamson originally formulated the term Washington Agenda, or the Washington Consensus, in a background paper "What Washington Means by Policy Reform" for a conference held by the Institute for International Economics in November 1989, which was published as the opening chapter in the conference volume *The Progress of Policy Reform in Latin America* (1990).

[5]For all World Bank privatization information, see *http://www.privatizationlink.org.*

other sources, including government documents, international organizations, academic journals, newspapers, industry and consulting reports, and other previously published volumes on privatization.[6]

We analyze annual observations on privatizations from 1985 to 1999 in 96 countries for which all relevant data are available (see Appendix I). Of these (both developing and developed) economies, 91 privatized assets during the analysis period.[7] We also include another five countries that did not privatize but for which all the other data are available (Bahamas, Botswana, Cyprus, Suriname, and Syria). Our analysis draws on a much larger sample of countries than those used in other cross-national studies of privatization, such as Megginson, Nash, and van Randenborgh (1994) and Bortolotti, Fantini, and Siniscalco (1998, 2001).

The generic version of our estimated equations regressed privatization revenues (as a percentage of GDP) on the following variables: (the log of) per capita income, the size of the state-owned sector in 1980, the national budgetary balance, an index of the quality of government institutions, the presence of a functioning stock market, our variables measuring IFI obligations, and region and time dummies. We also use privatization transactions as a dependent variable in an effort to distinguish the market's valuation of a privatized asset (i.e., revenues derived from privatization) from the amount of assets privatized (transactions). But since the transactions measure counts equally—for example, the wholesale selling off of a national telecoms monopoly with the bit-by-bit sale (in tranches) of a small company—we concentrate on privatization revenues.

The initial extent of government ownership of the economy placed an upper limit on the amount of privatization a country could subsequently have undertaken. Hence we expect a positive coefficient on this parameter. Theoretically, the most desirable measure of the size of the state-owned sector is the share of GDP derived from state-owned enterprises. But these data are available for only a relatively small set of countries beginning in the late 1980s, and it is not clear precisely how these estimates were calculated. Instead, we rely on a simpler ordinal indicator (0–10) of the size of the state-owned sector from *Economic Freedom of the World,* which contains information on a large sample of developing and developed countries going back to the mid-1970s (Gwartney, Lawson, and Block, 1996).[8]

It is commonly assumed that governments tend to privatize when they need to generate revenues to balance the public fiscal balance sheet. To test this argument, we include the central government's budget balance as a portion of GDP. Since positive scores denote fiscal surpluses, we expect the budget balance coefficients to be negative in the privatization regressions.

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[6]In the compilation of GPD, data that overlapped but were discordant were reconciled based on the following rank order of data quality (in descending order): PPID, WBPD, WBAPD, and PID. Data and information gathered from the search of additional primary and secondary materials helped supplement and correct missing information on individual privatization transactions.

[7]The regional distributions among these countries were as follows: East Asia and the Pacific—11 countries; Eastern Europe and Central Asia—3; Latin America and the Caribbean—22; Middle East and North Africa—10; North America and Western Europe—20; South Asia—4; Sub-Saharan Africa—21.

[8]In countries with a score of 10, more than 30 percent of the economy was derived from economic activity of the state-owned sector; in countries that scored a 0, less than 1 percent of economic output was derived from state-owned enterprises.

GDP per capita was included to control for the effects of a country's level of development on privatization revenues. Positive coefficients would imply that higher per capita incomes promoted privatization, perhaps because more developed countries were better equipped to undertake privatization. Negative parameter estimates would suggest that less developed countries had a greater need to privatize.

We explore arguments about development with some more fine-grained measures as well. It has been argued that countries with developed market-promoting institutions are more likely to privatize. To measure the overall quality of governance in a country, we use an index derived from a set of International Country Risk Guide indicators first employed by Knack and Keefer (1995): the sum of scores for corruption, bureaucratic quality, and the rule of law (all measured on a 0–10 scale, with higher scores reflecting better governance). We would expect estimated parameters for the government quality index to be positive.

Our analyses also control for whether a country had a functioning stock market (a 0–1 dummy variable). It is likely that privatized assets would be valued more highly in countries with well-functioning domestic capital markets that reduce information asymmetries and emphasize corporate governance (Levine, 1997; Holmström and Tirole, 1993). Controlling for these governance and market effects, we expect the residual impact of per capita income on privatization to be negative—because poorer countries have a greater need to privatize.

The central hypothesis we wish to test, however, is that countries that enter into binding relationships with international financial institutions (for whatever reason) subsequently privatize more state-owned assets. We use the outstanding level of financial obligations (relative to national GDP) to measure the strength of a country's relationships with the IFIs and hence the potential magnitude of the market credibility boost.

The IMF variable comprises repurchase obligations to the IMF for all uses of IMF resources (excluding those resulting from drawings on the reserve tranche), including credit tranches, enlarged access resources, all special facilities (the buffer stock, compensatory financing, extended fund, and oil facilities), trust fund loans, and operations under the structural adjustment and enhanced structural adjustment facilities. The World Bank variable comprises all International Bank for Reconstruction and Development (IBRD) loans (at market rates) and International Development Association credits (at concessional rates).

We have hypothesized that that the impact of the IFIs on privatization is increasing in the size of a country's obligations to them—especially for the IMF. Hence the coefficients on both IFI variables would be positive if the effect of conditionality has been to increase the sale of state-owned assets and market valuations of these sales.

Descriptive Statistics

Table 2 presents aggregate data on the financial impact of the IMF and World Bank on the developing (low- and middle-income, based on 1980 GDP per capita incomes) countries in this study between 1980 and 1999. High-income countries

Table 2. Developing Countries and the IFIs, 1980–1999

	Outstanding IMF Obligations (percent of GDP each year)	Outstanding World Bank Obligations (percent of GDP each year)
Low-income countries	5.1	16.5
Middle-income countries	1.5	3.5
All developing countries	3.1	9.2
Top 10		
Zambia	29.1	28.4
Guyana	26.1	30.6
Jamaica	12.7	13.5
Gambia, The	11.0	28.7
Ghana	9.7	22.4
Uganda	8.5	20.5
Malawi	7.5	50.4
Congo, Dem. Rep.	7.1	12.8
Senegal	7.0	17.0
Togo	6.2	27.3
Bottom 10		
Botswana	0.0	5.3
Syrian Arab Republic	0.0	2.9
Oman	0.0	0.4
Iran, Islamic Rep.	0.0	0.3
Malta	0.0	0.0
Bahamas, The	0.0	0.0
Greece	0.0	0.0
Ireland	0.0	0.0
Singapore	0.0	0.0
Suriname	0.0	0.0
IMF-World Bank correlation for all developing countries		0.58

Note: We present aggregate data on the financial impact of the IMF and World Bank on the developing (low- and middle-income) countries in this study over the period 1980–1999.

are not eligible for World Bank assistance, and none of the high-income countries in this study owed the IMF money in the 1980s and 1990s.

The top panel of Table 2 demonstrates the large role played by the IFIs in the developing world. Over the 1980s and 1990s, low-income countries had outstanding obligations to the IMF and the World Bank that each year averaged 5.1 percent and 16.1 percent of GDP, respectively. The numbers were smaller for middle-income countries, but combined annual IMF and World Bank obligations constituted about one-eighth of GDP. In the developing world as a whole, outstanding loans from the World Bank were about three times as large in dollar terms as those from the IMF. However, since IMF conditionality was more constraining than the World Bank variant, it is possible that the impact on privatization of IMF obligations was greater than that of World Bank loans.

The middle panel of the table represents the 10 countries with the largest outstanding obligations to the IMF in the last two decades. Zambia and Guyana each had outstanding IMF debt that averaged annually more than one-quarter of their GDP, whereas the amounts ranged between 6 percent and 13 percent per year for the other eight most heavily indebted countries. At the same time, countries with large IMF obligations invariably borrowed considerable sums from the World Bank as well. In the cases of Guyana and Zambia, IFI obligations constituted almost 60 percent of GDP each year during the 1980s and 1990s. Outstanding World Bank credit annually constituted fully one-half of Malawi's GDP in the same period. The other top 10 IMF debtors owed the World Bank between 13 percent and 29 percent of their GDPs. Not surprisingly, 8 of the countries in this top 10 list were in sub-Saharan Africa.

The bottom panel lists the 10 developing countries that were least dependent on the IFIs in the 1980s and 1990s. With the exception of residual unpaid debts from IMF programs in the 1970s in Botswana, Iran, Oman, and Syria, these countries owed the IFIs no money in the 1980s and 1990s. Some of the countries on this list were not surprising. After all, by the end of the 1980s Greece, Ireland, and Singapore were all high-income countries. The other seven nations were already classified as middle-income countries by 1980 and hence were less likely to receive IFI assistance than their low-income colleagues. In contrast to the biggest IMF and World Bank debtors, the bottom 10 countries were dispersed across several continents.

In aggregate, there was a strong positive correlation (r = 0.58) between outstanding obligations to the two IFIs among all the developing countries in our data set. Countries that owed the IMF more money were likely also to have larger lines of credit at the World Bank. This correlation, however, was far from perfect. Given the differences in the types of conditionality agreements written by the IMF and World Bank, it is important to analyze their effects on privatization separately.

Comparative Cases

Before moving to the multivariate statistics, it is useful to consider a paired comparison of the experiences of two countries to illustrate the plausibility of the broader relationship we propose between privatization and IFI lending. Ghana and Nigeria are low-income, nondemocratic countries in West Africa with functioning stock markets. However, whereas Ghana was heavily dependent on IMF (and World Bank) lending—particularly in the late 1980s and early 1990s—Nigeria was much less so. Ghana was a successful and large privatizer in the latter 1990s; Nigeria was not (see Table 3).

In 1993, Ghana passed a privatization law and established the Divestiture Implementation Committee to oversee the sale of its state-owned assets. The country subsequently privatized food-manufacturing enterprises (related to cocoa, one of its primary exports), breweries, state-owned banks, and a minority stake in its state-owned telecommunications operator, Ghana Telecom. The lion's share of its privatization revenues resulted from the sale of the Ashanti Goldfields company (in the mining sector). The total revenues received from privatization during the

	Average IMF Obligations (1990–1999) as percent of GDP	Privatization Revenues (1990–1999) as percent of 1985 GDP	Size of State-Owned Sector (1980)[1]	Deficit[2]	GDP Per Capita[3]
Ghana	**9.3**	**21.6**	**10**	**−1.5**	**379**

Table 3. Ghana and Nigeria

Partial list of major privatized enterprises: food manufacturing enterprises (cocoa), breweries (Achimota Brewery), Ashanti Goldfields Company, banking (Ghana Commercial Bank), telecommunications (Ghana Telecom −30 percent).

Nigeria	**0.0**	**4.2**	**10**	**−5.1**	**257**

Partial list of major privatized enterprises: tourism (hotels), Nigerian National Petroleum Corporation, banking (First Bank of Nigeria, United Bank), cement (Ashaka, Benue), food manufacturing and production.

Note: Both countries are low-income and nondemocratic and have functioning stock markets.
[1]Code for Size of State-Owned Sector: 2 low, 4 low-medium, 6 medium, 8 medium-high, 10 high.
[2]Budget balance as share of GDP (1990–1999 average).
[3]GDP per capita (constant 1995 US$) (1990–1999 average).

1990s were valued at 21.6 percent of Ghana's 1985 GDP. In 1990, Ghana's outstanding IMF obligations totaled 12.7 percent of GDP. By 1999, Ghana had reduced those obligations to 4.0 percent as a share of GDP, reflecting at least in part the successes of its privatization program.

Nigeria, Ghana's neighbor to the east, had much less success with its privatization program. Under the direction of the National Council on Privatization (NCP), the sale of state-owned assets got off to a quick start in Nigeria in the early 1990s. By 1993, it had divested a number of enterprises in the financial (banking and insurance), agriculture, food-manufacturing, tourism, and transport (railroads) sectors, as well as a share of the Nigerian National Petroleum Company. But because of lack of investor interest, Nigeria's privatization program abruptly stalled. The national government has been unable to sell off several firms it considers "crown jewels." For example, the sale of the state-owned telecommunications operator, NITEL, has been repeatedly postponed. In 1999, the government attempted to reinvigorate its failing privatization program by creating the Bureau of Public Enterprises to oversee the NCP. But this new initiative has yet to kick-start the sale of the large set of assets that remain in the hands of the Nigerian state. During the 1990s as a whole, Nigeria privatized assets worth 4.2 percent of its 1985 GDP, but almost all of these were sold before 1993.

Nigeria was among the sub-Saharan African countries least reliant on the IFIs in the 1990s. The country had no outstanding obligations to the IMF during the decade, and World Bank assistance was less than a third as large (relative to GDP) as in neighboring Ghana. Interestingly, Nigeria stopped participating in all IMF programs in 1994—the same year that its privatization program came grinding to a halt—because of disagreements about the terms of policy conditionality attached

to IMF loans.[9] It was not that Nigeria did not need external financing. By 1991 Nigeria owed an estimated US$34 billion to members of the Paris Club and foreign commercial banks. According to the Nigerian Federal Ministry of Finance, the total external debt outstanding at the end of 1999 was US$28 billion. Of the total outstanding debt, the Paris Club constituted the highest source, with a share of 73.2 percent in 1999.[10]

This Ghana-Nigeria comparison is consistent with our argument that there may be an indirect benefit of accepting IFI loans, and the conditions attached to them, in terms of generating investor confidence in national privatization programs. Ghana seems a real success story with respect to privatization, with the IMF playing a leading role in economic policy formulation during the 1990s. Nigeria was much more independent from the IFIs, and the IMF in particular, precisely because it was unwilling to accept the policy conditions attached to IMF loans. But after a promising start, its privatization program collapsed because of a lack of investor interest, which we surmise was because of a lack of confidence that the Nigerian government, acting independently, would pursue the kinds of market reforms required to make its privatized firms good investments. We now demonstrate that this lesson of the Ghana-Nigeria comparison holds for the rest of the developing world as well.

III. Results

This section reports our statistical analyses of the determinants of privatization, focusing on the effects of outstanding obligations to international financial institutions. We begin with an aggregated cross-sectional analysis of privatization between 1985 and 1999, regressed on variables for the first half of the 1980s. We then estimate panel regressions to examine year-to-year relationships. Finally, we check the robustness of our results by analyzing privatization dynamics and selection bias in privatization outcomes. In each set of analyses, there was a consistent and strong relationship between IMF lending and privatization—privatization was greater in countries with larger outstanding obligations to the IMF.

1985–1999 Cross Section

Table 4 reports the cross-sectional results for equations that regressed privatization proceeds between 1985 and 1999 (as a proportion of 1985 GDP) on a series of variables measured from 1980 to 1984 (to mitigate potential problems with reverse causality). In our baseline model presented in column 4.1, countries with larger state-owned sectors and larger budget deficits in the early 1980s privatized more of their economies. The parameter estimate for GDP per capita was positive and close to statistical significance, implying that more developed countries privatized more. Privatization revenues were greater in the countries of East Asia and the Pacific than in the excluded reference regions of North America and Western Europe.

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[9]As late as 2001, Nigeria had failed to reach agreed policy targets with the IMF.

[10]Source: Central Bank of Nigeria: *http://www.cenbank.org/extern_debt/htm.*

	4.1	4.2	4.3	4.4	4.5
Table 4. Total Privatizations, 1985–1999[1]					
	Baseline	Developing Countries Only	Tobit	Excluding Outliers	Transactions as Dependent Variable
GDP per capita (log)	1.631	1.591	1.514	1.20	−0.390**
	(1.299)	(1.561)	(1.258)	(1.19)	(0.159)
Size of the state-owned	1.124**	0.94	1.070**	0.598	0.152**
sector in 1980	(0.499)	(0.669)	(0.485)	(0.379)	(0.061)
Budget balance	−0.299**	−0.397**	−0.292*	−0.308**	−0.012
(percent of GDP)	(0.134)	(0.192)	(0.147)	(0.137)	(0.023)
Functioning stock	1.381	1.681	2.199	2.54	1.236***
market	(2.059)	(2.466)	(2.096)	(1.83)	(0.276)
Government quality	−0.048	0.09	0.001	−0.029	0.052
	(0.285)	(0.400)	(0.301)	(0.265)	(0.040)
World Bank outstanding	−0.07	−0.034	−0.018	−0.266	−0.026
obligations (percent	(0.394)	(0.421)	(0.368)	(0.253)	(0.050)
of GDP)					
IMF outstanding	0.493**	0.434*	0.532*	0.601***	0.068*
obligations	(0.234)	(0.262)	(0.299)	(0.187)	(0.041)
(percent of GDP)					
East Asia and the Pacific	6.720*	−0.929	6.886**	7.88**	0.088
	(3.696)	(6.685)	(3.297)	(3.62)	(0.430)
Eastern Europe and	4.779	0.111	5.864	0.868	3.060***
Central Asia	(8.315)	(9.428)	(5.734)	(3.92)	(0.751)
Latin America and	4.164	−0.989	4.395	5.11	0.104
the Caribbean	(3.620)	(6.067)	(3.185)	(3.36)	(0.419)
Middle East and	−3.61	−10.801*	−3.195	−0.635	−0.820*
North Africa	(3.981)	(6.268)	(3.758)	(3.33)	(0.497)
South Asia	−4.203	−9.244	−4.043	−1.71	−0.76
	(4.361)	(6.709)	(5.567)	(3.82)	(0.703)
Sub-Saharan Africa	−3.255	−8.38	−3.304	0.042	−0.218
	(4.305)	(6.483)	(4.130)	(3.63)	(0.551)
Constant	−14.497	−9.074	−14.793	−10.3	4.705***
	(10.957)	(14.428)	(11.308)	(10.1)	(1.471)
Observations	96	70	96	93	96
R-squared	0.33	0.38	0.0558	0.37	0.0687
log likelihood			−316.45		−477.34
chibar2(01) =					3,978.85
Prob. > = chibar2					0.000

Notes: We report the cross-sectional results for equations that regressed privatization proceeds in 1985–1999 (as a percent of 1985 GDP) on a series of variables measured in 1980–1984. Standard errors in parentheses.

[1]*** indicates $p < 0.01$; ** indicates $p < 0.05$; * indicates $p < 0.10$.

Most importantly, the variable measuring outstanding obligations to the IMF was positive, substantively large, and statistically significant, whereas the estimated parameter for World Bank debt was negative and insignificant. For every dollar of outstanding debt to the IMF in 1980–1984, a recipient country privatized assets worth almost 50 cents over the next 15 years.

The remainder of our empirical analysis tests the robustness of this IMF-privatization association. We exclude all high-income countries to ascertain whether the IMF effect was influenced by the inclusion of 26 countries with no outstanding obligations to the IFIs in the early 1980s. Column 4.2 shows that this was not the case, though the IMF coefficient was somewhat smaller on the sample of developing countries only. In column 4.3, we reestimate the baseline equation using Tobit because our privatization data are left-censored at 0. The IMF coefficient was larger using the Tobit estimator than was the case in the Ordinary Least Squares (OLS) equation, whereas the other estimated parameters were similar to those reported in column 4.2.

In column 4.4, we exclude the largest outliers from the baseline regression that arguably were unduly influential on the results reported. We calculate DFITs statistics of influence, or the scaled difference between predicted values for the ith case when the regression is estimated with and without the ith observation, for each observation and then drop the three countries (Bolivia, Hungary, and Portugal) from our sample that were excessively influential on conventional interpretations of DFITs ($DFITS > 2* \sqrt{(k/n)}$) (Bollen and Jackman, 1985). Not surprisingly, the overall fit of our regression equation increases substantially when we remove these outliers. More importantly, the IMF coefficient also increased indicating that for every dollar of outstanding debt to the IMF in 1980–1984, a country privatized assets worth almost 60 cents on the dollar over the next period.

Finally, in column 4.5 we change the dependent variable from the value of privatized assets (relative to GDP) to the number of privatization transactions, using a negative-binomial estimator to take into account the left-hand censoring of the transactions variable at 0. Whereas the total revenues measure combines both the volume of assets privatized and the market's valuation of them, the transactions variable is only a volume measure. The number of privatizations measured by transactions varied enormously. In the sample of countries we use, the mean number of transactions completed over the period was 68 with a standard deviation of 152. Countries like Luxembourg and Papua New Guinea privatized only 1 enterprise, whereas Romania sold 1,180.

With the transaction variable as the dependent variable, the IMF effect was marginally positive—for every percentage point of GDP owed to the IMF in 1980–1984, a country subsequently engaged in 0.07 privatization transactions. While we cannot wholly reject the argument that IMF loans caused countries to privatize more assets—a direct effect of conditionality—it is clear that this effect was magnified many times in terms of the markets' valuations of privatized assets. We estimate that a dollar owed to the IMF in the early 1980s resulted in the privatization of assets worth between 40 and 60 cents more. This suggests a very powerful credibility effect associated with IMF lending.

There are, however, limitations to the inferences that can be drawn from Table 4. In particular, we should be cautious about drawing causal connections between a country's relationship with the IMF in the early 1980s and its privatization program through the end of the 1990s. We now reconsider this relationship using annual data.

Panel Analysis

The first column of Table 5 replicates column 4.1 but uses rectangular annual panel data for 95 countries over 1985–1999.[11] In this equation, all the regressors (except initial size of the state-owned sector) were lagged one year and we include (but did not report in the table) dummy variables for each year as well as for each region. Not surprisingly the coefficients in Table 5.1 are much smaller than those in Table 4.1 because they measured annual effects rather than those aggregated over 15 years. The positive effect of the presence of a functioning stock market on privatization revenues was more pronounced in the time series, whereas the effects of budget deficits and larger initial state-owned sector were weaker. As was the case in our cross-section analysis, the parameter estimate for outstanding financial obligations to the World Bank was again insignificant (though stronger than in the cross section).

The most important coefficient in Table 5.1 was the positive—but insignificant—impact of last year's outstanding IMF credit on this year's privatization revenues. The positive and significant finding from Table 4 combined with the insignificant effect in this equation suggests that the IMF-privatization revenues relationship may have changed over time. Indeed, we would expect the relationship to have grown increasingly strong over time, because the IMF's commitment to privatization, and to conditioning loans on the execution of national privatization programs, increased significantly during the 1990s. We tested this hypothesis in column 5.2 by interacting our IFI variables with a dummy variable for the 1990s.

As expected, column 5.2 shows that whereas outstanding IMF obligations had a small negative impact on privatization revenues in the next year, this estimate was reversed in direction and doubled in size for the 1990s; the yearly impact during the 1990s is estimated to be 0.043 (i.e., $-0.024 + 0.067 = +0.043$). That is, for every dollar a country owed the IMF in the previous year during the 1990s, it privatized assets worth 4 cents more in the current year. Over the whole decade, this effect would have been 40 cents—quite similar to the aggregate effect estimated in the cross-section regression in Table 4. In contrast with this over-time change in the IMF-privatization relationship, outstanding obligations to the World Bank did not have a significant positive effect on privatization revenues in the 1980s, and this effect lessened to near zero in the 1990s. These results are quite consistent with general views about differences in the lending practices and policy views of the two institutions.[12]

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[11] Niger had to be excluded from the panel data analysis because of missing data on some independent variables in the late 1980s and early 1990s.

[12] Because panel estimates are biased with fixed effects and lags, we also used the Arellano-Bond specification of generalized method of moments (GMM). With a single lag on the privatization variable, the IMF effect remained significant at the 0.01 percent level (coefficient of 0.075); the World Bank variable was not significant.

Table 5. Annual Privatizations, 1985–1999[1]

	5.1	5.2	5.3
	Baseline	Before and After 1990	Additional Variables
GDP per capita (log)	0.072	0.063	0.135
	(0.082)	(0.084)	(0.115)
Size of the state-owned	0.053*	0.048	0.041
sector in 1980	(0.030)	(0.030)	(0.031)
Budget balance	−0.006	−0.008	−0.009
(percent of GDP)	(0.009)	(0.009)	(0.009)
Functioning stock market	0.275**	0.263**	0.230*
	(0.126)	(0.127)	(0.138)
Government quality	0.014	0.011	0.015
	(0.022)	(0.022)	(0.025)
World Bank outstanding	0.011	0.011	0.014
obligations (percent of GDP)	(0.007)	(0.009)	(0.010)
World Bank X 1990s		−0.009	−0.009
		(0.008)	(0.008)
IMF outstanding obligations	0.007	−0.024*	−0.024*
(percent of GDP)	(0.012)	(0.013)	(0.013)
IMF X 1990s		0.067***	0.068***
		(0.022)	(0.021)
Democracy			−0.132
			(0.163)
Trade (percent of GDP)			−0.001
			(0.001)
FDI inflows (percent of GDP)			0.001
			(0.037)
British legal heritage			0.316**
			(0.130)
French legal heritage			0.314**
			(0.140)
Socialist legal heritage			0.654*
			(0.359)
Constant	−1.237*	−1.045	−1.736*
	(0.747)	(0.754)	(1.007)
Observations	1,236	1,230	1,170
Number of countries	95	94	91
R-squared	0.0609	0.0714	0.0770
Joint Hypothesis Test		F(1, 1208) = 10.04	
(IMF and IMF X 1990)		Prob. > F = 0.0016	

Notes: The first column of Table 5 replicates column 4.1 in Table 4 but uses *annual* panel data for 95 countries in 1985–1999. All regressors were lagged one year. In column 5.2, we interacted our IFI variables with a dummy variable for the 1990s. In column 5.3, we assessed the sensitivity of our IMF result to the effects of other mediating variables common in work on international development. Standard errors in parentheses.

[1]*** indicates p < 0.01; ** indicates p < 0.05; * indicates p < 0.10.

In column 5.3 we assess the sensitivity of our IMF result to the effects of other mediating variables common in work on international development. We consider the effects of democracy, international economic openness (measured by levels of trade and foreign direct investment), and differences in legal systems (legal heritage) on privatization revenues. Though some of these variables were significant (notably, differences in legal heritage), the IMF coefficient for the 1990s was unaffected by their inclusion. In sum, Table 5 reinforces our central finding from Table 4, with the modification that the positive effect of IMF obligations on privatization revenues was a 1990s' phenomenon.

Additional Robustness Checks: Selection and Dynamics

We conduct two final robustness checks for our central IMF-privatization result. First, we correct for selection bias in the extent of national privatization programs, using the procedure advocated by Heckman. Second, we take into account the fact that countries' privatization programs tended to last for several years (i.e., creating dynamic connections between last year's and this year's privatization revenues). The results of these analyses are reported in Table 6.

The selection-corrected estimates are presented in column 6.1. The model specification is full maximum likelihood, which permitted using the inverse Mills ratio to calculate the probability density over the cumulative density function. This ratio was then used in the estimating equation, along with the other regressors. We use three variables to estimate the selection equation: a country's budget balance, domestic fixed investment, and foreign exchange reserves (all lagged one year). The results of the likelihood test indicate that the selection model and the estimating model were very highly correlated and that the bias (downward) significant. But once these selection effects are taken into account, it is still the case that the more money a country owed the IMF in a given year, the more privatization revenues were generated in the following year.

Column 6.2 includes a country's lagged privatization revenues as a regressor to take into account the fact that national privatization programs typically last several years. We would expect that once a country began privatizing it would continue to do so and hence that the lagged dependent variable would have a positive and significant impact on this year's privatization revenues. Column 6.2 demonstrates that this dynamic was strongly evident in our privatization data. Nonetheless, even when we control for past privatization, a country's outstanding obligations to the IMF were still positively associated with its subsequent privatization revenues. Given that we controlled for the propensity for privatization programs to persist over time, this annual—incremental—IMF effect is striking.

In summary, Table 6 confirms that IMF lending had a positive impact on privatization revenues. This positive impact persisted even after correcting for the propensity of countries already committed to market reform to also participate in IMF programs and after taking into account that once a country began to privatize state-owned assets, it was likely to continue privatizing for several years.

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	6.1	6.2
	Selection	Dynamics
Privatization (percent of GDP), lagged		0.223***
		(0.066)
GDP per capita (log)	0.090	0.065
	* (0.052)	(0.041)
Size of the state-owned sector in 1980	0.056***	0.041***
	(0.019)	(0.016)
Budget balance (percent of GDP)	−0.003	−0.004
	(0.005)	(0.004)
Functioning stock market	0.178**	0.150**
	(0.090)	(0.075)
Government quality	0.002	0.001
	(0.015)	(0.012)
World Bank outstanding obligations (percent of GDP)	0.007	0.004
	(0.005)	(0.004)
IMF outstanding obligations (percent of GDP)	.017**	0.012**
	(0.007)	(0.005)
Constant	−1.44***	−1.06***
	(0.415)	(0.323)
Selection equation		
Budget balance (percent of GDP)	0.031***	0.031***
	(0.006)	(0.006)
Domestic investment (percent of GDP)	0.019**	0.019**
	(0.008)	(0.008)
Foreign exchange reserves (percent of GDP)	−0.019***	−0.019***
	(0.002)	(0.002)
Constant	3.36***	3.36***
	(0.372)	(0.374)
athrho	−0.050	−0.046
	(0.034)	(0.030)
lnsigma	0.051	0.028
	(0.116)	(0.125)
Lambda (Mills ratio)	−0.052	−0.047
	(0.036)	(0.031)
Observations	1,265	1,265
Number of countries	96	96
log likelihood	−1,864.15	−1,835.11
Wald chi2	193.17	393.57
Prob. > chi2	0.0000	0.0000
Wald test of independent equations chi2(1) =	2.14	2.35
Prob. > chi2	0.1438	0.1256

Table 6. Selection Effects and Dynamics[1]

Notes: We conducted two final robustness checks on our central IMF-privatization result. In column 6.1, we used the Heckman model to correct for selection effects. In column 6.2, we included a country's lagged privatization revenues as a regressor to take into account the fact that privatization programs typically last several years. Standard errors in parentheses.

[1]*** indicates p < 0.01; ** indicates p < 0.05; * indicates p < 0.10.

IV. Conclusion

We analyze the relationships between the IFIs and privatization in three steps. First, we use cross-section regressions from 1985 to 1999 to ascertain whether outstanding IFI obligations affected the scale of a country's overall privatization programs. The central result of this analysis was that the more countries owed the IMF before 1985, the greater were their subsequent revenues raised from the sale of state-owned assets. Second, we analyze panel data to see whether this aggregated effect was evident in year-to-year data: did how much a country owed the IMF last year increase its privatization revenues this year? Our analysis answered this question affirmatively but with an important qualification. The impact of IMF lending on privatization revenues was a 1990s' phenomenon—when IMF conditionality with respect to privatization hardened. Third, we control for significant selection effects and for over-time persistence in national privatization programs. Doing so did not weaken our central IMF-privatization result.

What do these results mean? They have little to say about the efficiency of privatization, per se. But they do point to a critical role played by the IMF in altering market perceptions of country risk. It has long been a theoretical defense of IMF bailouts that they are required not only to provide short-term liquidity but also to stave off disastrous self-fulfilling fears in the market place. Consistent with this line of argument and with recent studies questioning the direct impact of the IMF on economic growth, our results suggest that the primary value of the IMF may be financial market enhancement rather than the provision of capital.

Recent evidence has failed to find a strong catalytic role for IMF programs with respect to overall capital flows into developing countries. Our results indicate, however, that IMF programs have attracted capital for the specific purpose of purchasing formerly state-owned assets. In the longer run, of course, this program success could have important implications for broader processes of economic development through attracting more capital investments at more favorable discount rates. Even if the efficiency-enhancing effects of privatization do not seem as powerful in practice as they are in theory, and even if IMF lending does not have direct effects on economic growth, privatization is more attractive to investors in cases where the privatizing government owes the IMF money and is subject to the policy conditionality.

This conclusion points to an important development tool available to countries and the Fund. Of course, the implication should not be that privatization is recommended to all countries at all times. If enhancing credibility is a primary contribution of the IMF, it is important to consider other policy measures that might deliver this outcome more efficiently and at less cost in social and economic terms. Critics of international financial organizations have long noted that the IMF is an economic institution influencing the political economy of investment. Our findings confirm that financial markets perceive the IMF as playing an important role in enhancing the credibility of governments in raising foreign capital and in increasing the revenues from the massive privatization of the past two decades. The increased revenues represent a large, important capital flow to poor countries that should not be underestimated.

APPENDIX I

Country-Level Privatizations, 1985–1999

	Revenues (billions, 1985 US$)	Average Revenues (percent of 1985 GDP, unweighted)	Transactions	Size of the State-Owned Sector in 1980[1]
East Asia and the Pacific				
Australia	68.91	25.2	118	medium-low
China	22.22	8.1	281	high
Indonesia	6.26	6.4	50	medium-high
Japan	164.39	4.3	12	low
Korea, Rep. of	15.37	7.2	30	medium-low
Malaysia	11.45	28.2	91	medium
New Zealand	13.63	27.0	66	medium
Papua New Guinea	0.24	8.2	1	medium
Philippines	5.32	10.1	118	medium-low
Singapore	4.80	13.3	25	medium-low
Thailand	5.44	8.0	39	medium
Eastern Europe and Central Asia				
Hungary	15.52	31.6	1037	high
Romania	2.32	5.6	1180	high
Turkey	5.49	4.9	236	medium-high
Latin America and the Caribbean				
Argentina	42.68	22.1	230	medium
Bolivia	1.84	37.6	98	medium-high
Brazil	73.12	13.4	215	medium-high
Chile	7.87	25.3	89	medium
Colombia	9.09	15.3	65	medium-high
Costa Rica	0.06	0.8	8	medium
Dominican Republic	0.43	5.1	6	medium
Ecuador	0.13	1.0	16	medium-high
El Salvador	1.14	18.0	23	medium-low
Guatemala	1.32	12.8	8	low
Guyana	0.18	36.5	32	high
Haiti	0.02	0.8	3	medium-low
Honduras	0.11	3.8	41	medium-low
Jamaica	0.70	20.7	47	medium-high
Mexico	40.36	16.5	317	medium-high
Nicaragua	0.14	6.6	78	high
Panama	1.92	30.7	21	medium
Paraguay	0.02	0.4	5	low
Peru	8.80	19.5	196	medium
Trinidad and Tobago	0.46	8.2	22	medium-high
Uruguay	0.02	0.2	12	medium
Venezuela	6.88	12.0	69	medium-high

	Revenues (billions, 1985 US$)	Average Revenues (percent of 1985 GDP, unweighted)	Transactions	Size of the State Owned Sector in 1980[1]
Middle East and North Africa				
Bahrain	0.30	8.1	4	medium
Egypt, Arab Rep. of	5.31	12.8	165	medium-high
Iran, Islamic Rep. of	0.02	0.0	3	medium-high
Israel	7.26	14.0	50	medium-high
Jordan	0.06	1.2	6	high
Kuwait	2.19	12.4	21	medium-high
Morocco	3.91	15.4	84	medium-high
Oman	0.06	0.8	8	medium-high
Tunisia	0.58	4.5	76	high
United Arab Emirates	0.19	0.6	2	medium-low
North America and Western Europe				
Austria	11.05	6.0	51	medium-high
Belgium	8.68	3.9	13	medium-low
Canada	23.90	5.2	77	low
Denmark	9.33	6.1	13	medium-low
Finland	10.74	9.4	46	medium-low
France	89.28	7.1	58	medium
Greece	9.86	10.0	46	medium-high
Iceland	0.33	5.7	27	low
Ireland	5.97	14.2	17	medium-low
Italy	102.20	11.4	89	medium
Luxembourg	1.07	10.4	1	medium-low
Malta	0.28	15.0	2	medium
Netherlands	17.22	5.4	52	low
Norway	2.65	2.3	14	medium
Portugal	24.65	32.7	92	medium-high
Spain	49.67	11.3	90	medium
Sweden	12.86	6.2	21	medium
Switzerland	4.60	1.7	3	low
United Kingdom	130.09	14.7	139	medium
United States	7.75	0.1	20	low
Southeast Asia				
Bangladesh	0.06	0.3	32	medium-high
India	8.29	4.1	96	high
Pakistan	2.22	6.1	109	high
Sri Lanka	0.84	10.2	98	medium-high
Sub-Saharan Africa				
Burkina Faso	0.02	0.9	35	medium-high
Cameroon	0.09	0.9	31	medium
Congo, Dem. Rep. of	0.00	0.0	23	high
Congo, Rep. of	0.04	1.6	67	high
Côte d'Ivoire	0.68	7.8	96	high
Ethiopia	0.35	8.9	162	medium-high

(*continued*)

	Revenues (billions, 1985 US$)	Average Revenues (percent of 1985 GDP, unweighted)	Transactions	Size of the State-Owned Sector in 1980[1]
Gabon	0.03	0.8	8	medium-high
Gambia, The	0.01	4.1	32	medium-high
Ghana	0.90	21.6	227	high
Guinea-Bissau	0.01	2.8	21	medium-high
Kenya	0.23	3.7	190	high
Malawi	0.06	5.5	73	high
Mali	0.07	3.2	68	medium
Niger[2]	0.00	0.3	29	medium
Nigeria	0.85	4.4	95	high
Senegal	0.23	6.3	54	medium
South Africa	4.53	3.4	33	medium-high
Togo	0.06	5.4	55	high
Uganda	0.17	5.4	101	medium-high
Zambia	0.38	11.2	253	high
Zimbabwe	0.78	14.6	9	medium-high

Source: Brune (2004).

[1]Gwartney, Lawson, and Block (1996).

[2]Not included in panel analyses because of data limitations.

APPENDIX II

Description of the Variables

Variable	Definition	Source
Privatization	Lagged value of privatization revenues as percent of GDP	Brune (2004). Global Privatization Database
SOE80	Size of state-owned sector in 1980; (0–10 score, with 10 = extensive state ownership)	Gwartney, Lawson, and Black (1996); supplemented using imputation analysis and other sources
GDP PC (log)	Gross domestic product per capita (constant US$), logged	World Bank Development Indicators 2002 CD-ROM
Budget balance	Overall budget balance as share of GDP	IMF IFS 2002 CD-ROM and World Development Indicators 2002 CD-ROM
IMF	IMF financing as a share (percent) of GDP	World Bank Development Indicators 2002 CD-ROM
World Bank	EBRD and IBRD loans as a share (percent) of GDP*	World Bank Development Indicators 2002 CD-ROM
Stock market	Dummy variable = 1 if country has stock market	Authors
Trade	Exports plus imports as share of GDP	World Bank Development Indicators 2002 CD-ROM
FDI inflows	Foreign direct investment, net inflows as share of GDP	World Bank Development Indicators 2002 CD-ROM
Democracy	Dummy = 1 if country has democratic regime	Przeworski, Alvarez and others, 2000
Quality of government	Sum of corruption, rule of law, and bureaucratic quality scores (0–18, with 18 = high quality of government)	La Porta and others (1999); Easterly and Yu (1999)
British legal heritage	Dummy = 1 if country has British (common law) legal heritage	La Porta and others (1999); Easterly and Yu (1999)
French legal heritage	Dummy = 1 if country has French (civil law) legal heritage	La Porta and others (1999); Easterly and Yu (1999)
Socialist heritage	Dummy = 1 if country has socialist legal heritage	La Porta and others (1999); Easterly and Yu (1999)

Note: European Bank for Reconstruction and Development (EBRD); International Bank for Reconstruction and Development (IBRD).

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