

Privatization in Europe: Systemic Left-Wing Strength, Power Resources, and Productive Efficiency

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Abstract

I present a theoretical account of the politics of privatization that leads to predictions regarding the effect of partisanship that are contingent on the long-run strength left-wing parties in a political system. However, in marked contrast to predictions derived from a traditional interest group approach, my claim is that a stronger Left constituency will make it *more* likely that left-wing parties will engage in privatization programmes that are likely to be at least partially detrimental to traditionally left-leaning interest groups. At root, left-wing parties face a trade-off between protecting the basis of their electoral strength and enhancing macro-economic performance. The balance of this trade-off varies based on the prevailing level of left-wing strength. A two-stage tobit approach is used where the first stage estimates systemic left-wing strength and the second employs this estimate as an explanatory variable in models of privatization effort. Results from 14 Western European countries over the period 1980–2000 lend support to the theoretical claims.

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1 Introduction

Privatization, “broadly defined as the deliberate sale by a government of state-owned enterprises (SOEs) or assets to private economic agents” (Megginson and Netter, 2001, 321) is a phenomenon that has swept much of the world in the past quarter of a century. The process has been particularly striking across the so-called ‘developed democracies’ which have seen a post-war consensus regarding the benefits of state ownership erode sharply (Boix, 1997; Clifton, Comin and Diaz Fuentes, 2006). Between 1977 and 2004, privatization revenues across 11 West European countries totalled around \$380 billion¹. Beyond this limited sample, Zohlnhöfer and Obinger (2006, 30) cite OECD data suggesting that “total privatization proceeds in more than 150 countries amounted to \$937 billion”.

Privatization, then, is a large and important political phenomenon that merits scholarly research in and of itself. The major theoretical point that I make in this paper, though, goes beyond the confines of privatization politics. It gets to the heart of issues of agency that revolve around the question of partisanship, on the one hand, and interest group politics, on the other.² While those two theoretical approaches are not necessarily direct competitors, the case argued for and supported empirically below goes some way towards tilting the emphasis back towards political parties as the more relevant agents.

I present a theoretical account of privatization that leads to predictions as to the effect of partisanship that are contingent on the strength of traditionally left-leaning interest groups. However, in marked contrast to what would be expected of a traditional interest group approach, the theoretical claim is that stronger left-leaning interest groups will make it *more* likely that left-wing parties in government will engage in privatization programmes that are likely to be at least partially detrimental to those interest groups. At root, left-wing parties face a trade-off between protecting their traditional allies and enhancing macro-economic performance. The balance of this trade-off varies based on the prevailing strength of those allies.

2 The Literature

Several other scholars have analysed political issues surrounding privatization. Feigenbaum and Henig (1994) proposed a three-state typology of the underlying reasoning for privatizations. ‘Pragmatic’ privatizations are held to be essentially bureaucratic, technocratic, apolitical exercises that are employed to remedy a particular administrative problem. ‘Tactical’ privatizations, on the other hand, are explicitly political. They “are advocated to achieve the short-term political goals of particular parties, politicians, or interest groups”. Finally,

¹Author’s calculation based on data provided by *Privatization Barometer*. Included countries are: Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Italy, Netherlands, Sweden, and the UK.

²See Hibbs (1977) and Becker (1983) for classic accounts of both schools of thought, respectively.

‘systemic’ privatization programmes “are intended to reshape the entire society by fundamentally altering economic and political institutions and by transforming economic and political interests” (Feigenbaum and Henig, 1994, 192). However, while this typology is attractive in the abstract, it provides very little in the way of predictive theoretical traction. Typologies of outcomes are useful as a first step, but it is desirable to go beyond this.

Boix (1997) was among the first to do just that. In an influential article, he provided theory and evidence that partisanship mattered in the decision over whether to privatize. Taking country-governments (as opposed to country-years) as his unit of analysis, he found that left-wing parties were less likely to engage in privatization programmes for a sample of OECD countries from 1979–1993. Further, he found that the fragmentation of the governing coalition had a constraining effect on privatization levels. More divided governments appeared to suffer from ‘moderation’ and ‘gridlock’ effects the tendency for them to be more centrist and to have more internal veto players were the highlighted mechanisms.

A series of papers picked up from where Boix left off. Zohlnhöfer and Obinger (2006) and Zohlnhofer, Obinger and Wolf (2008) found evidence that partisanship effects on privatization are conditional on the state of the economy. They also claimed to identify the broad trend towards ‘liberalization’, as well as globalization, as causal factors in the adoption of privatization programmes. However, their findings are limited by the cross-sectional nature of their quantitative empirical work.

Bortolotti, Fantini and Siniscalco (2003) offer a more satisfactory empirical approach by analysing panel data for privatization revenues with country-years as the unit of analysis. Pooling across 34 OECD and developing countries, they find that national wealth, public debt, the size and liquidity of national stock markets, and prevailing legal regimes are all of relevance to the size of privatization programmes. Interestingly, they find little evidence for the importance of partisanship.

Schneider, Fink and Tenbucken (2005) and Schneider and Häge (2008) focus on utility privatizations. Analysing levels of public ownership in the telecommunications, electricity, and aviation sectors for a panel of OECD countries, again, they find no influence from partisanship. They do, however, find that liberalization of capital markets is an important factor in encouraging privatizations. They claim that EU membership is an important aspect of this process, as is a perceived ideological shift from 1970s to the 1990s and beyond. Clifton, Comin and Diaz Fuentes (2006) lend support to the thesis that the EU was an important driver for privatizations; especially in the utilities sectors.

There has been some work, both theoretical and empirical, that studied the tactical and strategic logics underpinning privatization programmes. Perotti (1995) proposed a theory of “credible privatization” in which governments may be either “committed” to the policy or “populist” and therefore unable to refrain from *ex post* policy actions that redistribute away from privatized companies and their shareholders. In his framework, partial privatization of

companies and deliberate under-pricing³ provides a way for governments signal their commitment not to engage in subsequent redistribution. The “committed” and “populist” types can plausibly be seen to map onto right- and left-wing parties, respectively. Biais and Perotti (2002) offer a theory in which right-wing governments are seen to use privatizations as a way of coopting an otherwise left-leaning middle class. By earmarking shares for members of that class and under-pricing — i.e. subsidising — share issue prices, middle class voters come to have their economic interests more closely aligned with the rest of the right-wing constituency. They will have more to fear from a left-wing government that is perceived to be unfriendly to private business. Jones et al. (1999) find empirical support for these theoretical accounts.

3 Theoretical Preliminaries

The theory presented here rests largely on two empirical supports. First, that privatization has, or at least has been seen to have, non-trivial economic benefits in terms of increased productivity. Second, these benefits are very often at the cost of dismantling portions of organized labour that are traditionally supportive of left-wing parties. Before proceeding with the details of how these two stylised facts can lead to predictions as to when (left-wing) parties will seek to privatize, I begin by briefly surveying the literature supporting these two claims.

3.1 Economic Benefits from Privatization

In reviewing the empirical literature, I focus mainly on those studies relating to ‘developed democracies’ as it is these countries that will form the focus of the subsequent theoretical and empirical claims.⁴

Papers by Boardman and Vining (1989) and Vining and Boardman (1992) provided early empirical support to the notion that ownership matters to the efficiency of firms. Analysing samples of large firms from around the world and within Canada, they find that SOEs and mixed enterprises (MEs) are both less efficient and less profitable than the privately owned firms for which they have data.

Ehrlich et al. (1994) study the performance of airlines across countries. Using panel data, they are able to estimate both short- and long-run effects from state ownership. Their findings support the view that private ownership enhances productivity, but only in the long-run. In

³In a purely economic sense.

⁴There is, however, a voluminous privatization literature outside of these countries. If anything, the findings are even more favourable to the claim that privatization improves efficiency with support found in ‘transition economies’ (Frydman et al., 1999; Harper, 2002) and ‘developing economies’ (Majumdar, 1998; Bartel and Harrison, 2005; Boubakri, Cosset and Guedhami, 2005).

the light of subsequent research that failed to find effects from privatization over short-run periods, this finding is telling.

D'Souza and Megginson (1999) analyse a sample of 85 companies spread across industrialised and non-industrialised countries from 1990 to 1996. Assessing profitability, output, operating efficiency, and dividend payments, they find statistically significant increases in all for post-privatization firms. This pattern is broadly supported in all sub-sample partitions representing competitive versus non-competitive firms, 'control' versus 'revenue' privatizations,⁵ firms from industrialised versus non-industrialised countries, and firms that did or did not experience two types of management change post-privatization.

Dewenter and Malatesta (2001) adopt empirical approaches of both the cross-sectional sort pioneered by Boardman and Vining (1989) and the time-series sort akin to Ehrlich et al. (1994). Their findings from the former approach are that privatized firms do perform better. However, when employing the time-series approach, some of those performance gains appear to have been realised in the years *before* the actual privatization occurred. They conclude that, while private firms appear more profitable, the evidence that the act of privatization improves performance is far weaker.

González-Páramo and Cos (2005) study a panel of Spanish manufacturing firms for the period 1983–1996. They find that both private ownership and competition have positive effects on firm performance, although the result for private ownership may be conditional on a level of competition within the market place. In that light, the weaker findings from Dewenter and Malatesta (2001) may well be explained by a failure to control for the competitiveness of the market in which newly privatized firms are operating.

In addition to the positive findings with respect to private ownership and privatization, there have also been some negative results. Studying Spanish privatizations, Cabeza García and Gómez Ansón (2007) find little evidence of effects on efficiency and the like. This appears in marked contrast to the findings in González-Páramo and Cos (2005), although the discrepancy may well be explained by the lack of control for competition. This interpretation accords with Alexandre and Charreaux (2004), who find that what efficiency benefits that there were following privatizations in France stem from changes in the environment within which the firms operated pre- and post-privatization.

Finally, using a novel data set of firms that were nationalised in the USA as a result of 'enemy' ownership during World War II, Kole and Mulherin (1997) find no effect from government ownership. Despite the plausibly exogenous nature of the nationalization decision, the authors themselves acknowledge that it is difficult to generalise their findings due to the limited number of cases that they study. Their limited degrees of freedom also prohibits them from studying the importance of market competition to the issue of ownership.

In conclusion, there appears to be fairly strong evidence that privatization yields efficiency

⁵The latter being where governments sell shares but retain control of firms.

increases in firm performance, although this may be somewhat conditional on the competitiveness of the market within which firms operate — a finding that Vickers and Yarrow (1991, 113) perceived from their early survey of the literature. In a more recent and highly influential survey, Megginson and Netter (2001, 356) find that the empirical work they cover “offer[s] at least limited support for the proposition that privatization is associated with improvements in the operating and financial performance of divested firms”.

3.2 Labour ‘Costs’ from Privatization

With respect to the effect of privatization on labour, there is, again, theoretical and empirical reason to believe that it will be negative for those employed in privatized firms.

A common theme in the theoretical literature is that politicians will tend to have a greater concern for employment levels than is economically efficient. Notably, several authors touch on the idea that this tendency may vary across governments. That is, partisanship should count. Pint (1991) analyses a principal–agent model in a monopolistic setup. She focuses on how information asymmetry between a firm manager (agent) and either a government minister or shareholders (principals). Based on the assumption that governments care more about employment than do private shareholders, her model shows that the optimal design of contracts for the manager leads to a relatively lower capital-labour ratio with a government principal than with private shareholders in that role.

Boycko, Shleifer and Vishny (1996) share the view that governments care about employment. They claim that privatization increases economic efficiency as it makes it more costly for a government to induce inefficiently high employment levels in a firm. Plausibly, this claim is founded on the idea that it is politically easier for a politician to forgo potential profits from a nationalised firm than it is to raise taxes and then directly subsidise a private firm.

Finally, Robinson and Torvik (2005) and Henisz and Zelner (2006) make theoretical claims regarding the construction of ‘white elephants’ that are socially inefficient, but politically useful. At root, the claims stem from the idea that particular constituencies will gain employment to operate these ‘white elephants’. As such, the theories can be seen as claims as to overly large employment when investment decisions are controlled by a government.

There is a large body of empirical literature concerned with the effects of privatization on employment. Again, I focus on those studies that have analysed ‘developed’ democracies, despite numerous findings as to the negative effect of privatization on employment in other contexts.⁶

Based on the theoretical work discussed above, and on the body of empirical findings that private ownership and privatization increase firm efficiency, it is unsurprising that the pattern

⁶For evidence for the post-communist transition economies, see Barberis et al. (1996) and Frydman et al. (1999). For ‘developing’ countries, see La Porta and Lopez-De-Silanes (1999) and Belser and Rama (2001).

of empirical results with respect to privatization's effect on employment is fairly consistently negative — albeit coming from a less voluminous literature.

Commensurate with their rather equivocal findings for the effect of privatization on firm efficiency in France, Alexandre and Charreaux (2004) find only tentative evidence that the process has led to labour reductions. However, the efficiency findings by Dewenter and Malatesta (2001) are not matched when they analyse the labour effect. There, they *do* find that privatization reduces labour input in a significant way. Likewise, D'Souza and Megginson (1999) find that labour decreases significantly, albeit only in industrialised countries. Finally, in their study of the Spanish case, González-Páramo and Cos (2005) provide evidence that employment falls post-privatization.

3.3 Disincentives for Left-Wing Parties to Privatize

Given the general empirical regularity of employment costs from privatization, it is a short step to see why left-wing parties would perceive a disincentive to engaging in the process of SOE sell-offs. As already noted above, the theoretical economics literature has somewhat tangentially addressed the idea that different types of government may have different preferences over employment levels (Pint, 1991; Boycko, Shleifer and Vishny, 1996). More political science oriented theories ballast to this idea.

First, Hibbs (1977) claimed that left-wing parties tend to represent those sections of a society that earn their income disproportionately from labour. As such, unemployment is a particularly pernicious social problem, as perceived from the Left, as it cuts markedly into total income for those who have few other sources of financial support. In that light, the sort of redundancies that are part and parcel of privatization programmes are likely to exert discomfort on the sort of lower income wage earners that form the core of left-wing support. Economic theory suggests that this should be a largely short-run effect, however, as the efficiency benefits of the economic restructuring filter back into macro-economic gains.

Building on this first position, a second prominent theory claims that left-wing parties perform better electorally when they benefit from the 'power resources' of organised labour (Stephens, 1979; Korpi and Shalev, 1979; Cameron, 1984). Greater union density (*UDen*) and coordination provides for greater financial and human resources with which to perform political campaigns. More advertisements. More street-level campaigning. Better information on the electorate. Stronger unions may also help to increase turnout, which tends to be lower amongst lower income groups, and as such shifts the median *voter* to the left.

If the power resources of organised labour are a boon for left-wing political parties, then privatization should be even more distasteful to them. Initial redundancies from privatized firms will clearly reduce the strength of unions that represented those former employees. Even if they maintain their membership, fewer will be in work and therefore in a position to

contribute to the financial viability of the unions.

But the down-side is even greater than that. Union density is markedly higher in the public sector than it is in the private sector — a pattern that holds across nearly all developed democracies. Freeman (1986) passed an early commentary on how “unionism [... came] to the public sector” by noting the rise of public sector unionism in the USA over the post war era to the early 1980s. Also focusing on the USA, Farber (2005) presents data suggesting that since the mid 1970s, when both public and private sector union density stood at around 25%, the two sectors have diverged dramatically. By 2004, the private sector figure had shrunk to only around 8% while the public sector figure had swollen to around 35%. Draper (2000) presents evidence that this trend is far from particular to the USA. His data shows that across 12 OECD countries, while aggregate union density figures have fallen in most countries between the 1970s and the 1990s, the proportion of union membership being composed of public sector workers has risen — markedly so in several cases. Taking a snapshot of public and private union density figures for a similar selection of countries at the end of the 1990s, Blanchflower (2007, 6) shows that the difference between the two figures was of the order of 30 percentage points for most countries, and notably more for several. The evidence suggests, then, that while private sector unionism has been on the decline across most of the OECD countries (Ebbinghaus and Visser, 1999; Visser, 2006), public sector unionism has, in both relative and absolute terms, been thriving.

It appears that the public sector offers a particularly conducive environment to labour organisation. As such, the shift of large sections of the workforce into the private sector is likely to herald a reduction in the organising capacity of the union movement, in aggregate. Privatization, then, is a recipe for the reduction of left-wing power resources. In that light, it is far from surprising that the trend towards privatization that has been witnessed across the ‘developed’ world has coincided with notable falls in union density.

4 A Theory of Conditional Partisanship for the Privatization Decision

Based on the preceding discussion, the reasons for right-wing parties to want to privatize are two-fold: to maximise macroeconomic efficiency (and so to receive the electoral benefits that this brings), and to minimise the power resources of the Left. However, the issue is more nuanced when viewed from the perspective of left-wing parties. In their case, they must trade-off the benefits of privatization against the costs to their power resources. Within this theoretical framework, then, the left-wing decision over whether to privatize becomes dependent on whether the costs or the benefits are greater. In this section, I develop a theoretical account of when each situation is more likely based on how electorally-reliant a left-wing party is on union-derived power resources.

Consider two political parties, indexed by $i \in \{L, R\}$, in electoral competition to control the government (g) such that $g \in \{L, R\}$ denotes the governing party. They have utility functions that are simply equal to the probability of their own electoral success, such that,

$$U(i) = P(g_{t+1} = i | g_t = i) , \quad (1)$$

where $P(g_{t+1} = i | g_t = i)$ denotes the probability of the government in period $t + 1$ being party i *conditional* on the government in the current period (t) being party i .⁷ A utility function of this form need not be seen as a strict claim that parties are *purely* office seekers. It is also compatible with the notion that they seek office for purely instrumental means — i.e. so that they can pursue a range of policies that benefit them and their constituencies.

There is a large literature studying the determinants of electoral success in democracies. Perhaps the most frequent finding is that better macro-economic performance provides an electoral boost for whichever governing parties are held to be responsible for it. As noted above, the power resources theory has also consistently found empirical support. However, there are also other theoretical reasons to believe that left- or right-wing parties may be privileged in electoral competition.

Iversen and Soskice (2006) argue that majoritarian electoral systems have an inherent bias against left-wing parties as the middle class fear giving unconstrained power to a left-wing party that may turn out to be dominated by those sections of the Left that wish to ‘soak’ both the rich *and* the middle classes. By contrast, under proportional electoral systems, the middle class will tend to have their own party representation and thus not face such a risk as their party can always withdraw support from a centre-left coalition government if necessary. From this theory, we should expect that as electoral proportionality (PR) rises,⁸ then so does left-wing electoral strength. As the theory suggests an important role for the party representation of different classes, it is also plausible to suggest that the ‘effective number of parties’ (*EffectiveParties*) in a political system is also important, with the hypothesis being that higher values of this variable will lead to greater aggregate left-wing support as middle class groups enjoy greater confidence in their representatives.

In a similar vein, the presence of more veto points in a system (*Veto*) may be of relevance in that more veto points should reduce the probability of policy shifts that are unwanted by any group. In the light of the argument made by Iversen and Soskice (2006), this may give greater credibility to left-wing party claims to the middle class that they will not ‘soak’ them, leading to higher propensity for the middle class to vote ‘left’.

⁷The probability is modelled in this way so as to account for electoral success being an increasing function of economic success for *both* left- and right-wing parties. It also eases the subsequent application of the theory to data as predictions are explicitly for what each party will do when they are in power — which is the only ‘state of the world’ observed.

⁸Measured as electoral *disproportionality* using the Gallagher (1991) index.

Taking a more class-based approach, there is a long tradition (generally Marxist) tradition of treating left-wing electoral success as being determined by the size and strength of the ‘working class’ (e.g. Korpi, 1983; Esping-Andersen, 1985). Such scholars treat industrial workers as being of particular importance due to their perceived position of economic oppression and scope for great class consciousness. From this line of work, we should expect that a larger percentage of the workforce engaged in industrial production ($EmpInd$) would be of benefit to left-wing parties — an idea to which Przeworski (1985) devotes considerable thought.

An alternative interpretation of the relationship between industrial employment and left-wing success is also possible, though; one in which the relationship is non-linear and possibly even ‘U-shaped’. That is, right-wing constituencies may come to fear the strength of industrial labour to an extent that leads them to form a more cohesive electoral coalition, themselves. Under this theory, medium levels of industrial employment may be the worst case for the Left in that they are strong enough to scare the Right, but not strong enough to overcome them. Low levels of industrial employment creates less right-wing fear, but necessarily implies lower levels of electoral benefit for left-wing parties. Only at high levels of industrial employment would the Left be strong enough to benefit from such class-based advantages. Such a theory implies a quadratic empirical specification in explaining left-wing strength ($EmpInd^2$).

Yet another hypothesis that can be derived from similar roots relates to the interaction between industrial workers and agricultural workers ($EmpAgr$). Scholars such as Esping-Andersen (1985) have emphasised the importance of the coalition that occurred between the two groups in several Scandinavian countries, and which formed the basis of Social Democratic electoral success. While it is far from certain that such a coalition would necessarily occur purely by virtue of the size each group, one way to get at aspects of such a relationship empirically is to utilize the interaction of the two variables ($EmpInd \cdot EmpAgr$).

Demographic variables of a different nature may also contribute to left-wing electoral success. As consumers of the type of welfare and public services that left-wing parties are traditionally associated with, higher proportions of a population who are children ($PC15$) or elderly ($PC65$) may be associated with higher incidence of left-wing government.

What all of these theoretical approaches have in common is that they constitute claims regarding the *systemic* relative strength of left- and right-wing parties, as opposed to more transient or policy-related effects. The distinction is important as the claim that I will make below rests on the idea that parties make policy choices based on long-run strategic considerations, not *just* ephemeral and contingent events.

Based on these theoretical underpinnings, I take the probability of left-wing electoral success to be a function of two conceptual variables: systemic left-wing strength (Λ) and the strength of the economy (γ). Specifically,

$$P(g_{t+1} = L|g_t = L) = f(\alpha \cdot \Lambda(\lambda, X) + (1 - \alpha) \cdot \gamma) , \quad (2)$$

where Λ is taken to be a function of λ , which denotes left-wing power resources derived from labour union strength, and X , which denotes the vector of other variables expected to influence systemic relative left-wing strength (discussed above),⁹. Furthermore, $f(\cdot)$ is assumed to be a monotonically increasing function and the parameter $\alpha \in [0, 1]$ captures the relative importance of the two variables on $P(g_{t+1} = L|g_t = L)$.

At this stage, I make an important claim, which is that $\Lambda(\lambda, X)$ is concave in both of its parameters such that there are diminishing marginal returns to both parameters as either parameter increases — i.e. that the cross partial derivatives are both negative. The intuition here is that systemic left-wing strength, whatever its sources, has a natural upper limit due to the presence of party competition. As a bias in favour of left-wing parties grows larger, it forces a competitive policy response from right-wing parties to counteract it. The implication of this is that, as the level of systemic left-wing strength derived from the vector X increases, left-wing parties actually become *less* reliant on union-derived electoral power resources (λ). More precisely, the marginal benefits (costs) of increasing (decreasing) λ become smaller when left-wing strength is derived from X . This is important as it implies a different type of relationship between left-wing parties and unions is likely dependent upon the prevailing values of the elements of X . I turn to this below.

Of course, an equivalent expression can be presented for right-wing electoral success. In this case, left-wing power resources are clearly a drag on right-wing electoral prospects. This could be modelled in any number of ways, but one simple specification is given by,

$$P(g_{t+1} = R|g_t = R) = f(\alpha \cdot (1 - \Lambda(\lambda, X)) + (1 - \alpha) \cdot \gamma) , \quad (3)$$

where a normalization such that $\Lambda(\cdot) \in [0, 1]$ has been imposed.

What determines the level of λ and γ , respectively? I claim that they are both functions of the size of the state-owned enterprise (SOE) sector and denote this conceptual variable by s — implying $\lambda = \lambda(s)$ and $\gamma = \gamma(s)$.¹⁰ Furthermore, the functions are such that,

$$\frac{d\lambda(s)}{ds} > 0 \quad (4)$$

$$\frac{d\gamma(s)}{ds} < 0 . \quad (5)$$

⁹I.e. *Proportionality*, *EffectiveParties*, *Vetoes*, *EmpInd*, *EmpInd*², *EmpAgr*, *EmpInd* · *EmpAgr*, *PC15*, and *PC65*

¹⁰Abusing notation somewhat by converting variable names into function names.

That is, an increase in s increases left-wing power resources, but decreases economic performance. Both of these assumptions are based on the theoretical and empirical work discussed in *Section 3.1* and *Section 3.2*. (2) can now be written as,

$$P(g = L) = f [\alpha \cdot \Lambda(\lambda(s), X) + (1 - \alpha) \cdot \gamma(s)] . \quad (6)$$

The size of the SOE sector, s , is a variable that the government has the power to change — by privatization or nationalization. The question is, then, whether left-wing and right-wing parties, respectively, will wish to increase, decrease, or maintain the level of s . Differentiating $U(R)$ with respect to s brings this decision into focus for right-wing parties:

$$\frac{\partial U(R)}{\partial s} = f'(\cdot) \left[-\alpha \cdot \Lambda(\cdot)' \frac{d\lambda(s)}{ds} + (1 - \alpha) \cdot \frac{d\gamma(s)}{ds} \right] . \quad (7)$$

By assumption, both $f'(\cdot)$ and $\Lambda'(\cdot)$ are unambiguously positive, while the final term in parentheses is unambiguously negative. Clearly, then, right-wing parties will always prefer privatization — that is, a reduction in s . It allows them to achieve greater economic performance *and* to reduce the power resources of the Left.

The decision for left-wing parties is rather more nuanced:

$$\frac{\partial U(L)}{\partial s} = f'(\cdot) \left[\alpha \cdot \Lambda(\cdot)' \frac{d\lambda(s)}{ds} + (1 - \alpha) \cdot \frac{d\gamma(s)}{ds} \right] . \quad (8)$$

When does (8) imply that a left-wing party would favour a privatization programme? The question boils down to the relationship between the two terms within parentheses. From (8), the condition for a left-wing party to wish to engage in a privatization programme is given by,

$$\frac{(1 - \alpha)}{\alpha} \cdot \frac{d\gamma(s)}{ds} > -\Lambda(\cdot)' \frac{d\lambda(s)}{ds} . \quad (9)$$

Both sides of this inequality are unambiguously positive¹¹ The decision on whether left-wing parties wish to privatize can now be seen to be related to the marginal costs of such a policy in terms of their systemic strength. As $\Lambda(\cdot)'$ is decreasing in both of its parameters, it becomes clear that privatization is more likely to be preferable to left-wing parties when systemic strength is drawn more from the vector X . It is this prediction that I take to data.¹²

¹¹Because $\Lambda(\cdot) > 0$ and $\frac{d\lambda(s)}{ds} < 0$.

¹²Trivially, it is clear that the decision to privatize also depends on the value of α . It may be plausible to endogenise α to a degree, say, by making it dependent on prevailing economic strength. That is, the importance of left-wing systemic strength may become relatively lower when left-wing parties preside over an exceedingly strong economy. For now, though, I assume that α is fixed exogenously and focus on $\Lambda'(\cdot)$.

5 Empirical Evidence

5.1 Estimating System Left-Wing Strength

In order to test the hypothesis that partisanship over the decision to privatize is conditional on the prevailing level of systemic left-wing strength (Λ), it is necessary to derive a measure of this conceptual variable. No such variable is available ‘off the shelf’, so it is necessary to construct one. The approach I take is to model an observable measure of left-wing strength as a function of the vector X , and then recover the predicted values from those estimates as a proxy for Λ . The observable measure of left-wing strength that I employ is one that is common to much of the partisanship literature: the share of cabinet seats held by left-wing parties (*Left*).

At this stage, it may be argued that *Left* could be employed directly as a proxy for Λ . This would be wrong as the short-term (observed) variability of *Left* is very much higher than the (unobserved) variability of Λ . The former varies from year to year as elections occur or governing coalitions adjust, often with shifts from 0 to 100. These short-run dynamics dominate the measure and make it unsuitable as a proxy for Λ .

Another characteristic of the *Left* variable is that it is constrained to be in the range 0 to 100 — parties cannot hold more than all cabinet seats or less than none. But the conceptual variable that I seek to recover need not be so constrained. That is, with *Left* seen as a function of Λ , there are potentially many low levels of Λ that lead to *Left* = 0, and equivalently for high levels of Λ and *Left* = 100. Consideration of these outcomes leads to a tobit model in which Λ is the (unobserved) latent variable and *Left* the censored-but-observed variable. Thus,

$$Left = \begin{cases} 0 & \text{if } \Lambda < 0; \\ 100 & \text{if } \Lambda > 100; \\ \Lambda & \text{otherwise.} \end{cases} \quad (10)$$

Now, taking $\Lambda(\cdot)$ to be a linear function of its parameters leads to a familiar tobit regression on λ and X of the following form:

$$Left = \begin{cases} 0 & \text{if } \Lambda < 0; \\ 100 & \text{if } \Lambda > 100; \\ \lambda\omega + X\Omega' + \epsilon & \text{otherwise,} \end{cases} \quad (11)$$

where ω is the (estimated) coefficient on λ , Ω' is the (estimated) vector of coefficients on the other variables, X , and $\epsilon \sim N(0, \sigma^2)$ is an error term. As a proxy for λ , I employ a measure of union density (*UDen*).

Finally, I generate my estimate of systemic left-wing strength as,

$$\hat{\Lambda} = \lambda\hat{\omega} + X\hat{\Omega}' . \quad (12)$$

As a practical matter, estimation of (11) is somewhat problematic as the annual nature of *Left* will almost certainly induce autocorrelation in the error term, σ . In this situation, parameter estimates ($\hat{\omega}$ and $\hat{\Omega}$) from a tobit model will be consistent (Robinson, 1982), but standard errors will be too small. While it is the point estimates that are used to generate *Lambda*, the overly-optimistic standard errors pose a concern as I will go on to take account of the uncertainty in this estimated value in the second stage of the analysis — that directly concerned with privatization.

It may be contended that this problem could be resolved by employing a lagged dependent variable (LDV) as a means of soaking up the autocorrelation. However, as Achen (2000) has shown in the context of a standard linear model, doing so purely for the reason of preventing the estimation nuisance and where there are no theoretical reasons for the LDV can lead to a far greater problem. That is, where both errors and explanatory variables are autocorrelated, inclusion of the LDV biases parameter estimates of the main explanatory variables down, leading to incorrect inferences as their importance. Being slow-moving structural variables, the degree of autocorrelation in X is extremely high, implying that the issue Achen identifies would be particularly bad.

Thus, I reject that LDV approach and, in the absence of a tobit model implementation that can handle an AR1 process, employ a country-clustered ‘sandwich’ estimator for the standard errors.

Finally, in estimating this first stage model, I (partially) follow the suggestion of Bartels (2008) in employing both the country mean (e.g. \overline{EmpInd}_i) and the within-country deviation from the mean (e.g. $EmpInd^{W} = EmpInd_{i,t} - \overline{EmpInd}_i$) of each explanatory variable, where i indexes countries and t indexes time. This is to allow for the estimation of separate effects of each variable between and across countries and so should improve model fit.

5.2 The Privatization Decision

5.2.1 The Dependent Variable

My dependent variable in all estimated models is the annual per capita privatization revenues for a country ($PrivRevPC_{i,t}$). This measure should be considered one of ‘privatization effort’ in that it directly controls for country size, thus avoiding the problem of large privatizations in large countries dominating the analysis. Bortolotti, Fantini and Siniscalco (2003, 313), instead, use privatization revenue as a percentage of GDP. However, their study pools across both ‘developed’ and ‘developing’ countries, meaning that there is a very wide range of GDP levels to account for. With my focus on fairly homogeneous (with respect to GDP per capita) countries, I choose the per capita measure as it makes it more natural to include GDP as an

explanatory variable, where necessary.

The data is drawn from the *Privatization Barometer* database¹³ and is denominated in \$US for all countries.

5.2.2 Explanatory Variables

The theory advanced above implies the inclusion of two variables, together with their interaction. Being a story about partisanship, I include the share of cabinet seats held by left-wing parties ($Left_{i,t}$) using data from Armingeon et al. (2007). As set out in *Section 5.1*, I then employ the estimated measure of system left-wing strength ($\widehat{\Lambda}_{i,t}$), together with the partisanship interaction ($Left_{i,t} \cdot \widehat{\Lambda}_{i,t}$). To be clear, the expectation is of a positive and statistically significant interaction effect.

Of course, there is reason to believe that a number of other factors will have played an important role in determining how privatization has developed across countries. Most of those indicated below are drawn from the previous work in this area, although the use of others are innovations to this paper. The controls can be usefully divided into three broad categories: economic, contextual, and political. Full details of sources are given below in 3.

Taking the economic factors first, unemployment would seem to be an obvious variable to control for, albeit one ignored by the literature so far. From the theoretical stance of this paper, there are reasons to suspect both positive and negative effects on privatization effort. On the one hand, higher unemployment indicates a worse performing economy, and thus one, perhaps, more in need of the productivity increases associated with privatization. On the other hand, higher unemployment may make privatization less politically desirable as the process may well lead to even higher unemployment levels as previously public-sector labour is shed. Thus, I employ the control, $Unemployment_{i,t-1}$, without firm predictions as to the sign of its coefficient.

It is common in comparative political economy to consider that per capita GDP may have an influence on policy making. In the specific case of privatization, it is plausible to suggest that lower levels of per capita GDP may induce greater privatization effort. Indeed, Boix (1997) implies just this in his justification for including a variable capturing mean growth rates over the period 1961–1979. In place of that time-invariant measure, and following Bortolotti, Fantini and Siniscalco (2003), I simply employ the log of per capita GDP ($LogGDP_{i,t-1}$).¹⁴

Obviously, related to GDP levels is GDP growth ($GDPGrowth_{i,t-1}$), and I include it for similar reasons, again following Bortolotti, Fantini and Siniscalco (2003). Short-run economic difficulties captured by lower growth rates may prompt governments to privatize in order to

¹³<http://www.privatizationbarometer.com/>

¹⁴Logged, as is standard in the comparative political economy literature, to capture the assumption that the influence of income has a diminishing marginal effect on privatization.

rejuvenate their economies (Zohlnhöfer and Obinger, 2006, 36).

Openness ($Openness_{i,t-1}$), defined as the sum of exports and imports as a percentage of GDP has also been considered of relevance to the privatization issue. Zohlnhöfer and Obinger (2006, 39) employ this measure as a control and discuss the idea that increased “internationalization of markets” may lead to greater privatization due to “conditions of high capital mobility”. While they focus on the consequent need “to switch to orthodox economic policies” (i.e. privatization), there is at least the implication that it is enhanced competitive pressures that are the root cause. However, such logic is potentially problematic. If openness is a proxy for competitive pressure in a country, then we may expect that more open countries will have tended to develop a smaller SOE sector. The consequence being that there would be less to privatize and, thus, lower privatization revenues. Nonetheless, including the control would appear to be valid, in the first instance.

Finally, public finances have been held to be relevant to privatization decisions. A poor financial situation, in the form of high public debt (Bortolotti, Fantini and Siniscalco, 2003) levels and/or high budget deficits (Zohlnhöfer and Obinger, 2006), can potentially be rectified by the revenues of a privatization programme. Thus, I employ the $PublicDebt_{i,t-1}$ and $PublicDeficit_{i,t-1}$ variables.

All economic controls are lagged by one period so as to avoid picking up any potential effect that privatization may have had on them.

In addition to these economic controls, there are also plausible non-economic contextual variables that have been considered to impinge upon a government’s desire and/or ability to engage in privatization.

One difficulty with the modelling process is that it would be highly desirable to employ a variable capturing the size of the SOE sector available for privatization. Low privatization levels are hardly news if there is nothing to privatize. Logically, this situation could arise for two reasons. First, that most or all of the SOE sector has already been privatized by previous governments. Second, that the SOE sector was never very large. As there is no reliable time series data for the size of SOE sectors, it is, unfortunately, not possible to control for the latter case.¹⁵ In order to control for the the former case, I employ a variable that is the cumulative total of (per capita) privatization revenues in a country up to the previous year ($CumPrivRevPC_{i,t-1}$).¹⁶ The expectation is, then, that the coefficient on this variable will be negative as higher values indicate smaller sizes of the remaining SOE sector.

Zohlnhofer, Obinger and Wolf (2008, 116) present data suggesting that there have been shifts in party positions when comparing the 1980s to the 1990s. That is, some kind of secular

¹⁵Zohlnhöfer and Obinger (2006) and (Zohlnhofer, Obinger and Wolf, 2008) employ a measure capturing the size of the public sector, but it is only available at very few points in time, and is rather imprecise, anyway. For these reasons, it is difficult to employ it in a TSCS setting.

¹⁶Bortolotti, Fantini and Siniscalco (2003) actually use a variable of this sort as dependent variable, making their reasoning for its use rather different.

trend in favour of privatization across countries and parties. In order to capture this possible development, I employ a count variable simply equal to the year of each observation ($Year_t$).

Clifton, Comin and Diaz Fuentes (2006) argue that the European Union has had a significant impact; leading member countries to privatize in order to comply with ‘single market’ provisions and increased cross-border competition. In this light, they place great weight on the ratification of the Maastricht Treaty. To assess the importance of this, I include a dummy variable ($Maastricht_{i,t}$) equal to 1 after 1993, and 0 before.¹⁷

In terms of a government’s ability to privatize, Bortolotti, Fantini and Siniscalco (2003) suggest that a “deep and liquid stock market” is an important consideration. As large portions of privatization programmes across many countries have been pursued by public offerings on stock markets, the capacity of those markets to provide the required capital is likely to have been an important constraining consideration for governments. To control for this, I employ a variable corresponding to the total stock market capitalization within a country, per capita ($StockMktCapPC_{t-1}$). The measure is per capita so as to avoid the issue of larger countries having larger stock market capitalizations, but correspondingly larger capital requirements for their privatization programmes. As with the previous economic controls, the variable is lagged to avoid it being spuriously correlated with the dependent variable.

In conformity with the theoretical thrust of this paper, Zohlnhöfer and Obinger (2006, 39) suggest that,

labor unions, particularly those of affected employees, are likely to oppose privatizations. This is because employees of SOEs enjoyed particularly safe and well paid jobs along with exemplary working conditions

In order to operationalize this idea, they employ a variable capturing the number of working days lost to strikes per 1000 workers. In the context of their simple cross-sectional model, this is rather a problematic variable to employ. That is, the degree of militancy of unions is likely to be endogenous to the degree to which privatization programmes are pursued. In that light, the theoretical prediction made by Zohlnhöfer and Obinger (2006) of greater militancy being associated with reduced privatization due to the labour movement being more effective at pursuing its interests is likely to be misguided. Instead, we may expect greater militancy to be associated with *more* privatization as the latter causes the former.

With the TSCS approach adopted here, this difficulty can be partly circumvented by lagging the control variable by one period. Thus, I employ the same measure of union militancy, albeit in a more credibly exogenous form ($Strikes_{i,t-1}$).¹⁸

¹⁷While signed in December 1991, the treaty entered into force in November 1993.

¹⁸Of course, there are potential difficulties even with the lagged variable. If privatization programmes are pursued over a number of years, or simply if unions have enough foresight to predict attempts to privatize in the future, then $Strikes_{i,t-1}$ will still appear to be causally correlated with privatization revenues. However, (unreported) longer lags leave the results stable so this does not appear to be an important issue.

As a final class of controls, it is prudent to employ a selection of explicitly political explanatory variables. Boix (1997) suggests controlling for minority government ($MinorityGovt_{i,t}$) and government fractionalization ($GovtFrac_{i,t}$). The former operationalized as a dummy variable equal to one if the governing parties do not command a majority in parliament. The latter being the probability of two randomly selected MPs from the governing parties being from the same party. The logic for inclusion of these two variables is that divided and legislatively weaker governments will be less able to pursue privatization programmes as the chance of them being blocked from doing so would be higher.

5.3 Modelling Techniques and Issues

One innovation for this paper is to employ a different estimation technique to the existing privatization literature. There are several reasons for this, mostly relating to differences in data structure and resultant units of observation. Zohlnhöfer and Obinger (2006) and Zohlnhofer, Obinger and Wolf (2008) are purely cross-sectional studies, pooling data for each country across a period of around 10 years, and thus constraining the size of their sample to around 20. Based on this data, models were estimated with OLS.

(Boix, 1997) brings to bear slightly more data by using country-governments as his unit of analysis, as opposed to just countries. This leaves him with around 50 observations. He then estimates two types of model: one for the volume of privatization revenues (by OLS) and one for a more subjective measure of what he terms “policies towards state-owned companies”, which amounts to an ordered variable capturing essentially the same information as the interval variable.¹⁹ With an ordered dependent variable, Boix then estimates these latter models as ordered probits.

The data employed by Bortolotti, Fantini and Siniscalco (2003) is commensurate with that in this paper — i.e. taking country-years as the unit of observation. Their approach is to utilize a two-stage empirical analysis by first estimating the probability of privatization occurring in a given country-year (using a probit model), and then estimating the determinants of the level of privatization revenues in those country-years that did experience privatization (by OLS).

This approach is problematic on two counts. First, by estimating a simple probit model in the first stage, Bortolotti, Fantini and Siniscalco (2003) effectively throw out data by treating small and large privatizations as identical. To that extent, the results for such an analysis are of lower relevance than a more appropriate model. Second, by estimating a model in the second stage for only those country years that experienced privatization, they are biasing their results to the case where privatization does occur. They acknowledge this themselves, noting that, “we simply admit that we are estimating conditional expectations, and suggest the

¹⁹In addition to privatization revenues, some information on nationalizations is also included in this latter approach.

reader [sic] some caution in the causal interpretation of our reported coefficients” (Bortolotti, Fantini and Siniscalco, 2003, 325).

To avoid these problems, I estimate tobit models which account for the censored nature of the dependent variable in a single model. Doing so takes account of the fact that a value of 0 for the $PrivRevPC_{i,t}$ variable can correspond to a government being only very marginally against privatization and one being overwhelmingly against it — i.e. the censored nature of the variable.

Nonetheless, there are some difficulties with this estimation approach. This can be seen by considering what would be the preferred equation to be estimated:

$$PrivRev_{i,t} = \beta_0 + \beta_1 SOE_{i,t-1} + \beta \mathbf{X} + \epsilon_{i,t} , \quad (13)$$

where $SOE_{i,t-1}$ is the lagged size of the SOE sector for each country and $\beta \mathbf{X}$ denotes vectors of other parameters and variables. The problem is that there is no reliable TSCS data for this variable. Noting that the current size of the SOE sector in a country depends on the ‘initial’ size of it and the amount that has be privatized already:²⁰

$$SOE_{i,t} \approx SOE_{i,0} - \sum_{\tau=0}^t PrivRev_{i,\tau} , \quad (14)$$

and denoting $\sum_{\tau=0}^t PrivRev_{i,\tau}$ as $CumPrivRev_{i,t-1}$, this can then be substituted into (13) to yield,²¹

$$PrivRev_{i,t} = \beta_0 + \beta_1 (SOE_0 - CumPrivRev_{i,t-1}) + \beta \mathbf{X} + \epsilon_{i,t} . \quad (15)$$

This form has lower data requirements but not quite low enough as there is, again, no reliable data on the size of the SOE sector, even for an early point in time, that is commensurate $PrivRev$. To avoid this problem, I estimate equations of the form:

$$PrivRev_{i,t} = \beta_0 + \alpha_i - \beta_1 CumPrivRev_{i,t-1} + \beta \mathbf{X} + \epsilon_{i,t} , \quad (16)$$

where α_i denotes country fixed effects, which have replaced the initial SOE levels. This

²⁰The relationship expressed in (14) is only approximate as $PrivRev$ is only an approximation of the ‘true’ size of the SOE sector that is privatized in a given year. There is some variability on the valuation placed on privatized enterprises based on market conditions and other stochastic factors.

²¹Lagging (14).

equation is not perfect as the fixed effects are likely to pick up other time invariant factors that affect privatization revenues. Given the data constraints, such a compromise is necessary.

However, the tobit models, being estimated by maximum likelihood, suffer from the ‘incidental parameters problem’ first highlighted by Neyman and Scott (1948). The result is that the use of fixed effects in tobit models yields inconsistent parameter estimates.²² Acknowledging both that theory suggests a fixed effect model is appropriate and that random effects are the only way to avoid poor parameter estimates, I present results from estimating both types of model; accepting that neither is perfect.

5.3.1 Accounting for Uncertainty

An important concern when estimating this second stage model for how the left-wing privatization decision varies with the prevailing level of systemic left-wing strength (Λ) is that the variable that is actually employed ($\hat{\Lambda}$) inherently contains error as a result of the process by which it was estimated (as opposed to observed). So, while the point estimate for $\hat{\Lambda}$ is valuable, the actual value of the underlying variable that it proxies will fall somewhere within the sampling distribution of $\hat{\Lambda}$, and this should be accounted for when attempting to draw inferences about how partisanship regarding privatization varies with Λ .

I handle this issue in a way outlined by Armstrong, Duch and Bakker (2007).²³ The approach essentially treats the estimated distribution of $\hat{\Lambda}$ similar to a Bayesian posterior by repeatedly sampling from $\hat{\Lambda} \sim N(\widehat{\Lambda}^m, \sigma_{\hat{\Lambda}}^2)$, where $\widehat{\Lambda}^m$ is the mean (point estimate) of $\hat{\Lambda}$ and $\sigma_{\hat{\Lambda}}$ is the estimated standard error (from the first stage model). The second stage model is then re-estimated for each draw of $\widehat{\Lambda}^m$, yielding a distribution of parameter estimates for the second stage model that includes the uncertainty surrounding $\hat{\Lambda}$.

5.4 Results

5.4.1 Left-Wing Strength

The results for this first stage model of the systemic determinants of left-wing strength are presented in *Table 5.4.1*. While they are potentially of substantive interest in their own right, I do not dwell on them here as the primary objective of the paper is to test a theory of partisan policy-making with respect to privatization.

I shall simply note that the hypotheses regarding the influences of electoral disproportionality (within countries), union density (across countries), and the various functions of the employment sector demographics all find support in the data. Somewhat surprisingly, the influence of *Vetos* on left-wing success appears to be negative, rather than the hypothesised positive effect. This warrants further investigation.

²²For a recent discussion of the issue, see Greene (2004b) and Greene (2004a).

²³I am also grateful to Andrew Martin for suggesting an approach like this to me.

Table 1: Tobit estimation of the systemic determinants of left-wing cabinet seats ($Left_{i,t}$) across countries.

	(1)	
model	b	t
\overline{PR}_i	1.505	0.895
$\overline{PR}_{i,t}^W$	-4.685**	-2.186
\overline{Vetos}_i	-9.991**	-1.966
$\overline{Vetos}_{i,t}^W$	-10.60	-0.901
$\overline{PC15}_i$	-353.9	-0.592
$\overline{PC15}_{i,t}^W$	356.6	0.813
$\overline{PC15}_{i,t}^W$	9.066*	1.926
$\overline{PC65}_{i,t}^W$	-1.678	-0.173
\overline{ImpExp}_i	-0.277	-1.076
$\overline{ImpExp}_{i,t-1}^W$	0.0892	0.131
\overline{UDen}_i	1.410***	3.767
$\overline{UDen}_{i,t-1}^W$	-1.128	-1.295
\overline{EmpAgr}_i	-4309.7***	-6.287
$\overline{EmpAgr}_{i,t-1}^W$	-471.6	-0.663
\overline{EmpInd}_i	-12794.7***	-4.069
$\overline{EmpInd}_{i,t}^W$	-1551.3*	-1.916
$\overline{EmpAgr}_i \cdot \overline{EmpInd}_i$	15596.0***	6.102
$(\overline{EmpAgr}_{i,t} \cdot \overline{EmpInd}_{i,t})^W$	180.8	0.0790
\overline{EmpInd}_i^2	16842.4***	3.814
$\overline{EmpInd}_{i,t}^{2,W}$	2153.9*	1.701

Notes: Maximum likelihood estimates with Z-statistics in parentheses calculated from country-clustered standard errors. *, **, and *** denote p-values of 0.1, 0.05, and 0.01, respectively.

Table 2: Tobit estimation of the determinants of privatization ($PrivRevPC_{i,t}$) across countries.

	(2)		(3)	
	b	t	b	t
main				
$CumulativePrivRevPC_{i,t-1}$	-0.215***	-3.224	-0.114	-1.400
$Unemployment_{i,t-1}$	0.000118	1.299	-0.00000591	-0.0963
$GDPGrowth_{i,t-1}$	0.00109	0.138	0.00321	0.438
$LogGDPPC_{i,t-1}$	0.00119	0.224	-0.00270**	-2.494
$Openness_{i,t-1}$	0.0000462	0.184	-0.0000185**	-2.168
$PublicDebt_{i,t-1}$	0.0000154	0.839	0.00000608	0.623
$PublicDeficit_{i,t-1}$	0.0000237	0.391	0.0000106	0.199
$Maastricht_{i,t}$	-0.000216	-0.472	0.0000848	0.188
$Strikes_{i,t-1}$	-0.00000944	-1.155	-0.00000120	-1.499
$StockMktCapPC_{i,t-1}$	0.0000740***	3.145	0.0000567**	2.496
$Year_t$	0.000209	1.481	0.000264***	4.008
$GovtFrac_{i,t}$	0.000992	0.856	0.000674	0.743
$Left_{i,t}$	-0.0000131**	-2.071	-0.0000160***	-2.609
$Checks_{i,t}$	0.000151	1.646	0.0000776	0.891
$\hat{\Lambda}_{i,t-1}$	-0.0000102	-1.367	-0.0000105	-1.583
$Left_{i,t} \cdot \hat{\Lambda}_{i,t-1}$	0.000000253**	2.167	0.000000276***	2.623

Notes: Maximum likelihood estimates with Z-statistics in parentheses.

*, **, and *** denote p-values of 0.1, 0.05, and 0.01, respectively.

5.4.2 Privatization

The results for this first stage model of the systemic determinants of left-wing strength are presented in *Table 5.4.2*. Model (2) presents the fixed effects estimates (with country dummy coefficients not reported) and Model (3) presents the alternative random effects specification.

First, the parameter estimates for $CumPrivRevPC$ in both models are negative, although only reaching conventional statistical significance in the presence of fixed effects. In the light of the discussion above regarding the theoretical desirability of fixed effects, this is not too surprising. So, there appears to be support for the hypothesis that higher levels of privatization in the past reduce privatization in any given period. This suggests that (in combination with the fixed effects) the variable is indeed controlling for the remaining size of the SOE sector. If it were to pick up some kind of serial correlation in which more privatization-prone countries were to consistently privatize more, the parameter would be expected to be positive.

Taking the economic control variables first, for $Unemployment$, the evidence across both models is that it has very little effect on privatization effort. Likewise for $GDPGrowth$. Similar to Boix (1997), there is evidence from model (3) that lower levels of GDP are associated with higher privatization effort. However, this latter result appears to be highly contingent on the model specification, so it would be unwise to place too much emphasis on it.

There is some evidence that the ambiguous theoretical effects of *Openness* discussed above may come down in favour of lower levels of privatization in more open economies, perhaps because external competition forces greater efficiencies from SOEs already. There is no evidence that either high levels of *PublicDebt* or *PublicDebt* are associated with higher privatization effort.

Moving on to the contextual controls, the estimate for *Year* from model (3) suggests that there may have been a secular trend in favour of privatization through the period. To even the lay observer, this is hardly likely to be surprising. More interesting is that, in the presence of *Year*, the Maastricht dummy appears to be statistically insignificant. This may not be conclusive evidence against the impact of the EU on privatization policies across member states, but it surely casts some doubt on the thesis.

Both models provide strong evidence that higher levels of *StockMktCapPC* lead to higher levels of privatization effort. This is in accordance with the findings of Bortolotti, Fantini and Siniscalco (2003). However, the models are not able to distinguish between two possible interpretations of the positive coefficient. Bortolotti, Fantini and Siniscalco (2003) emphasise the enabling nature of “deep and liquid stock markets” in that they allow governments to tap into capital markets more readily, especially when related to extremely large enterprises such as utility monopolies. An alternative hypothesis would be that the presence of “deep and liquid stock markets” implies the presence of powerful financial actors capable of lobbying governments for more privatization business. The hypotheses are not mutually exclusive, of course. With respect to *Strikes*, it appears that union protest of this sort had little impact on the privatization process.

The political controls advocated by Boix (1997) perform notably poorly, with *GovtFrac* not appearing to have any effect on privatization.

On the evidence relevant to the theoretical claim of this paper, the evidence is fairly strong. *Figures 1* and *2* plot the estimated interaction effects between *Left* and the $\hat{\Lambda}$ for model (2) and (3), respectively, together with 95% confidence intervals. As expected, the sign of the interaction effect is consistently positive, indicating that more left-wing governments privatize more readily where their systemic strength is higher.

The conditional effects also reveal another aspect of the politics of privatization. While left-wing governments with low levels of systemic strength are significantly less likely to privatize to the same degree as a right-wing government in the same context, a left-wing government at high levels of systemic strength is estimated to be *more* likely to privatize than a right-wing government. This may appear to be puzzling at first glance, but one resolution to this finding is that left-wing governments are better able to navigate and/or suppress the largely left-of-centre interest group pressure that is likely to come out against privatization. For example, a left-wing government advocating privatization may be able to claim more credibly that the policy is in the ‘national interest’ and not simply an attempt to

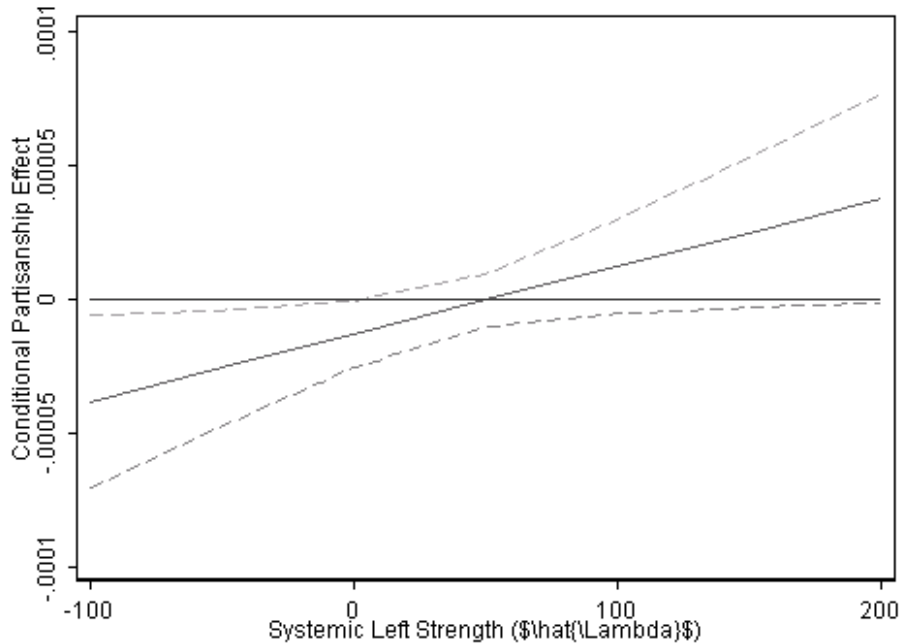


Figure 1: Partisanship effect on privatization, conditional on $\hat{\Lambda}$, estimated from Model (2); 95% confidence intervals shown.

destroy a component of left-wing power resources.

6 Discussion

How do the findings in this paper sit with earlier, more country-specific studies? The answer is: rather well.

In Austria — a country with historically strong unions and left-wing parliamentary presence — the mid-1980s saw both the Socialist Party (SPÖ) and the conservative People’s Party (ÖVP) embrace privatization, as well as broader deregulatory policies. Indeed, Meth-Cohn and Müller (1994) describe the shift by the SPÖ finance minister, Franz Vranitzky as a “quantum leap into supply-side economic policies”, and one for which “criticism within his party was relatively moderate” (Meth-Cohn and Müller, 1994, 166). Furthermore, they argue that (Meth-Cohn and Müller, 1994, 166),

the SPÖ accepted that the state is not an optimal owner. A minister cannot run a firm in the same way as a private owner; under such a situation the enterprise belongs *de facto* to the management and the workers’ council, and beyond that to local and regional politicians and the unions.

In the UK, the flip side of the argument regarding left-wing preferences for strong unions

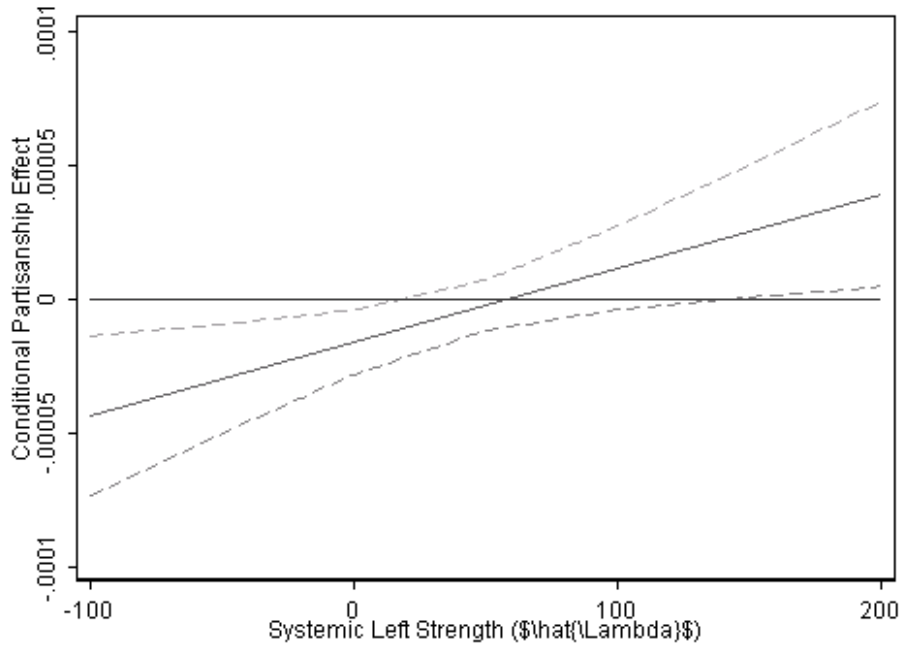


Figure 2: Partisanship effect on privatization, conditional on $\hat{\Lambda}$, estimated from Model (3); 95% confidence intervals shown.

where the political parties themselves are weaker can be seen. The Thatcherite revolution of the 1980s has been explicitly associated with attempts by the Conservatives to reduce the power of public sector unions. Having witnessed the militant miners bring down Edward Heath’s government in the early 1970s, the Tories were eager to ensure that such a situation in which a union could hold country by the “jugular vein” could not reoccur (Steel and Heald, 1982, 341). That view became all the more prescient towards the latter end of the 1980s, after a raft of trade union legislation had also been passed and Thatcher had won her famous battle with the National Union of Mineworkers (Mitchell, 1987; Gamble, 1988).

In Sweden, the aspect of the theory emphasising left-wing incentives for state ownership becomes all the more stark. Pontusson (1989, 129) notes that,

Sweden represents something of a paradox. In no other West European country has a reformist working-class party (or any other type of left party) held government office for so long; yet public ownership of industrial/commercial enterprise is quite limited by comparative standards.

This is suggestive that the logic associating the need for public ownership with the acquisition of left-wing power resources may have relevance for the earlier period, before privatization. Lane (1994, 181) writes that, on nationalization, the “Social Democrats took an early pragmatic stand-point to this basic problem of Marxist ideology”. On this basis, a fruitful

line of future research would be to investigate the reasons for this earlier rejection of standard left-wing thought. Based on the theory and evidence presented in this paper, the strength of the Social Democrats, even in the absence of a large state-owned enterprise sector, is a plausible explanation.

7 Conclusion

Several conclusions can be drawn from this, the first of which must be that the traditional understanding of privatization as an inherently right-wing policy is rather wide of the mark. Left-wing parties have engaged in privatization programmes at least as large as those of the right-wing oppositions in several European countries. To dismiss such activities as capitulation to the Right seems to miss the point. On the basis of the evidence presented here, we can fairly reliably predict where left-wing parties will embrace privatization, and those predictions are not based on where we expect the Left to cave in to right-wing pressure — far from it. Privatization is an economic policy that has the capacity to ‘raise all boats’ — at least in the medium term — but the political costs of it are felt differentially by left-wing parties across countries. It is for this reason that the degree of partisan conflict on the issue varies.

The theory and evidence advanced in this paper also suggests a reassessment of which actors are the relevant agents within ‘developed’ political economies. Prominent schools of thought ascribe agency to interest groups on the one hand or ‘the median voter’ on the other. This paper responds to these traditions with a more careful theorising as to the incentives of political parties and goes on to find evidence to support the view that parties are important agents in their own right. They appear to be more than simple vehicles for the interests of either interest groups or the median voter. Instead, they mediate influences from such quarters, and do so in a strategic way.

In addition to this contribution to our understanding of political agency, this paper leads to some obvious questions regarding the nature of the SOE sectors across different countries in the pre-privatization era. The estimated country fixed effects which, to a large extent, should provide estimates of the size of each country’s SOE sector at the start of the sample period (i.e. 1979), hold some surprises for those who anticipate simple mappings of the sort ‘more left-wing government leads to a larger state’. For example, Sweden, Finland, and Denmark all have (unreported) estimated fixed effects that are negative.

An obvious line for further research, then, is to understand why countries that are traditionally thought of as being bastions of left-wing political strength appear to have pursued notably different industrial strategies during the twentieth century than their more right-wing cousins. Why did the Nordic and Benelux countries, as well as Germany, reject nationalization as a tool of industrial policy while their Anglo-Saxon and Mediterranean neighbours

developed large-scale state-owned enterprise sectors? Why, where it was strongest, did the Left reject what many see as one of the core tenets of left-wing ideological thought?

8 Alternative Theory of Conditional Partisanship

In this section, I present an alternative theory that also leads to a prediction of partisanship with respect to the decision to privatize being conditional on the prevailing level of systemic left-wing strength (Λ).

Again, consider two political parties, indexed by $i \in \{L, R\}$, in electoral competition to control the government (g) such that $g \in \{L, R\}$ denotes the governing party. They have utility functions that are weighted averages of the macroeconomic success of the country (γ) and their own electoral success:

$$U(i) = \rho\gamma + (1 - \rho)P(g_{t+1} = i | g_t = i) , \quad (17)$$

The logic here is that parties derive *some* direct level utility from the national economy being able to provide more consumption to its citizens; in a sense, there is a degree of altruism. While the second component of their utility is derived from electoral success, this need not be seen as a strict claim that parties are *purely* office seekers. The assumption is compatible with the notion that they seek office for purely instrumental means — i.e. so that they can pursue a range of policies that benefit them and their constituencies.

Substituting the probability of electoral for either party given by (6) and then differentiating with respect to s , the condition for right-wing parties to privatize is given by,

$$\frac{\partial U(R)}{\partial s} = \rho \frac{d\gamma(s)}{ds} + (1 - \rho)f'(\cdot) \left[-\alpha \cdot \frac{d\lambda(s)}{ds} + (1 - \alpha) \cdot \frac{d\gamma(s)}{ds} \right] > 0 . \quad (18)$$

By assumption, $f'(\cdot)$ is unambiguously positive, while the final term in parentheses is unambiguously negative. Clearly, then, right-wing parties will always prefer privatization — that is, a reduction in s . It allows them to achieve greater economic performance *and* to reduce the power resources of the Left.

Once again, the decision for left-wing parties is rather more complicated. The relevant condition being given by,

$$\frac{\partial U(L)}{\partial s} = \rho \frac{d\gamma(s)}{ds} + (1 - \rho)f'(\cdot) \left[\alpha \cdot \frac{d\lambda(s)}{ds} + (1 - \alpha) \cdot \frac{d\gamma(s)}{ds} \right] > 0 . \quad (19)$$

When does (19) imply that a left-wing party would favour a privatization programme? The question boils down to the relationship between the two terms within parentheses. From (19), the condition for a left-wing party to wish to engage in a privatization programme is given by,

$$\frac{d\gamma(s)}{ds} \left[\frac{\rho}{1-\rho} \frac{1}{f'(\cdot)} + \alpha - 1 \right] > \alpha \frac{d\lambda(s)}{ds} . \quad (20)$$

Obviously, this condition depends on the values of the exogenous parameters, α and ρ . However, the more interesting finding is that it also depends on $f'(\cdot)$. By assumption, this derivative is decreasing in its argument, which implies it is decreasing in $\Lambda(s)$. This shows that the RHS of inequality (20) is unambiguously increasing in Λ , making the condition for left-wing parties to privatize more likely to hold at higher levels of systemic left-wing strength.

9 Summary of Variables

References

- Achen, Christopher H. 2000. "Why Lagged Dependent Variables Can Suppress the Explanatory Power of Other Independent Variables."
- Alexandre, Hervé and Gerard Charreaux. 2004. "Efficiency of French privatizations: a dynamic vision." *Journal of Corporate Finance* 10(3):467–494.
- Armingeon, Klaus, Philipp Leimgruber, Michelle Beyeler and Sarah Menegale. 2007. "Comparative Political Data Set 1960-2004." Institute of Political Science, University of Berne.
- Armstrong, David A, Raymond Duch and Ryan Bakker. 2007. "Estimating Uncertainty in Multi-level Models with Estimated Variables."
- Barberis, Nicholas, Maxim Boycko, Andrei Shleifer and Natalia Tsukanova. 1996. "How Does Privatization Work? Evidence from the Russian Shops." *Journal of Political Economy* 104(4):764–790.
- Bartel, Ann P and Ann E Harrison. 2005. "Ownership Versus Environment: Disentangling the Sources of Public-Sector Inefficiency." *Review of Economics and Statistics* 87(1):135–147.
- Bartels, Brandon L. 2008. "Beyond "Fixed Versus Random Effects": A Framework for Improving Substantive and Statistical Analysis of Panel, TSCS, and Multilevel Data."
- Becker, Gary S. 1983. "A Theory of Competition Among Pressure Groups for Political Influence." *Quarterly Journal of Economics* 98(3):371–400.
- Belser, Patrick and Martin Rama. 2001. "State ownership and labor redundancy - estimates based on enterprise-level data from Vietnam." World Bank Policy Research Working Paper No. 2599.
- Biais, Bruno and Enrico Perotti. 2002. "Machiavellian Privatization." *American Economic Review* 92(1):240–258.
- Blanchflower, David G. 2007. "International Patterns of Union Membership." *British Journal of Industrial Relations* 45(1):1–28.
- Boardman, Anthony E and Aidan R Vining. 1989. "Ownership and Performance in Competitive Environments: A Comparison of the Performance of Private, Mixed, and State-Owned Enterprises." *Journal of Law and Economics* 32(1):1.

- Boix, Carles. 1997. "Privatizing the Public Business Sector in the Eighties: Economic Performance, Partisan Responses and Divided Governments." *British Journal of Political Science* 27(4):473–496.
- Bortolotti, Bernardo, Marcella Fantini and Domenico Siniscalco. 2003. "Privatisation around the world: evidence from panel data." *Journal of Public Economics* 88(1-2):305–332.
- Boubakri, Narjess, Jean-Claude Cosset and Omrane Guedhami. 2005. "Liberalization, corporate governance and the performance of privatized firms in developing countries." *Journal of Corporate Finance* 11(5):767–790.
- Boycko, Maxim, Andrei Shleifer and Robert W Vishny. 1996. "A Theory of Privatisation." *Economic Journal* 106(435):309–319.
- Cabeza García, Laura and Silvia Gómez Ansón. 2007. "Governance and Performance of Spanish Privatised Firms." *Corporate Governance: An International Review* 15(4):503–519.
- Cameron, David R. 1984. Social Democracy, Corporatism, Labour Quiescence and the Representation of Economic Interest in Advanced Capitalist Society. In *Order and Conflict in Contemporary Capitalism*, ed. John H. Goldthorpe. Oxford University Press chapter 7, pp. 143– 178.
- Clifton, Judith, Francisco Comin and Daniel Diaz Fuentes. 2006. "Privatizing public enterprises in the European Union 1960-2002: ideological, pragmatic, inevitable?" *Journal of European Public Policy* 13(5):736–756.
- Dewenter, Kathryn L and Paul H Malatesta. 2001. "State-Owned and Privately Owned Firms: An Empirical Analysis of Profitability, Leverage, and Labor Intensity." *American Economic Review* 91(1):320–334.
- Draper, Alan. 2000. "Public-Sector Workers: A New Vanguard?" *WorkingUSA* 4(2):8–26.
- D'Souza, Juliet and William L Megginson. 1999. "The Financial and Operating Performance of Privatized Firms during the 1990s." *Journal of Finance* 54:1397–1438.
- Ebbinghaus, Bernhard and Jelle Visser. 1999. "When Institutions Matter: Union Growth and Decline in Western Europe, 1950-1995." *European Sociological Review* 15(2):135–158.
- Ehrlich, Isaac, Georges Gallais-Hamonno, Zhiqiang Liu and Randall Lutter. 1994. "Productivity Growth and Firm Ownership: An Analytical and Empirical Investigation." *Journal of Political Economy* 102(5):1006–1038.
- Esping-Andersen, Gøsta. 1985. *Politics Against Markets: The Social Democratic Road to Power*. Princeton, New Jersey: Princeton University Press.
- Farber, Henry S. 2005. "Union Membership in the United States: The Divergence between the Public and Private Sectors."
- Feigenbaum, Harvey B and Jeffrey R Henig. 1994. "The Political Underpinnings of Privatization: A Typology." *World Politics* 46(2):185–208.
- Freeman, Richard B. 1986. "Unionism Comes to the Public Sector." *Journal of Economic Literature* 24(1):41–86.

- Frydman, Roman, Cheryl Gray, Marek Hessel and Andrzej Rapaczynski. 1999. "When Does Privatization Work? The Impact of Private Ownership on Corporate Performance in The Transition Economies." *Quarterly Journal of Economics* 114(4):1153–1191.
- Gallagher, Michael. 1991. "Proportionality, disproportionality and electoral systems." *Electoral Studies* 10(1):33–51.
- Gamble, Andrew. 1988. "Privatization, Thatcherism, and the British State." *Journal of Law and Society* 16(1):1–20.
- González-Páramo, José Manuel and Pablo Hernández Cos. 2005. "The Impact of Public Ownership and Competition on Productivity." *Kyklos* 58(4):495–517.
- Greene, William. 2004a. "The behaviour of the maximum likelihood estimator of limited dependent variable models in the presence of fixed effects." *Econometrics Journal* 7(1):98–119.
- Greene, William. 2004b. "Fixed Effects and Bias Due to the Incidental Parameters Problem in the Tobit Model." *Econometric Reviews* 23:125–147.
- Harper, Joel T. 2002. "The performance of privatized firms in the Czech Republic." *Journal of Banking & Finance* 26(4):621–649.
- Henisz, Witold J and Bennet A Zelner. 2006. "Interest Groups, Veto Points, and Electricity Infrastructure Deployment." *International Organization* 60(1):263–286.
- Hibbs, Douglas A. 1977. "Political Parties and Macroeconomic Policy." *American Political Science Review* 71(4):1467–1487.
- Iversen, Torben and David Soskice. 2006. "Electoral Institutions and the Politics of Coalitions: Why Some Democracies Redistribute More Than Others." *American Political Science Review* 100(2):165–181.
- Jones, Steven L, William L Megginson, Robert C Nash and citeulike-article-id=2069815 Netter, Jeffry M. 1999. "Share issue privatizations as financial means to political and economic ends." *Journal of Financial Economics* 53(2):217–253.
- Keefer, Philip and David Stasavage. 2003. "Checks and Balances, Private Information, and the Credibility of Monetary Commitments." *International Organization* 56(4):751–774.
- Kole, Stacey R and J. Harold Mulherin. 1997. "The Government as a Shareholder: A Case from the United States." *Journal of Law and Economics* 40(1):1–22.
- Korpi, Walter. 1983. *Democratic Class Struggle*. Routledge.
- Korpi, Walter and Michael Shalev. 1979. "Strikes, Industrial Relations and Class Conflict in Capitalist Societies." *British Journal of Sociology* 30(2):164–187.
- La Porta, Rafael and Florencio Lopez-De-Silanes. 1999. "The Benefits of Privatization: Evidence From Mexico." *Quarterly Journal of Economics* 114(4):1193–1242.
- Lane, Jan-Erik. 1994. Sweden: privatization and deregulation. In *Privatization in Western Europe: Pressures, Problems and Paradoxes*, ed. Vincent Wright. London, UK: Pinter Publishers chapter 9, pp. 180–197.

- Majumdar, Sumit K. 1998. "Assessing comparative efficiency of the state-owned mixed and private sectors in Indian industry." *Public Choice* 96(1):1–24.
- Meggison, William L and Jeffrey M Netter. 2001. "From State to Market: A Survey of Empirical Studies on Privatization." *Journal of Economic Literature* 39(2):321–389.
- Meth-Cohn, Delia and Wolfgang C Müller. 1994. Looking reality in the eye: the politics of privatization in Austria. In *Privatization in Western Europe: Pressures, Problems and Paradoxes*, ed. Vincent Wright. London, UK: Pinter Publishers chapter 8, pp. 160–179.
- Mitchell, Neil J. 1987. "Where traditional Tories fear to tread: Mrs Thatcher's trade union policy." *West European Politics* 10:33–45.
- Neyman, J and Elizabeth L Scott. 1948. "Consistent Estimates Based on Partially Consistent Observations." *Econometrica* 16(1):1–32.
- Perotti, Enrico C. 1995. "Credible Privatization." *American Economic Review* 85(4):847–859.
- Pint, Ellen M. 1991. "Nationalization vs. regulation of monopolies : The effects of ownership on efficiency." *Journal of Public Economics* 44(2):131–164.
- Pontusson, Jonas. 1989. The Triumph of Pragmatism: Nationalisation and Privatisation in Sweden. In *The Politics of Privatisation in Western Europe*, ed. John Vickers and Vincent Wright. London, UK: Frank Cass chapter 9, pp. 129–140.
- Przeworski, Adam. 1985. *Capitalism and social democracy*. Cambridge: Cambridge University Press.
- Robinson, James A and Ragnar Torvik. 2005. "White elephants." *Journal of Public Economics* 89(2–3):197–210.
- Robinson, Peter M. 1982. "On the Asymptotic Properties of Estimators of Models Containing Limited Dependent Variables." *Econometrica* 50(1):27–41.
- Schneider, Volker and Frank M Häge. 2008. "Europeanization and the retreat of the state." *Journal of European Public Policy* 15(1):1–19.
- Schneider, Volker, Simon Fink and Marc Tenbucken. 2005. "Buying Out the State: A Comparative Perspective on the Privatization of Infrastructures." *Comparative Political Studies* 38(6):704–727.
- Steel, David R and David A Heald. 1982. "Privatising Public Enterprise: An Analysis of the Government's Case." *Political Quarterly* 53:333–349.
- Stephens, John D. 1979. *The Transition from Capitalism to Socialism*. London: Macmillan Press.
- Swank, Duane. 2007. "Data Set on the Political Economy of Twenty-one Developed Democracies." Electronic Data Base, Department of Political Science, Marquette University.
- Vickers, John and George Yarrow. 1991. "Economic Perspectives on Privatization." *Journal of Economic Perspectives* 5(2):111–132.
- Vining, Aidan R and Anthony E Boardman. 1992. "Ownership versus competition: Efficiency in public enterprise." *Public Choice* 73(2):205–239.

Visser, Jelle. 2006. "Union Membership Statistics in 24 Countries." *Monthly Labor Review* pp. 38–49.

Zohlnhöfer, Reimut and Herbert Obinger. 2006. "Selling Off the 'Family Silver?': The Politics of Privatization." *World Political Science Review* 2(1):30–52.

Zohlnhofer, Reimut, Herbert Obinger and Frieder Wolf. 2008. "Partisan Politics, Globalization, and the Determinants of Privatization Proceeds in Advanced Democracies (1990-2000)." *Governance* 21(1):95–121.

Table 3: Summary of variables.

Variable	Description	Suggested By	Source
Dependent Variable			
$PrivRevPC_{i,t}$	Privatization revenues per capita (in \$ US).		Privatization Barometer
Economic Variables			
$Unemployment_{i,t-1}$	Unemployment rate in the previous year.	Bortolotti, Fantini and Siniscalco (2003)	Armington et al. (2007)
$LogGDP_{i,t-1}$	The log of per capita gross domestic product (GDP) in the previous year.	Bortolotti, Fantini and Siniscalco (2003)	World Development Indicators
$GDPGrowth_{i,t-1}$	The growth rate of GDP in the previous year.	Zohlnhöfer and Obinger (2006)	World Development Indicators
$Openness_{i,t-1}$	The sum of exports and imports as a percentage of GDP, in the previous year.	Bortolotti, Fantini and Siniscalco (2003)	Armington et al. (2007)
$PublicDebt_{i,t-1}$	Public debt as a percentage of GDP in the previous year.	Zohlnhöfer and Obinger (2006)	Armington et al. (2007)
$PublicDeficit_{i,t-1}$	Public budget deficit as a percentage of GDP in the previous year.		Armington et al. (2007)
Contextual Variables			
$Maastricht$	A dummy variable equal to 1 after 1993.	Clifton, Comin and Diaz Fuentes (2006)	
$Strikes_{i,t-1}$	Working days lost to strikes per 1000 workers, in the previous year.	Zohlnhöfer and Obinger (2006)	Armington et al. (2007)
$StockMktCapPC_{i,t-1}$	Total stock market capitalization per capita in the previous year.	Bortolotti, Fantini and Siniscalco (2003)	Global Financial Data
$UDen_{i,t-1}$	Union density in the previous year.	Zohlnhöfer and Obinger (2006)	Swank (2007)
Political Variables			
$LeftGovt_{i,t}$	Percentage of cabinet seats held by a left-wing party.	Boix (1997)	Armington et al. (2007)
$MinorityGovt_{i,t}$	Dummy variable equal to 1 if there is a minority government.	Boix (1997)	Armington et al. (2007)
$GovtFrac_{i,t}$	The probability that two deputies picked at random from among the government parties will be of different parties.	Boix (1997)	Keefer and Stasavage (2003)