PRIVATISATIONS AND INSTITUTIONS:
A CROSS-COUNTRY ANALYSIS

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Abstract

Which legal, political, and economic institutions are shaping privatisation processes in the world? This paper addresses the issue presenting new evidence for a sample of 49 countries. From an empirical analysis for the period 1977-96, the decision to privatise appears to be influenced by the political majority and public sector budget constraints, but the success of a privatisation process requires, most of all, appropriate legal institutions and developed capital markets.

Keywords: Privatisations; Corporate Law; Capital Markets.
JEL classification: G30, K22

Contents

1   Motivation

Privatisations have inspired an extensive theoretical literature, but empirical analysis for a large cross-section of countries are still scanty. It is timely to use the new data available to test some of the many competing theories of privatisations, providing some answers to the following fundamental questions: i) why do countries privatise? ii) how do governments privatise?

At first sight, all countries appear to be involved in privatisations. At a closer inspection, however we observe a great diversity both in the volume and in the quality of State sell-offs. We bring therefore into the analysis institutional factors and show that legal institutions, alongwith economic and political variables, are useful for a better understanding of privatisation processes at the world scale.

2   Privatisations: a *Fin de Siècle* Trend

Privatisation is a major trend in industrial countries, transition economies and emerging countries. The process began in the late Seventies, with the Thatcher government in Great Britain but it quickly spread across countries and continents to become a distinguishing feature of *fin de siècle* capitalism (Figure 1).

Privatisations are now common to most countries and occur across geographical regions (Figure 2-3) and sectors (Figure 4); nevertheless, few governments genuinely transfer ownership and control to the private sector. In major floatations for the period 1977-1996 - i.e. public offers - the majority of stock was sold only in 41% of the 317 companies under scrutiny. This rough evidence indicates that partial sales are still a common feature of privatisation processes around the world. Furthermore, we observe a systematic differences in the ways State assets are sold. Some countries tend to bypass security markets opting for private placements to institutional investors. Others choose to widen share ownership via security markets.

Against this background of diversity in privatisation processes, we set forth two definitions, that are instrumental to the statistical analysis of the data. The *quantity* of privatisations is defined in terms of (i) the total number of sales implemented by a country and by (ii) the aggregate revenues raised. The *quality* of privatisations is defined in terms of (i) the percentage of stock sold and (ii) the percentage of public offerings on total sales. Analysing quantity, we will examine the factors that may trigger the privatisation process, trying to explain why some countries have privatised more than others. Analysing quality, we will focus instead on the outcome of the offers to find possible explanations for the persistence of partial privatisations and to identify the reasons leading to the choice of the sale procedure. However, while constructing a quality measure, we will not express judgments on the final results of privatisations. We are aware that the evaluation of the overall welfare effects of privatisations

in terms of performance, efficiency, and redistribution among stakeholders cannot be carried out referring to a few indicators, mainly related to the structure of the placements.

We claim that institutions - and mostly legal institutions - are fundamental to explain the quantity and quality of privatisations. Legal institutions should be important for the following reasons: first, Common law and civil law countries differ in the constitutional requirements that define the State's economic activity and regulate State assets disposal. In this perspective, the size of government - and consequently the scope and speed of privatisations - become endogenous to legal families. Second, we know that legal protection varies across legal origin, affecting financial markets development and ownership structures (La Porta - Lopez-de-Silanes - Shleifer - Vishny (henceforth LLSV) [35] and [36]). Legal protection could also matter in privatisations: in fact, governments should be concerned with legal protection of investors of privatised firms, mostly when they opt for large floatations to create a population of diffuse shareholders. Moreover, governments extract the full market of the company where broad and liquid capital markets are operational. Finally, ownership concentration - partly determined by legal institutions - is critical in the choice of the sale procedure. In fact, dominant investors can easily interfere in the allocation of shares.

Institutions define the playground of privatisations. But privatisations have strong political underpinnings; it is therefore important to bring into the analysis governments' ideological preferences and budget constraints. It is often stated that "right wing" governments are more prone to privatise: a rationale for this preference is the creation of a middle class of small capitalists, more inclined - as shareholders - to support market-oriented policies and to vote with the right in the future [Vickers - Yarrow [56]; Biais - Perotti [5]]. Moreover, public finance matters: a financially distressed government has incentives to sell-off to improve the budget. As forcefully stated by a the literature on the political economy of privatisations, governments face credibility constraints: they need to marshal the support of domestic and international investors over time and establish their reputation in terms of commitment to privatise [Branco - Mello [8]; Perotti [44]].

Alongwith institutions and political factors, we take into account that a country's stage of development - in terms of national income, growth rates - and income distribution distribution are at least useful control variables that warrant some attention.

Our main results can be summarised as follows. First, legal institution matter in privatisations; our empirical results show that on average - maybe due to different constitutional provisions - common law countries appear to be more involved in privatisations. Morever, French civil law countries typically bypass capital markets, opting more frequently for private placements than common law countries. Last but not least, shareholder legal protection allows governments to sell higher stakes. Genuine privatisations are therefore easier to accomplish

where appropriate legal institutions exist.

Second, the decision to privatise and the structure of the offer is strongly related to "supply" factors. Governments supported by conservative coalitions privatise more and with the aim to spread shareholding via large public offerings. Moreover, fiscal crises or deficit targets trigger or increase the pace of State assets disposal.

Finally, revenue generation is instead affected by "demand" factors, like capital markets' liquidity and government credibility as perceived by investors. An established rule of law, sound political institutions and liquid capital markets allow governments to maximise proceeds. The first two conditions foster the credibility of a country's privatisation scheme and marshal the support of investors. Market liquidity allows instead governments to extract the full market value of the company, avoiding highly discounted fixed price offerings.

The paper is organised as follows: section 3 presents the related literature; section 4 describes the data and the theoretical predictions that we test; section 5 provides a descriptive statistical analysis of the data; section 6 presents the results of the empirical tests. Section 7 concludes.

3   Related Literature

From the early Eighties, privatisation programmes inspired an extensive literature on the rationale and the objectives of sell-offs, on their determinants and effects and, more recently, on their political dimension. (Bos [9], Glade [24], Handler [27], Laffont - Meleu [33], Ott - Hartley [43], Yarrow - Jasinski [59], Vickers - Yarrow [56]) In this literature, empirical studies are significant. However, they are basically case studies at the country or sectoral level, as the quality of the data does not allow for cross-country investigations. (Baer - Birch [3], Bishop - Kay - Mayer [6], Clarke - Pitelis [12], Dallago - Mittone [14], El Nagar [18], Lopez-de-Silanes [38], Ramanadhan [47] and [48], Wright [58])

To our knowledge, few empirical papers have dealt with privatisations on a world scale. Jones et al. [31] study underpricing in 137 privatised companies in 34 countries and find evidence that it is more frequent where governments need to gain domestic political support. Megginson - Nash - Van Randerborgh [39] compare the financial and operating performance of newly privatised firms in 18 countries and find substantial improvements in terms of turnover, profitability, capital investment and overall efficiency. Galal et al. [22] study the effects of 12 privatisations in Chile, Malaysia, Mexico, and United Kingdom, identifying gains and losses due to privatisations, and finding that, in most cases, the net effects were positive for the enterprise and for the national economy.

4 Data and Variables

Our sample includes a broad cross-section of countries (49), both developed and under developed, observed between 1977 and 1996. As we look also for legal determinants of privatisations, we focus on the same countries analysed by LLSV.

Data on divestiture are obtained from Privatisation International that, to our knowledge, is the most comprehensive source for data at the company level. During the period under observation, 1415 major operations were reported (562 public offers - henceforth PO - and 853 private sales -henceforth PS) in 101 countries, generating US$544,513 millions of revenues. Transition economies were excluded from the sample mainly because our database does not report sales featuring less than US$500,000 of revenues. Operations of that kind are typical in Russia, Czechoslovakia, Poland and other transition economies, where either very small firms were sold, or the voucher or zero-price privatisations took place. (Barberis et al. [4] and Frydman, Pistor, Rapaczynski [21]) In this countries, moreover, privatisations were implemented without the legal and economic institutions on which our analysis is focused. The choice of the time span is appropriate, since excluding the sporadic privatisations in West Germany in the Sixties, in Ireland in 1972, in Chile in 1973, the US$463 billion of revenues raised during the period under observation account for the largest proportion of total revenues of the century.

4.1 Quantity Variables

A first step of our analysis is to identify the volume of State assets disposal by country, that we define the quantity of privatisations. We use two measures for quantity: the total number of public offers (henceforth PO) and private sales (henceforth PS) per country (SALES) and the aggregate proceeds from total operations in US$ millions 1996 (REVENUES).

The two variables are equally important and complement each other. The variable SALES proxies the willingness of incumbent governments to privatise the economy. SALES alone tend to overestimate the extent of one country's privatisation program implemented by many tranches or involving mainly small companies. Inferring the quantity of privatisations from the variables REVENUES only would instead overestimate the volume of State assets disposal in a country that has generated high proceeds through a few large floatations.

Three examples will clarify the importance of this correction. With 28 issues, Austria is placed 15th in the ranking by sales, but 20th by revenues. This is due by the fact that typically many tranches were issued (four tranches for ÖMV - oil and gas - and three small tranches for VAE - rail equipment - totalling respectively US$1,065 millions and US$196 millions). Egypt instead in placed 9th in the ranking by sales, but only 36th by revenues. In fact, very small POs were typically implemented, ranging from US$4 millions (Alexandria Pharmaceuticals and

Chemical Industries) to US$119 millions (Commercial International Bank).

The Japanese privatisation program is one of the most successful in terms of proceeds. With approximately US$110 billions, Japan is placed second in the ranking by revenues. Japan has implemented only nine operations: the three large POs of NTT - the fourth world largest corporation in terms of market capitalisation in FT 500 1996 - have generated revenues worth US$81 billions, accounting for the 73% of the total. The success of these floatations is partly explained by the dimension of the company, and partly by the positive outlook for the equity markets in the 1986-88 period, when the NTT tranches were issued. Furthermore, the government still owns 65 % of stock, dwarfing the 1 % held by foreign investors.

The quantity indicators are useful to provide a first measure of the willingness of governments to privatise and of the economic impact of one country's privatisations. Nevertheless, if we focus only on quantity some interesting questions concerning privatisations remain unexplained: did ownership change hands? Was the auctioning of public enterprises designed to modify prevailing ownership structures?

4.2 Quality Variables

To address these questions, we introduce the quality of one country's privatisations in terms of the two variables STOCK and PO/SALES.

The variable STOCK is defined as the country average of privatised stock per company. When the issue involved different tranches, we calculated the cumulative value, taking into account whether over allotment options were exerted. Privatisations are typically partial; therefore this variable is a rough measure of the willingness of the incumbent governments to sell SOE assets. Obviously, the fact that the majority of stock is sold does not imply that the government relinquished control. Golden shares or other statutory constraints on shareholders rights may grant the government the power to veto on some strategic decisions. Nevertheless, the transfer of the majority of stock is a necessary, albeit not sufficient, condition for a genuine privatisation.

STOCK refers to the companies privatised by PO and PS; PS involve smaller companies where privatisation is often full or covers a very high percentage of stock. PO instead are used to float shares of larger companies, and by consequence much revenue is often raised without selling a high percentage of stock. The simple mean therefore overestimates the average stock privatised in a country that has implemented more PS than PO but raised more revenues by PO than by PS. To find a more representative figure, we introduce the variable WSTOCK, that is a weighted average stock where the weights are given by the ratios between the revenues from privatisation by PO and PS and total revenues per country. An example would clarify the working of this weighing procedure. A country like Italy has privatised 25 companies (11

7

by PO and 14 by PS) generating US$ 30,762 millions in revenues. The average stake sold by PO is 43%, while the one by PS is 82%. The simple mean of privatised stock is 70%. Given that 80% of proceeds have been generated by PO, the weighted average is 50.8%. In this way, the average privatised stock is closer to the "true" value, namely the value that on average has generated the largest proportion of revenues.

The proportion of POs (PO/SALES) captures a fundamental qualitative feature of privatisations, namely the commitment by the government to consider security markets as the primary source of equity. In contrast, PS bypass markets allocating the stock to institutional investors. In this case, political control is *de imperio* replaced by private concentrated ownership precluding the possibility that the company is held by diffuse shareholders. PS are prevalent in Latin America; they account for the 92% of total operations and have generated 75% of the proceeds. In addition, countries like Chile and Venezuela have systematically opted for this auctioning procedure. On the contrary, PO appear to be typically concentrated in the Far East, where they account for 82% of total operations and 96% of total revenues. Moreover, Japan, Thailand, and Singapore have privatised only by PO and Korea and Taiwan exhibit very high PO/SALES ratios (around 80%).

4.3 Legal Families and the Size of Government

Which factors are more useful to explain the variance in the quantity and quality of privatisations across countries? As we stated in the introduction, our empirical analysis is intended to test some predictions of the theories that focus on the institutional determinants of privatisations. In this section, we briefly present these theories and the variables we use in our empirical test.

Conceptually, legal institutions could affect one country's privatisation program. In many countries, constitutional provisions underpin the functioning of the economic system, often restraining the scope of the private sector and granting the State's monopoly in the provision of strategic services. An obvious but important consequence stems from this observation: if the size of public sector economic activities is determined by the constitution, privatisations will be more difficul to implement where fundamental norms have to be amended to allow State asset disposal.

For instance, according to the 1946 French Constitution, "all property and enterprises of which the running has, or acquires, the character of a national public service or of an actual monopoly are to become public property." (cit. in Graham - Prosser [25], p.76) Obviously, this provision does not imply that a French government willing to privatise will be totally prohibited to. Nevertheless, it would face more difficulties in implementing fundamental changes. The Italian Constitution (art.43) also grants special rights to the State in strategic sectors:

"for purpose of general utility the law may reserve in the first instance or transfer, by means of expropriation and payment of compensation, to the State, to public bodies, or to labor or consumer communities, certain undertakings or categories of undertakings operating essential public services, sources of power, or exercising monopolies and invested primarily with a character of general interest." (art. 43) The Portuguese Constitution declared irreversible the 1974 nationalisation, and it had to be amended twice in 1982 and 1989 to allow for privatisations. Outside Europe, The Mexican and the Brasilian Constitutions also grant monopoly rights to the State and have been amended in 1990 and 1995 respectively. Similar provisions can be find in Bolivia and Indonesia. Morever, the constitutions of Benin, Morocco, Senegal and Togo require the parliamentary approval of privatisation law. Conversely, United Kingdom, Australia, Malaysia, and New Zealand, grant governments the power to privatize without the intervention of the legislature (Guislain [26]).

Quite surprisingly, the countries that grant the State exclusive rights and restrict the power of governments to privatise typically belong to the French civil law tradition. In those countries, we would therefore expect a larger size of government and a lower quantity of privatisations.

We proxy the size of government in our 49 countries by the average of SOE value added and SOE investment as a proportion of GDP.[1] The average for common law countries is 11%; the average for French and German civil law countries is 15% and 12% respectively. These rough data suggest provide a first confirmation of our conjecture. On average, French civil law countries exhibit the largest size of government.

We would therefore expect French law countries relatively less active in privatisation for the same institutional reasons that explain the larger extent of public sector economic activity, namely the presence constitutional provisions that hinder the privatisation of the strategic sectors. We test this theory using the dummies FRENCH LAW and GERMAN LAW according to the classification by LLSV in the analysis of the quantity of privatisations.

4.4 Legal Protection, Financial Markets Development, and Corporate Governance

Recent literature (Modigliani - Perotti [40], [41]) argues that differences in legal protection of investors are useful to explain the variance we observe in financial systems around the world. LLSV [35] have shown that common law countries afford extensive legal protection to small shareholders; at the polar opposite, French civil law countries, such as Italy, protect investors much less; German and Scandinavian civil law countries lie somewhere in between. Furthermore, ownership diffusion is positively correlated to investors protection, so that in

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[1]The first is estimated as the ratio between the sales revenue minus the cost of intermediate inputs and GDP; the second is the ratio between SOE fixed capital formation and GDP. Both variables are referred to the period 1978-91. Source: World Bank [57]

French civil law countries ownership is more concentrated and by consequence public equity markets less developed. Using the same set of legal variables, LLSV [35] show that financial markets development is positively correlated to shareholder protection; firms face less difficulties in raising external funds - debt or equity - the better the legal protection a country affords to corporate investors. (Rajan-Zingales [46])

We claim that legal institutions could also influence the quantity and quality of one country's privatisation program. If, traditionally, a country affords extensive legal protection to investors, financial transactions will be less costly and security markets will develop. Governments operating in countries with broader and more liquid capital markets are more likely to receive the full market value of the company and to relinquish control more rapidly. On the contrary, where the appropriate legal institutions do not exist, governments may be induced to bypass security markets or sell State assets at highly discounted fixed-price offerings.

To test this conjecture, we put first in relation legal origin with aggregate revenues, the second measure for the quantity of privatisation. Lower proceeds in French civil law countries would indicate that privatisations are less successful where investor protection is poor. To test the importance of financial markets - partly determined by legal institutions - on revenue generation, we add the financial development indicators recently developed by Demirguc-Kunt-Levine [16]. A first indicator is the total value traded on GDP (FLOAT). To complete the picture for liquidity, we introduce the turnover ratio, defined as the value of total traded shares on market capitalisation (TURNOVER). Turnover complements market capitalisation; countries like Norway and India have small capitalisations but are extremely active.

Second, we use the same dummies and legal protection indicators developed by LLSV to study the quality of privatisations in terms of percentage of stock sold, under the assumption that a better legal protection should induce benevolent governments to sell a larger stake in privatised companies. Legal protection is defined in terms of legal rules and their enforcement as in LLSV's papers. The shareholders rights index (SHAREHOLDER) measures the legal protection that a country's company law affords against the risk of expropriation by managers. We added the one share-one vote rule to the antidirector rights in LLSV [35], taking into account the existence by law of proxy by mail, cumulative voting for directors, oppressed minority mechanisms, requirements about the deposit of shares prior to general share holders meeting, and minimum percentage of shares to call for an extraordinary meeting at 10% or below. The creditors rights index (CREDITOR) is directly taken from LLSV [36] and conveys information about the bankruptcy law of a country and accounts for the existence of restrictions such as creditors consent to file for reorganisation, automatic stay on assets, special rights for secured creditors, and management stay on the reorganisation process. The enforcement of law index (ENFORCE) is the average grade obtained by a country for the efficiency of the

judicial system and corruption. The three variables account for the level of deterrence against managerial misconduct.

Finally, as LLSV [35] have shown, legal protection affects corporate governance. We would therefore expect that where strong blockholders are the dominant investors, the issues are typically implemented via PS. On the contrary, where equity markets are developed, the legal environment allows large floatations by PO. To test this hypothesis, we analyse the relation between legal tradition and the PO/SALES ratio, our second measure for the quality of privatisations.

4.5 The Political Economy of Privatisations

There are sound reasons to believe that privatisations have a political dimension. Conservative parties are believed to be more prone to privatise the economy than socialist or democratic parties. A rationale for this may be a forward-looking behaviour by a conservative government striving to gain future support from the constituencies of shareholders of newly privatised companies. In this sense, privatisations may represent a possibility of switching to forms of "popular capitalism", as some recent results predict. (Biais - Perotti [5] and Jones et al. [31]) Alternatively, a left wing party may thwart privatisations because they tend to jeopardize employment. (Boycko - Shleifer - Vishny [10]) In addition, the auctioning of public enterprises can be structured in order to render more difficult future nationalisations by left wing governments Stiglitz [54]. Large floatations by PO - often with underpricing - tend to create ownership diffusion and that reduces the likelihood of government expropriation.

Collecting evidence on the political economy of privatisations for a large number of countries is not an easy task. In many cases privatisations occurred over a time span that featured changes in political regime or coalition realignments. A reasonable proxy for the prevalence of a right or left wing party, however, can be constructed considering which incumbent party has carried out the majority of sales in a country. The dummy RIGHT therefore takes value 1 when that party was conservative, and 0 otherwise. In most countries, this distinction was clear-cut.

To test the above mentioned theories on the political economy of privatisations, we analyse the statistical relations of the political dummy with the variable SALES - to determine whether right wing governments are more willing to privatise - and with PO/SALES - to test whether conservative governments choose the PO procedure in order to create ownership fragmentation.

As stressed by some recent literature (World Bank [57]), an important facet of the political dimension of privatisation is the ability of the government to marshal the support of investors. This ability is related to many factors, namely the credibility and reputation of the government, the presence of restraints on policy reversals and on the implementation of economic policies, etc. In addition, Perotti [44] provides a theory for partial privatisation and underpricing

based on reputation and strategic commitment that it is interesting to test. In his model, the structure of the offer conveys information on the willingness of governments to bear residual risk. According to Perotti's theory, partial privatisations commit governments not to shift policy in the future. A credible government does not need to signal commitment and will be able to sell larger stakes in privatised firms.

As to the measurement of a government's reputation, we follow World Bank [57] including a variable (CREDIBILITY) that is an average of the country rankings in terms of rule of law, risk of expropriation and of repudiation of contracts by the government. As stressed in the International Country Risk Guide, a country with an established law and order tradition has sound political institutions, a strong court system, and provisions for an orderly succession of power. A country where the risk of contract repudiation by the government is high may initiate a contract modification with a foreign business because of an income drop, budget cutbacks, a change of government, or a change in the government's economic and social priorities. The risk of expropriation of private foreign investments encompasses outright confiscation and forced nationalisation. All these sources of political risk may obviously affect the success of the privatisation programme of a country. (Sackman-Coltman [52]) We test these theories introducing our credibility measure in the statistical analysis of REVENUES, since country risk should matter in revenue generation, and of STOCK and WSTOCK, to verify whether the strategic commitment allows to privatise larger stakes.

4.6 Public Sector Deficits

Many events may trigger privatisations in a country. However, when fiscal crises occur, it is increasingly difficult for governments to continue to subsidize inefficient State-owned enterprises. (Dewatripont - Roland [17]; Lopez-de-Silanes - Shleifer - Vishny [37], Poterba [45]) Moreover, the government's need to reduce public debt may result in restructuring efforts only in strategic sectors.

Some stylised facts show the importance of fiscal deficit as an initial condition. Mexico, for instance, experienced a debt crisis in 1982 that prevented it from normal borrowing from world capital markets for about seven years. In 1987 the deficit/GDP ratio was roughly around 14% and the Mexican government launched a program of macroeconomic stabilisation which included privatisations. In 1988 the first offerings took place, raising revenues for a rough US$1.9 billions. The deficit/GDP ratio declined to 9.6% during that year and to 5% the following year turning into a surplus in 1992-1993, before the new debt crisis that occurred in 1994. The decline in deficits is partly explained by the raise in revenues from privatisation. In the years 1991 and 1992, they amounted to about US$17.2 billion, which accounted for 92% of total revenues from the privatisations in Mexico, and for 3.5% and 3% of GDP in 1991 and

12

1992 respectively.

A similar trend can be observed for both Egypt and Brazil. In Egypt, the average annual deficit/GDP ratio was slightly above 6% in the three years before the announcement of the privatisation programme; the average annual increase in overall deficit was around 34%. The programme was announced in 1991 but the first sale occurred in 1993. Total revenues from the privatisation program between 1993 and 1996 amounted to US$1.25 billion. In the same time span, the average annual growth rate of GDP fell from a rough 5.4% to 1.5%; although the general economic conditions of the country deteriorated, Western creditors offered additional aids in response to the decision to accelerate the privatisation of State-owned enterprises and to pursue further economic liberalisation.

Brazil experienced a debt crisis in the late 1980s-early 1990s together with a contraction of real GDP. With the only exception of 1989, when the average annual growth rate of GDP was around 3.2%, in the years between 1988 and 1992 a recession was observed together with at least two debt crises, in 1989 and in 1992. The Brazilian Privatisation Program (PND) was launched in 1990 and accelerated between 1991 and 1993. In 1991, US$1.68 billion were raised from privatisations. In the same year a contraction of the overall deficit both in nominal and real terms was observed. In 1992, revenues from privatisations amounted to US$2.67 billion and in 1993 the deficit turned into a surplus. The reduction of fiscal deficits after 1990 helped the economy to regain momentum and the average annual growth rate in 1993 and 1994 was well above 4%.

Finally, in the years following the ratification of the Maastricht Treaty, European countries might have been forced to accelerate divestiture in order to comply with convergence criteria. (Christodoulakis-Katsoulacos [11] and Favero et al. [19])

Given these facts, we introduce the variable DEFICIT, defined as the average of the deficits of the public sector on GDP in the three years before the first privatisation. Although the very first sale might be occasional and not economically significant, we prefer this measure to an average on the whole period that would be spurious since, as we have seen, privatisations improve deficits sensibly. We use this variable in the statistical analysis of all our measures for a country's privatisation program that could be influenced by the conditions of public finance, namely SALES, REVENUES, STOCK and WSTOCK.

4.7 Other Macroeconomic Variables

To control for country specific effects, we use a vector of exogenous variables such as average GDP and savings, in absolute and per capita terms respectively, average growth rates, and the Gini index for income distribution. Although we use these variables essentially to test the robustness of our estimations, some of them warrant attention.

The combined data on GDP and GDP growth provides some information about a country's state of development. In the years 1977-1996 the growth rate of low income economies doubled that of high income economies. East Asia and the Pacific is the area characterised by the highest GDP growth rate over the whole period (around 7.83%), followed by South Asia (4.89%) while Europe and Latin America are the areas where GDP grew less (0.22% and 2.64% respectively). Comparing the data on GDP growth with the SALES, an inverse relation is apparent.

By the same token, the Gini index could be used as a proxy for ownership concentration and by consequence prevailing ownership structures, according to the view that large block-holders prevail in unequal societies. (LLSV [35]). This variable is therefore important for the statistical analysis of PO/SALES ratio. Countries with high income concentration may exhibit a larger share of PS than PO.

5   Data Description

Table 2 presents the aggregate data on privatisation processes classified by legal tradition. We opt for this presentation of the data because we are testing the effect of the legal origin dummies on all our measure for the quantity and quality of privatisations.

As to the total number of operations, the French civil law average is 23.71 sales, slightly above the common law average (21). German law countries report on average only 13.7 operations. It is important to complete the picture on the quantity of privatisations with the analysis of revenues, to control for the dimension of the issues. Common law countries have the average of revenues of US$ 10.1 billions, compared to the US$ 8.6 billions of the French law countries. German law countries exhibit the highest average revenues (US$ 15.7 billions). Excluding from the sample Japan as an outlier for the reason indicated in section 2.1, the German law average falls to US$ 5.3 billions. These results could provide a preliminary indication that the real quantity of privatisation might be lower in civil law countries, but we do not report any statistically significant differences in means.

Turning to our quality measures, we do not observe remarkable differences in average values across legal origin. The average percentage stock in German law countries is the lowest (50% for STOCK and 51% for WSTOCK), but the differences with the French and common law group are not statistically significant. The PO/SALES ratio is highest in German civil law countries (0.74), intermediate in common law countries, and the lowest in French civil law countries. Given the lower quantity of privatisations in German law countries, it is more important to compare the French law average with the common law average. Now we find statistically differences in means (t = - 1.81). This result suggests that ownership concentration, partly determined by legal origin, could hinder the implementation of privatisations by PO.

14

This data description is obviously unsatisfactory since it focuses on legal origin only. We aim instead at taking into account other determinants of the quality and quantity of privatisations. In table 3, we present a more detailed descriptive analysis where the main explanatory factors are used as ranking variables for our measures on privatisation processes.

Table 3 shows first that higher deficits are associated with more sales. In fact, we report a statistically significant difference between the means of the first and the top quartile of the distribution of SALES ranked by DEFICIT. This results suggests that governments budget constraints could be important to explain the extent of a country's privatisation program. The political dummy is also positively related to SALES and to the PO/SALES ratio. Conservative governments seem to privatise more and committed to create diffuse ownership. The credibility index is associated with higher revenues and with higher percentage of stock sold. This evidence indicates that country risk may affect revenues generation and that government's credible commitment to privatise may provide a premium in terms of stock sold. The average stake sold seems also to be related to the quality of legal protection of corporate investors. The ENFORCE index - measuring the efficiency of the judiciary and corruption - and SHAREHOLDER - measuring how extensively small shareholders are protected by laws - are associated with higher percentage of stock. The differences in means when the ranking variable is SHAREHOLDER are less significant with respect to the enforcement of law index, but nevertheless non negligible. Quite interestingly, the CREDITOR index appears to be negatively related to our two measures for the stake sold. A country that affords an extensive legal protection to creditors seems less willing to privatise large stakes.

We find some evidence that countries with higher stock market liquidity have raised more proceeds from privatisations. In fact, both the financial development variables STOCK and TURNOVER are positively related to REVENUES. Market liquidity should allow to extract the full market value of the company and to underprice less. Finally, the Gini index is negatively associated with the PO/SALES ratio. Income concentration proxies ownership concentration. Countries with a more skewed income distribution perhaps tend to bypass security markets in the auctioning of public enterprises.

These preliminary results are suggestive of the possible explanatory power of our determinants of the quantity and quality of privatisations, indicating the need for a thorough econometric testing.

6   Empirical Results

We ran regressions for the quantity and quality of privatisations. Tables 4 to 8 report the coefficients that turned out to be statistically significant and relatively stable in different spec-

ifications controlling for country specific effects.[2] In most cases, single regression estimation of all the variables we are testing would be not appropriate due to multicollinearity problems. Given the discrete nature of the variable SALES, we have estimated a count model using a negative binomial distribution. When we include legal origin dummies, our benchmark will be the common law tradition.

6.1 Sales Regressions

Table 4 shows that the total number of privatisations of a country is related to macroeconomic conditions and institutional factors. Countries that have privatised most in terms of sales featured high fiscal deficits during the years before the first divestiture. The coefficient of this variable is highly significant and relatively stable in different specifications. These results confirm the widely held view that privatisations may represent an opportunity for governments to improve the budget by raising revenues. Some control variables provide other interesting insights; for instance, the total number of sales is positively correlated to the GDP and negatively to its growth rate. As for country specific effects, the coefficient on GDP is almost always significant and remarkably stable, while the growth rate coefficient is stable even if less significant. This evidence may suggest that the countries that have privatised most during the period under observation are relatively "mature" in terms of economic development. According to this interpretation, one could claim that poorer countries and fast-growing countries, like NICs, did not experience a large wave of privatisations.

Turning to the political dimension of privatisation captured by the dummy RIGHT, we find a statistically significant relation between the quantity of sales carried out by governments and the fact that they were supported by conservative coalitions. This evidence supports the view that the "right" is ideologically more prone to privatise the economy than other political parties. Finally, we report a statistically significant negative sign on the German-Scandinavian legal origin dummy, indicating that on average countries belonging to this legal family tend to privatise less than common law countries.[3] We do not observe any statistically significant relation between the French civil law origin and one country's total number of operations. Apparently, the provisions embedded in many French civil law constitutions do not hinder substantially the implementation of a privatisation program. Nevertheless, a more conclusive test of the size of government conjecture will be carried out if the regression analysis for

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[2]The presence of two outliers (UK and Japan) in our quantity measures does not compromise the robustness of our results. We have run the same regressions presented in Table 4 and 5, excluding outliers from the sample and verified that coefficient remained statistically significant.

[3]Where the RIGHT dummy is present together with the legal origin dummies we encounter a kind of dummy variable trap, i.e. a quasi perfect collinearity problem. To control for this possible source of inconsistency, in Table 4 we have reported the regression with only the German - Scandinavian dummy and verified that the sign of its coefficient remained significant, stable in sign and close in absolute value.

revenues.

6.2 Revenues Regressions

The first measure of the success of a country's privatisation programme are the proceeds obtained. A more appropriate metric would be the average market/book value at the time of the placement. Nevertheless, the higher the amount raised, the more successfully privatisations passed the market test. The aggregate revenues are therefore the second measure for the quantitive features of a country's privatisations; although the two variables should explain two facets of the same economic phenomenon, their determinants are radically different. As we have seen, the total number of sales is partly explained by ideological factors and fiscal deficits, supporting the view that the extent of privatisation is essentially a matter of government's preferences and budget constraints. On the contrary, the variables affecting the aggregate proceeds from privatisations largely depend upon "demand" factors, i.e. the state of development of securities markets and the governments' credibility as perceived by investors.

Table 5 shows the results of the estimations for the variable REVENUES. The most striking result is that capital market liquidity and credibility explain the success of a country's privatisation plan in terms of proceeds. In particular, the coefficients on the two measures of market liquidity are statistically significant and have positive sign. A standard deviation change in the total value traded over GDP increases revenues by approximately US$16.7 billions, while a standard deviation change in the turnover ratio increases revenues by approximately US$20 billions. These results clearly indicate that a prerequisite for successful privatisations is pre-existing market liquidity. If capital markets are active and liquid at the time of privatisation, revenues will be maximised.

The second important factor to determine the success of a country's privatisation plan is government credibility. In all the regressions we ran, the coefficient estimates are highly significant and positive. In particular, a one point increase in the credibility index increases revenues by an average of approximately US$3.7 billions. Investors believe in the government's commitment in countries where the law and order tradition is well established and where the risk of policy reversal and expropriation is low. Investors are induced to buy more and governments to underprice less.

Finally, we present some evidence of a negative relation, albeit weakly statistically significant, between proceeds and the two civil law dummies. This evidence, albeit far from conclusive given the weak significance and instability of the coefficients, suggests a possible relevance of legal tradition in determining the size of government and by consequence the scope of privatisations.

6.3 Stock Regressions

In the introduction, we mentioned the fact that privatisations across countries appear to be typically partial. Obviously, it is difficult to identify which privatisations programmes are still in the making and which accomplished. The extent to which a country privatises essentially depends on the preference of governments, and these might change over time. An interesting question to ask is whether, despite government preferences, there are economic or institutional impediments to full privatisation. The results presented in this section set forth some tentative answers. In general, the share of privatised stock appears to be largely affected by macroeconomic trends and legal protection. As Tables 6 and 7 show, when both these sets of variables are included, our regressions account for almost a 40 per cent of the dependent variable's variance. Very similar results are obtained when the dependent variable is weighted by revenues.

As in sales regressions, the deficit turns out to be highly significant and positive. This provides a further evidence that a fiscal crisis induces governments to sell larger stakes in State-owned enterprises. Similarly, the two control variables for GDP and GDP growth are related to the percentage of stock, indicating that larger and more "mature" countries tend to privatise more.

Among the institutional factors that may influence the structure of the sale, legal protection plays an important role. The investors protection indexes warrant attention since they provide rather interesting insights. The coefficient estimates for shareholder protection and the enforcement of laws - in terms of corruption and efficiency of the judiciary - are often significant and always positive. This indicates that "benevolent" governments should relinquish control more rapidly in a country where cash flow and control rights are appropriately enforced. When appropriate legal institutions are not in place, governments might opt for very partial privatisations, discounting the risk of entrenchment or expropriation by management that minority shareholders will face. Alternatively, self-interested governments might privatise small stakes where legal protection is poor and low revenues are consequently expected to be raised.

This estimates allow us to try an interesting experiment about a hot policy issue in Italy, namely the legislative reform of the company codes on corporate governance. The Treasury has drafted a policy proposal that - if enacted - would afford a better protection to minority shareholders allowing: i) an oppressed minority mechanism (the derivative suit); ii) the minimum percentage of stock to call for an extraordinary meeting at 10% (reduced from the existing 20%); iii) proxy by mail. The shareholder protection index would therefore raise from 0 to 3. Reading the coefficient of the variable SHAREHOLDER in Table 6 and 7, this variation would allow on average a 9% increase in the percentage of stock. Italian aggregate revenues account approximately for US$ 30 billions. Given that the average stock sold ranges from 51% to 70%,

we roughly estimate US\$ 3.8 to 5.2 billions of additional revenues from privatisations due to the legislative reform. Albeit tentative, the experiment is suggestive of the potential economic impact of legal institutions on privatisations.

Quite surprisingly, the creditor rights index exhibits a statistically significant negative relation with the percentage of privatised stock; across regressions, the coefficient estimates for this variable are remarkably stable. This evidence can be explained recalling that privatisation involves a substitution from bonds and credit to equity as a source of finance. On the basis of our results, one could therefore claim that the aversion of bank dominated countries, such as Austria, Germany, or Italy, where the law affords an extensive protection to creditors, is due to the political pressure to leave the status quo unchanged, exerted by powerful institutions that would lose from the switch from debt to equity finance.

Finally, the measure of a government's credibility is highly significant and has a positive sign, both on average and weighted average of percentage of stock regressions. This result supports the correlation suggested by Perotti [44]: when the credibility constraint is binding, governments privatise larger stakes since they need less to signal commitment. For example, a one point increase in the credibility index allows for a 3% increase in the privatised stock.

6.4   PO/SALES Ratio Regressions

The choice to sell the shares of public enterprises on the stock market or via a private placement is direcly related to governments' privatisation objectives. Large floatation may be useful to spread shareholding and to develop capital markets. However, their success is largely influenced by a number of factors: the ability of advisors in the share-pricing decisions, the deficiencies in exchanges' rate rules and regulations, inadequate legal protection for investors, the presence of a distortionary tax system, and, possibly, government credibility. When opting for the sale procedure, governments should therefore weigh the benefits of a shift in governance structures with the possible costs in terms of revenues that an unsuccessful floatation entails.

The results in Table 8 clearly indicate that the decision to privatise via PO has a political facet: conservative coalitions seem particularly inclined to let State-owned firms go public. The coefficient of our political variable (RIGHT) is highly significant and with positive sign. Recalling the evidence on sales regressions, conservative coalitions are not only more prone to privatise, but also more inclined to choose public offerings. As stressed by the recent literature on the political economy of privatisations (Biais-Perotti [5]), the rationale for this preference could lie in the belief that classes of shareholders might vote with the right in the future, contributing to success of conservative parties at general elections.[4]

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[4]Our political variable is defined as the party that has privatised more during the period under scrutiny. This raises the possibility that the incumbent party may have been endogenous to the number of PO: the more a

The Gini index warrants attention, since it could be interpreted as a proxy for ownership concentration. From our regressions, the coefficient estimate for this variables turns out to be negative, statistically significant and stable. Ownership concentration seems to be negatively correlated to the number of PO. If the initial distribution of wealth is concentrated, and if large block-holders therefore prevail in terms of stock ownership, privatisations are more likely to be implemented by private placements to local institutional investors.

Finally, the coefficients for the legal dummies confirm the results of the descriptive analysis in Table 2: French civil law countries are more reluctant than common law countries to opt for the PO procedure, and are therefore more prone to privately sell shares to "hard-core" investors. In German civil law countries the quantity of privatisations is lower (cf. Table 4), but the proportion of PO is higher than in common law countries. From this result, one might claim that governments in German civil law countries seem relatively more committed to spread shareholding. As we focus on the moment when sales occur, we are unable to verify whether ownership structures experience major changes post-privatisation.

7 Conclusions

The quantity regressions show that the number of sales in a country is influenced by political factors and by the government's budget constraints. In line with conventional wisdom, governments supported by conservative coalitions seem more inclined to privatise the economy than those where left wing parties are in office. Moreover, pre-privatisation fiscal deficits appear to be an important factor in triggering divestitures. Governments typically sell off to improve the budget.

The success of a country's privatisation programme in terms of revenues appears to be strongly correlated with financial market development and government credibility. Liquid capital markets allow governments to obtain the full market value of the company; the same occurs whenever government credibility is sufficiently high. In countries with less developed capital markets and with a less established law and order tradition privatisations risk to be implemented at highly discounted fixed price offerings. A government operating in this context and willing to maximise revenues should therefore decide to float the company abroad. These results on quantity suggest a clear-cut distinction between the factors influencing sales and revenues: sales are explained by "supply" factors basically related to governments' preferences and budget constraints; revenues depend largely upon "demand" factors, that governments are

country has privatised via PO, the more likely is that a conservative coalition is incumbent since its platforms could be supported by the shareholders of privatised firms. To test for possible simultaneity between PO and RIGHT, we have performed an Hausman [28] test: with 96% percent confidence, we could not reject the null hypothesis of exogeneity of the political variable.

unable to control, at least in the short run.

Turning to quality measures, we conclude that the willingness of governments to relinquish control - proxied by the share of privatised stock - is largely influenced by legal institutions and governments' commitment to privatise, whereas the decision to go public is influenced by the ideological preferences of governments and prevailing ownership structures. In particular, larger stakes are privatised in countries that afford extensive legal protection to shareholders, indicating that a benevolent Treasury might be more willing to relinquish control in a context where the owners of newly privatised firms do not risk to be expropriated by management. Alternatively, governments sell larger stakes when the need to discount for future uncertainty in terms of legal protection is lower. Furthermore, as suggested by a recent model of privatisations under uncertainty, partial privatisations - and underpricing - signal commitment. If investors believe that the government will not implement a policy reversal, then partial privatisations will be less frequent. This prediction seems largely confirmed by our data: indeed, credibility provides a substantial premium in terms of privatised stock.

The number of a country's public offerings is highly correlated with the presence of a conservative coalition supporting the government. This evidence provides support of the "Thatcherian" view that privatisation might be designed to foster the emergence of "people capitalism". The choice of the sale procedure is crucial, since a public offering - often with underpricing - represents a necessary condition for the company to be owned by diffuse shareholders, increasing the cost of future nationalisations by left wing governments. Ownership concentration seems to matter, too: large block-holders may exert pressure at the legislative stage to obtain a private placement instead of a PO. Our results clearly indicate that POs are more rare in countries where wealth - and therefore stock ownership - is concentrated. We therefore claim that the political preference of governments may clash with prevailing ownership structures in privatisations.

The paper might be improved and extended in a number of directions. We will try to collect more evidence on other institutional details of the offer. From our database we are able to retrieve some information about the presence of constraints such as special shares, quotas on international capital presence, and pre-emptive rights awarded to classes of investors. Nevertheless, we suspect a possible source for sample selection bias since some countries may not disclose relevant information due to different financial market regulations. Moreover, additional regressors could be used to test whether insiders-employees influence the quantity and quality of privatisations of a country. In this direction, we need a country measure of union power that it not easy to retrieve for a relatively large cross-section.

It could be interesting to relate the institutional details of the offer with information about industrial sectors. Governments may not be willing to jeopardise the provision of some strategic

services, like national defence or public utilities. The percentage of stock sold and special restrictions on shareholders rights could turn out to be substantially different across sectors.

Our first empirical results at the company level look promising. We will try to structure a panel to capture the temporal dimension of privatisations.

Finally, it would be crucial to follow companies post-privatisation and to test the effect of privatisation profitability and performance. Special attention warrant corporate governance issues: it could be fruitful to compare outcomes in privatised firms where the State retains just a passive stake with situations where it still plays the role of an active and influential block-holder.

We leave all this for future research.

References

[1] Ash, T. N., Hare, P. G. (1994) "Privatisation in the Russian Federation: Changing Enterprise Behaviour in the Transition Period", *Cambridge Journal of Economics*18: 619-634.

[2] Banks, A.S., Day, A.J., Mueller, T.C. (eds) (1997) *The Political Handbook of the World*, Binghamton: CSA Publications.

[3] Baer, W. Birch, M.H. (1994) (eds) *Privatization in Latin America*, Westport, Praeger.

[4] Barberis, N., Boycko, M., Shleifer, A., Tsukanova, N. (1996) "How Does Privatisation Work? Evidence from the Russian Shops", *Journal of Political Economy*, 104: 764-790.

[5] Biais, B., Perotti, E. (1997) "Privatisation Underpricing, Social Inequalities and Popular Capitalism", IDEI, *mimeo*.

[6] Bishop M., Kay J. Mayer C., (1994) *Privatization and Economic Performance*, Oxford: Oxford University Press.

[7] Blanchard, O., Aghion, P. (1996) "On Insider Privatisation", *European Economic Review*, 40: 759-766.

[8] Branco, F., Mello, A. (1991) "A Theory of Partial Sales and Underpricing in Privatizations" Sloan Shool of Management, MIT, *mimeo*.

[9] Bos, D. (1991) *Privatisation: a Theoretical Treatment*, Oxford: Clarendon Press.

[10] Boycko, M., Shleifer, A., Vishny, R.W. (1996) "A Theory of Privatisation", *Economic Journal*, 106:309-319.

[11] Christodoulakis, N. M., Katsoulacos, Y. (1994) "Privatization, Public Debt Finance, and Investment in Infrastructure", *CEPR Discussion Paper 891*.

[12] Clarke T., Pitelis C., (1993) (eds) *The Political Economy of Privatization*, London: Routledge.

[13] Cornelli, F., Li, D. D. (1994) "Large Shareholders, Private Benefits of Control and Optimal Schemes for Privatization", *CEPR Discussion Paper 891*.

[14] Dallago B., Mittone L., (1996) (eds) *Economic Institutions, Markets and Competition*, Cheltenham: Edward Elgar.

[15] Deininger, K., Squire, L. (1996) "A New Data Set Measuring Income Inequality", *the World Bank Economic Review*, 10:565-591.

[16] Demirguc-Kunt A., Levine, R. (1996) "Stock Market Development and Financial Intermediaries: Stylised Facts", *The World Bank Economic Review*, 10: 291-321.

[17] Dewatripont, M., Roland, G. (1993) "Design of Reform Packages Under Uncertainty", *CEPR Discussion Paper 860*.

[18] El-Naggar S., (1989) (ed) *Privatization and Structural Adjustment in the Arab Countries*, Washington: IMF.

[19] Favero, C., Keating, G., Wilmot, J. (1992) "Italy: Privatisation, the Debt Ratio, and EMU", *CSFB Economics*, January.

[20] Foster C. D., (1992) *Privatisation, Public Ownership and the Regulation of Natural Monopolies*, Oxford: Blackwell.

[21] Frydman, R., Pistor, K., Rapaczynski, A. (1996) "Exit and Voice After Mass Privatization: The Case of Russia", *European Economic Review*40:581-588.

[22] Galal, A., Jones, L., Tandon, P., Vogelsang, I. (1994) *Welfare Consequences of Selling Public Enterprises*, New York: Oxford University Press.

[23] Giavazzi, F., Battaglini, M. (1996) "Privatizations and Ownership Structures: Theory, Experience and Policy Implications", IGIER, Universit Bocconi,*mimeo*.

[24] Glade, W. (1996) (ed.) *Bigger Economies, Smaller Governments*, Oxford: Westview.

[25] Graham, C., Prosser, T. (1991) *Privatizing Public Enterprises*, Oxford: Clarendon Press.

[26] Guislain, P. (1997) (ed.) *The Privatization Challenge*, Washington: World Bank.

23

[27] Handler J.F. (1996) *Down from Bureaucracy*, Princeton University Press.

[28] Hausman, A. (1978) "Specification Tests in Econometrics", *Econometrica*, 46:1251-1271.

[29] Holmstrom, B., Tirole, J. (1993) "Market liquidity and Performance Monitoring", *Journal of Political Economy*, 101:678-709.

[30] Jenkinson, T., Mayer, C. (1988) "The Privatisation Process in France and the UK", *European Economic Review*, 32:482-90.

[31] Jones, S., Megginson, Nash, R., Netter, J. "Share Issue Privatizations as Financial Means to Political and Economic Ends", Universtity of Georgia, *mimeo*.

[32] Jones, L.P., Tandon P., Vogelsang I., (1990) *Selling Public Enterprises*, Cambrige: MIT Press.

[33] Laffont, J.J., Meleu, M. (1991) "A Positive Theory of Privatization for Sub-Sahara Africa", Université de Toulouse, *mimeo*.

[34] Laffont, J.J., Tirole, J. (1991) "Privatization and Incentives", *Journal of Law, Economics, and Organization*, 7:84-105.

[35] La Porta, R., Lopez-de-Silanes, F., Shleifer, A., Vishny, R.W. (1996) "Law and Finance", NBER working paper 5661.

[36] La Porta, R., Lopez-de-Silanes, F., Shleifer, A., Vishny, R.W. (1997) "Legal Determinants of Extenal Finance", *Journal of Finance*, .

[37] Lopez-de-Silanes, F., Shleifer, A., Vishny, R.W. (1995) "Privatization in the United States", Rand Journal of Economics, 28:447-471.

[38] Lopez-de-Silanes, F. "Determinants of Privatization Prices", *Quarterly Journal of Economics, forthcoming.*

[39] Megginson, W., Nash, R.C., Van Randerborgh (1994) "The Financial and Operating Performance of Newly Privatized Firms: An International Empirical Analysis", *Journal of Finance*, 49:403-452.

[40] Modigliani, F., Perotti, E. (1990) "The Rules of the Game and the Development of Security Markets", MIT, *mimeo*.

[41] Modigliani, F., Perotti, E. (1996) "Protection of Minority Shareholders and the Development of Security Markets", MIT, *mimeo*.

[42] North, D. (1992) "Privatisations, Incentives, and Economic Performance", in Siebert, H. (ed) *Privatisations: Symposium in Honour of Herbert Giersch.* Tubingen: J.C.B. Mohr.

[43] Ott, A., Hartley, K. (1991) "Privatization and Economic Efficiency", Aldershot, Edward Elgar.

[44] Perotti, E.C. (1995) "Credible Privatization" *American Economic Review*, 4: 847-1995.

[45] Poterba, J. (1994) "State Responses to Fiscal Crises: The Effects of Budgetary Institutions and Politics", *Journal of political Economy*, 102:799-821.

[46] Rajan, R.G., Zingales, L. (1996) "Financial Dependence and Growth", University of Chicago, *mimeo*.

[47] Ramanadham V.V., (1995) (ed.) *Privatization and Equity*, London, Routledge.

[48] Ramanadham V.V., (1996) (ed.) *Privatization and After*, London, Routledge.

[49] Roell, A. (1996) "The Decision to Go Public: An Overview", *European Economic Review*, 40:1071-1081.

[50] Roland ,G. (1994) "On the Speed and Sequencing of Privatisation and Restructuring" , *The Economic Journal*, 104: 1158-1168.

[51] Roland, G., Verdier, T. (1994) "Privatization in Eastern Europe: Irreversibility and Critical Mass Effects", *Journal of Public Economics*, 54: 161-183.

[52] Sackman, S., Coltran, M. (1996) in Oditah F., (ed.) *"The Future for the Global Securities Market"*, Oxford: Clarendon Press.

[53] Shapiro, C., Willig, R.D., (1990) "Economic Rationales for the Scope of Privatisation", in Suleiman, N., Waterbury, J. (eds), *The Political Economy of Public Sector Reform and Privatisation*, London: Westview Press.

[54] Stiglitz, J.E., (1989) *The Economic Role of the State*, Oxford: Basil Blackwell.

[55] van Bergeijk P.A.G., Haffner R.C.G., (1996) *Privatization, Deregulation and the Macroeconomy*, Cheltenham: Edward Elgar.

[56] Vickers, J., Yarrow, G. (1988) *Privatization: An Economic Analysis*, Cambridge (Mass.): MIT Press.

[57] World Bank (1995) *Bureaucrats in Business: the Economics and Politics of Government Ownership.* New York: Oxford University Press.

[58] Wright V., (1994) (ed.) *Privatization in Western Europe*, London: Pinter Publisher.

[59] Yarrow, G., Jasinski, P. (eds.) (1996) *Privatization. Critical Perspectives on the World Economy.* Routledge.

Table 1. Description of the Variables

VARIABLE	Description
SALES	Total number of operations by Public Offer (PO) and Private Sales (PS) per country 1977-96 Source: *Privatisation International*
REVENUES	Aggregate revenues from total operations per country 1977-1996 (million US Dollars 1996) Source: *Privatisation International*
STOCK	Average percentage of privatised stock per country 1977-96 Source: *Privatisation International*
WSTOCK	Weighted average percentage of privatised stock per country 1977-96 Source: *Privatisation International*
PO	Number of PO per country 1977-96 Source: *Privatisation International*
RIGHT	Dummy taking the value 1 if the majority of SALES is implemented by a "right wing" party and 0 otherwise Source: *Privatisation International and Banks, Day, Muller [2]*
CREDIBILITY	Averages of scores on the rule of law, risk of expropriation and risk of contract repudiation by government Source: *International Country Risk Guide*
DEFICIT	Average deficit of public sector on GDP in the three years before the first sale Source: *World Tables (1995) and Privatisation International*
COMMON LAW	Dummy for common law countries Source: *LLSV [35]*
FRENCH LAW	Dummy for French Civil Law countries Source: *LLSV [35]*
GERMAN-SCAND LAW	Dummy for German and Scandinavian Civil Law countries Source: *LLSV [35]*
SHAREHOLDER	Index formed adding one share one vote to the antidirector rights index Source: *LLSV [35]*
CREDITOR	Creditors rights index Source: *LLSV [36]*
ENFORCE	Averages of scores on the efficiency of the judicial system and corruption Source: *Business International Co. and International Country Risk Guide*
FLOAT	Total value of trades on the major stock exchange/GDP Source: *Demirguc-Kunt and Levine [16]*
TURNOVER	Total value of trades on the major stock exchange/market capitalisation Source: *Demirguc-Kunt and Levine [16]*
GDP	Log of GDP 1993 in US current dollars Source: *World Tables (1995)*
SAVINGS	Log of domestic savings 1993 in US current dollars over population Source: *World Tables (1995)*
GROWTH	Average annual percent growth of GDP per capita for the period 1970-93 Source: *LLSV [36]*
GINI	Average Gini index Source: *Deininger and Squire [15]*

Table 2. Privatisations and Legal Families in the World

COUNTRY	SALES	REVENUES	WSTOCK	STOCK	PO/SALES	RIGHT
Common Law						
Australia	34	22311	0,89	0,90	0,29	1
Canada	44	13351	0,67	0,72	0,48	1
Hong Kong	0	0	.	.	.	.
India	6	2720	0,29	0,20	0,83	1
Ireland	8	1730	0,62	0,62	0,38	1
Israel	36	3542	0,45	0,48	0,50	0
Kenya	8	118	0,31	0,29	0,75	1
Malaysia	20	6402	0,45	0,53	0,45	1
New Zealand	24	9618	0,90	0,93	0,08	0
Nigeria	19	32	0,43	0,43	1	1
Pakistan	5	1319	0,30	0,28	0,40	0
Singapore	10	4572	0,28	0,28	1	0
South Africa	3	1401	0,79	0,66	0,67	1
Sri-Lanka	4	63	0,72	0,51	0,50	1
Thailand	7	862	0,26	0,26	1	1
UK	148	113819	0,96	0,97	0,41	1
USA	2	347	1,00	1,00	0	0
Zimbabwe	0	0	.	.	.	0
MEAN	**21,00**	**10123**	**0,58**	**0,57**	**0,55**	**0,65**
French Civil Law						
Argentina	50	16598	0,55	0,64	0,12	1
Belgium	9	4844	0,51	0,48	0,11	0
Brazil	41	10781	0,72	0,63	0,07	0
Chile	8	604	0,31	0,31	0	0
Colombia	3	722	0,67	0,68	0,67	1
Ecuador	0	0	.	.	.	0
Egypt	40	1249	0,45	0,37	0,83	1
France	38	40976	0,50	0,54	0,84	1
Greece	18	1715	0,65	0,73	0,11	1
Indonesia	5	3271	0,26	0,37	0,80	1
Italy	44	30762	0,51	0,70	0,48	0
Jordan	0	0	.	.	.	0
Mexico	32	22793	0,60	0,67	0,09	0
Netherlands	16	11610	0,60	0,63	0,38	0
Peru	48	6872	0,76	0,84	0,04	1
Philippines	10	1799	0,57	0,61	0,40	0
Portugal	48	10930	0,70	0,71	0,54	1
Spain	17	11179	0,38	0,50	0,59	0
Turkey	53	2000	0,63	0,71	0,06	1
Uruguay	0	0	.	.	.	0
Venezuela	18	2157	0,80	0,80	0	0
MEAN	**23,71**	**8612**	**0,57**	**0,61**	**0,34**	**0,48**
German and Scandinavian Civil Law						
Austria	28	4598	0,54	0,56	0,71	1
Germany	37	17336	0,68	0,69	0,14	1
Japan	9	109565	0,55	0,55	1	1
Korea	5	2546	0,16	0,17	0,80	1
Switzerland	0	0	.	.	.	1
Taiwan	18	5196	0,32	0,42	0,89	0
Denmark	6	4448	0,53	0,60	0,67	0
Finland	17	3164	0,56	0,50	0,88	1
Norway	8	1585	0,53	0,55	0,88	0
Sweden	9	9005	0,62	0,57	0,67	1
MEAN	**13,70**	**15744**	**0,50**	**0,51**	**0,74**	**0,70**

Table 3. Bivariate Statistics

Ranking Variables	SALES	REVENUES	STOCK	WSTOCK	PO/SALES
RIGHT					
Right=1	25.64	14221.43	0.56	0.56	0.54
Right=0	14.75	6115.6	0.59	0.55	0.32
Test of means	1.70	1.41	-0.37	-0.21	-2.15
(t-statistic)					
DEFICIT					
Bottom 25%	10.42	4713.83	0.50	0.49	0.39
Top 25%	23.15	7181.15	0.53	0.53	0.45
Test of means	-2.13	-0.79	-0.40	-0.41	-0.41
(t-statistic)					
CREDIBILITY					
Bottom 25%	16	2.67	0.50	0.50	0.45
Top 25 %	16.67	6.66	0.66	0.65	0.43
Test of means	-0.10	-1.89	-2.00	-1.96	0.20
(t-statistic)					
FLOAT					
Bottom 25%	21.9	3.69	0.59	0.56	0.37
Top 25%	20	14.86	0.54	0.54	0.45
Test of means	0.19	-1.39	0.58	0.16	-0.51
(t-statistic)					
TURNOVER					
Bottom 25%	10.70	2.24	0.59	0.60	0.31
Top 25%	17.74	10.10	0.52	0.53	0.49
Test of means	-1.53	-1.36	0.76	0.78	-1.24
(t-statistic)					
SHAREHOLDER					
Bottom 25%	19.22	7.87	0.57	0.56	0.41
Top 25%	27.2	20.83	0.64	0.64	0.46
Test of means	-0.78	-1.30	-0.93	-1.05	-0.48
(t-statistic)					
CREDITOR					
Bottom 25%	26.2	10.27	0.70	0.68	0.34
Top 25%	19.94	8.70	0.46	0.47	0.46
Test of means	0.61	0.21	3.21	2.67	-1.01
(t-statistic)					
ENFORCE					
Bottom 25%	19.23	3462.92	0.48	0.46	0.47
Top 25%	24.38	22986.38	0.72	0.71	0.45
Test of means	-0.43	-1.74	-2.70	-2.99	0.12
(t-statistic)					
GINI					
Bottom 25%	29.64	17751.91	0.58	0.56	0.52
Top25%	21.25	4889.36	0.59	0.57	0.29
Test of means	0.63	1.30	-0.10	-0.12	2.11
(t-statistic)					

Table 4. SALES (Count Model)

Independent Variables	Dependent Variable: SALES		
INTERCEPT	-1.06**	-1.16**	-1.02**
	(0.42)	(0.58)	(0.48)
GDP	0.18**	0.23**	0.16**
	(0.05)	(0.05)	(0.07)
GROWTH	-0.05	-0.08	-0.09
	(0.07)	(0.08)	(0.08)
DEFICIT	5.55**		
	(2.23)		
RIGHT		0.72**	0.73**
		(0.30)	(0.31)
FRENCH LAW		0.16	
		(0.29)	
GERMAN-SCAND LAW		-0.70*	-0.79**
		(0.42)	(0.39)
δ	0.04**	0.05**	0.05**
	(0.01)	(0.01)	(0.01)
Log likelihood	-186.51	-182.42	-182.61
Nobs.	48	47	47

*Statistically significant at the 10% level.
**Statistically significant at the 5% level.
Standard errors in brackets.

Table 5. REVENUES Regressions (OLS)

Independent Variables	Dependent Variable: REVENUES					
INTERCEPT	-11.94	-7.67	0.085	3.18	-16.65	-14.98*
	(13.09)	(8.61)	(6.53)	(9.25)	(11.35)	(7.71)
GROWTH	-0.67	-1.00	-1.39	-1.67	-0.91	-1.00
	(1.07)	(1.28)	(1.08)	(1.48)	(0.93)	(1.21)
DEFICIT	49.74	62.03	70.64	78.06	61.46	63.40
	(54.53)	(71.22)	(57.30)	(72.03)	(46.04)	(58.15)
TURNOVER@	68.81*	64.27*				
	(39.76)	(39.07)				
FLOAT@			98.23*	97.85*		
			(49.99)	(51.36)		
FRENCH LAW		-4.66		-4.69		-1.28
		(9.16)		(8.79)		(6.88)
GERMAN-SCAND LAW		-0.22		-2.16		-0.05
		(16.56)		(15.74)		(16.21)
CREDIBILITY					3.75**	3.64**
					(1.69)	(1.55)
Nobs.	41	41	40	40	48	48
Adj. R^2	0.03	-0.01	0.12	0.08	0.06	0.02

@IV Estimates
*Statistically significant at the 10% level.
**Statistically significant at the 5% level.
White heteroskedasticity-consistent standard errors in brackets.

Table 6. STOCK Regressions (OLS)

Independent Variables	Dependent Variable: STOCK			
INTERCEPT	0.37**	0.52**	0.54**	0.27*
	(0.16)	(0.13)	(0.13)	(0.14)
GDP	0.03	0.04**	0.04**	
	(0.02)	(0.02)	(0.02)	
GROWTH	-0.02	-0.05**	-0.05**	
	(0.01)	(0.01)	(0.01)	
DEFICIT	0.90**	0.85**	0.62	0.92*
	(0.39)	(0.41)	(0.52)	(0.48)
FRENCH LAW			-0.03	
			(0.07)	
GERMAN-SCAND LAW			-0.10	
			(0.07)	
ENFORCE	0.02*			
	(0.01)			
CREDITOR	-0.04**			
	(0.02)			
SHAREHOLDER	0.02			
	(0.02)			
CREDIBILITY				0.03**
				(0.01)
Nobs.	40	42	42	42
Adj. R^2	0.40	0.30	0.29	0.08

*Statistically significant at the 10% level.

**Statistically significant at the 5% level.

White heteroskedasticity-consistent standard errors in brackets.

Table 7. WSTOCK Regressions (OLS)

Independent Variables	Dependent Variable: WSTOCK			
INTERCEPT	0.27**	0.54**	0.58**	0.31*
	(0.16)	(0.13)	(0.14)	(0.13)
GDP	0.02	0.03	0.03*	
	(0.02)	(0.02)	(0.02)	
GROWTH	-0.01	-0.04**	-0.04**	
	(0.01)	(0.01)	(0.01)	
DEFICIT	0.79*	0.78*	0.62	0.84*
	(0.39)	(0.41)	(0.52)	(0.48)
FRENCH LAW			-0.07	
			(0.07)	
GERMAN-SCAND LAW			-0.10	
			(0.07)	
ENFORCE	0.03**			
	(0.01)			
CREDITOR	-0.04**			
	(0.02)			
SHAREHOLDER	0.03**			
	(0.02)			
CREDIBILITY				0.03**
				(0.01)
Nobs.	40	42	42	42
Adj. R^2	0.40	0.30	0.29	0.08

*Statistically significant at the 10% level.

**Statistically significant at the 5% level.

White heteroskedasticity-consistent standard errors in brackets.

Table 8. PO/SALES Regressions (OLS)

Independent Variables	Dependent Variable: PO/SALES				
INTERCEPT	0.65**	0.65**	0.46**	0.69**	0.48**
	(0.22)	(0.22)	(0.10)	(0.19)	(0.07)
GROWTH	0.05**			0.04**	
	(0.01)			(0.02)	
RIGHT		0.23**	0.17		
		(0.10)	(0.10)		
GINI	-0.01**	-0.007*		-0.008*	
	(0.004)	(0.004)		(0.004)	
FRENCH LAW			-0.24**	-0.17*	-0.19*
			(0.10)	(0.10)	(0.10)
GERMAN-SCAND LAW					0.18
					(0.13)
Nobs.	44	43	48	44	49
Adj. R^2	0.12	0.12	0.17	0.16	0.13

*Statistically significant at the 10% level.
**Statistically significant at the 5% level.
White heteroskedasticity-consistent standard errors in brackets.

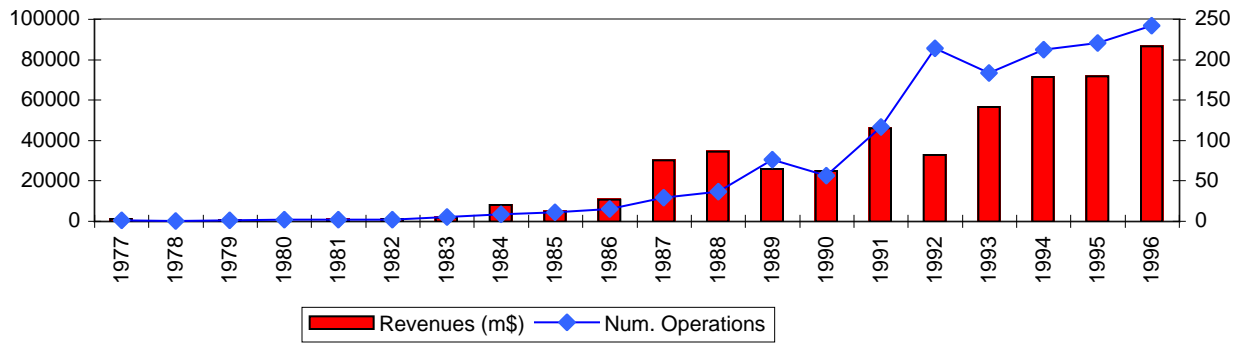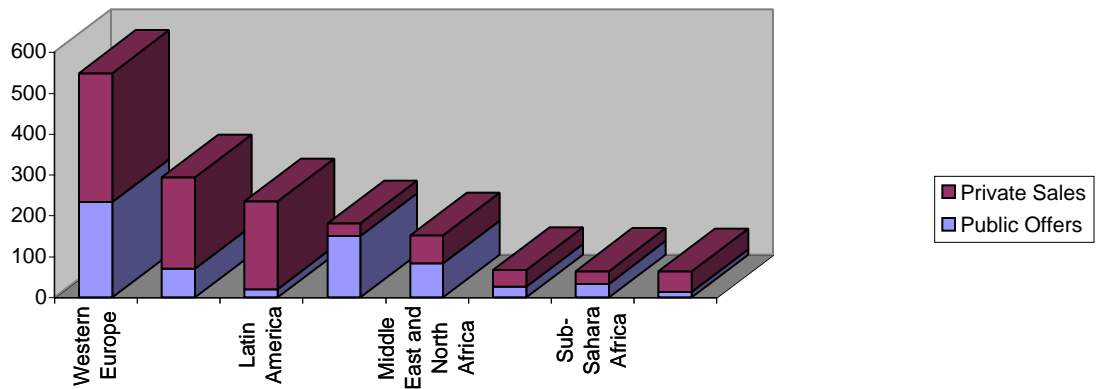# Figure 1: PRIVATISATIONS IN THE WORLD

Legend: Revenues (m$) — Num. Operations

Figure 2: Sales by Area

Legend: Private Sales, Public Offers

X-axis: Western Europe, Latin America, Middle East and North Africa, Sub-Sahara Africa

Figure 3: Revenues by Area

Legend: Private Sales, Public Offers
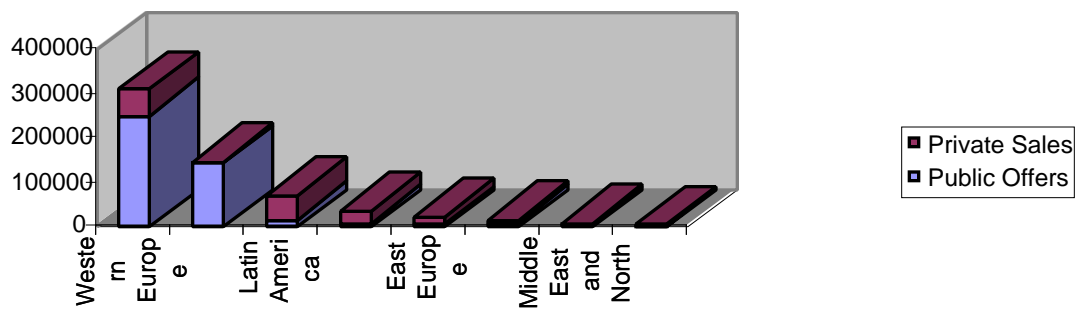
X-axis: Western Europe, Latin America, East Europe, Middle East and North

Figure 4. Privatisations 1977-1996: Sectors