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PRIVATISATION IN THE EUROPEAN UNION AND IN ITALY: SOME PRELIMINARY RESULTS USING THE PUBLIC CHOICE APPROACH

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Privatisation in the European Union and in Italy: Some Preliminary Results Using the Public Choice Approach*

by

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Abstract

This paper first shows the different amounts of Privatisation in the EU-Countries with a special focus on Italy. Then it empirically investigates the differences in the motives of raising privatisation proceeds for a panel of EU countries from 1990 to 2000. More specifically, it is tested whether privatisations can be mainly interpreted (a) as ingredients of a larger reform package of economic liberalisation in formerly overregulated economies, (b) as a reaction to an increasing macroeconomic problem pressure and (c) as a means to foster growth and increase tax income and relax the fiscal stance with an eye on the demands by integration of economic and financial markets. Whereas I can confirm only partly hypothesis (a), I can confirm hypotheses (b) and (c).

JEL-codes: H42, E62, L33

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1. Introduction

Over the last one and a half decades unprecedented efforts at privatisation have been taken around the world, which amounted to their peak in the second half of the 1990s (Belke/Schneider 2005). Between 1990 and 2000, total privatisation proceeds in more than one hundred countries amounted to 937 billion US-$ (OECD 2003a: 7). More than 70 percent of the proceeds were raised by OECD member states. In turn, 62 percent of OECD members' proceeds accrued in the EU-15 (Obinger/Zohlnhöfer 2004, Siegmund 1998). In Italy the privatisation proceeds reached 98.4 billion Euros between 1992 and 2000, and 18.9 billion Euros between 2001 and 2004, i.e. in sum 117.3 billion Euros (OECD Economic Surveys, Italy, Paris, November 2005).

Besides showing the development of the privatisation proceeds in the EU and in Italy, the major goal of this contribution is to apply the public choice approach, including partisan political business cycle theory, and to employ a panel analysis to explain the differences in privatisation patterns among countries. Above all, the driving forces behind the emergence of privatisation proceeds in member countries of the EU at the end of our sample period are investigated.

Privatisations do not necessarily imply deregulation, for instance, in the telecom-, gas-, electricity- and other service markets but may be conducted in various forms (Feigenbaum/Henig/Hamnett 1998: 6). Hence, this paper, solely concentrates on the investigation about the sale of state-owned enterprises. The remainder of this paper is organised as follows: First some facts about the privatisation proceeds in the EU and in Italy are presented (chapter 2). After a brief review of the existing literature (chapter 3), the most important theoretical approaches in public choice research are shown to generate testable hypotheses (chapter 4). In chapter 5, the empirical evidence is presented, while the last section 6 concludes the study.

2. Some Facts about the Privatisation Proceeds in the EU and in Italy over 1990 to 2000

In this chapter a short overview is provided over the development of the privatisation proceeds in OECD, EU Countries and in Italy. Table 2.1 shows the privatisation proceeds in 23 OECD countries over 1990/91 to 2000.

-Table 2.1 about here-

The largest privatisations in all 21 OECD countries took place in the years 1994/95 with 133.8 billion USD and 1996/97 with 249.6 billion USD and 1998/99 with 257.8 billion USD. A similar picture holds for Italy, where in 1994/95 13.9 billion USD of privatisation proceeds were achieved (10.5% of all privatisation proceeds of the 23 OECD countries) and in the year 1996/97 33.9 billion USD (or 13.6% of all privatisation proceeds of the 23 OECD countries) and in 1998/99 with 39.2 billion USD (or 14.2% of all privatisation proceeds). Table 2.1 clearly shows, that Italy is among the top countries of privatisation in the period 1990-2000. In figure 2.1 the privatisation reviews of the EU countries over the period 1990-2000 are shown.

-Figure 2.1 about here-

More ore less, figure 2.1 shows a steady incline in privatisation proceeds up to the year 1998 and from then a decline up to the year 2000. The peak value is reached with the year 1998 of over 17 million USD. In table 2.2 the extent of privatisation proceeds, aggregated over 1990-2000 as well as the firgures in percent of GDP, and per capita are shown; additionally in Figure 2.2, the extent of privatisation in percent of GDP is plotted.

-Table 2.2 and Figure 2.2 about here-

Table 2.2 as well as Figure 2.2 shows, that Italy plays a dominant role in privatisation proceeds in this period. In percent of GDP, Italy is on rank number 3 with 9.46% (in % of GDP) over 1990-2000 (aggregated). The highest value has Portugal with a value of 25.3%, followed by Greece with 10.1%. The lowest values have Germany with 0.99% and Denmark, as well as the Netherlands, with 3.63%. Italy has the highest figure in privatisation proceeds if one considers the total sum. It is 108.6 billion USD, followed by France with 75.5 billion USD, Great Britain 42.8 billion USD and Spain with 37.7 billion USD. If one uses privatisation revenues per capita, Portugal has the highest value with 2,385 USD per capita, followed by Finland with 2,103, Sweden 1,918, Ireland 1,875 and finally Italy with 1,869.

Summarizing these findings of a comparison of OECD countries and EU countries with respect to the privatisation proceeds Italy is on average among the top 4 with respect to the amount the Italian government raised by privatisation. Finally, in table 2.3 the Italian privatisation proceeds over the year 1992 up to the year 2004 are shown. Table 2.3 clearly shows that in the beginning of the 90s in Italy privatisation proceeds were quite low and in the years 1995, 1996, 1997 raised from 7.6 billion Euro to 9.5 billion Euro. In the year 1998 it reached a first peak of 21.6 billion Euro and only in the year 1999 privatisation proceeds were higher with 24.37 billion Euro. After then the steadily declined to 10.8 billion Euro 2001, 4.2 billion Euro 2002 and raised a bit in the year 2003 to 5.6 and in 2004 to 7.6 billion Euro. This short description of the development of Italian privatisation proceeds clearly shows that the amount of privatisation revenue played a dominant role in Italy during the period 1992 up to 2004.

3. Previous Research: Some Short Remarks[1]

Large parts of research on privatisation efforts have emphasised the timing and regional spillovers of privatisations. Early studies focused on the pivotal role of Thatcherism in the area of privatisation in the United Kingdom in the 1980s. This was interpreted to have a deep policy impact on and wide diffusion to many other EU countries.[2] More recent studies focus on the direct and indirect impacts of European integration on privatisation. Most of them analyse the effects of the '1992' European Commission single market program and the Treaty of Maastricht fiscal policy constraints as the main drivers of privatisation[3]. In addition, a large number of studies investigates the privatisation record in certain countries[4].

However, a coherent empirical multi-country assessment of statistical significance of the driving forces behind the different country pattern of privatisation proceeds has still to be done. One of the few examples into this direction is the seminal study by Boix (1997). He explains the differences in privatisation efforts in OECD countries from 1979 to 1992 mainly by referring to political determinants. According to the results of this study, there is a significant positive impact on privatisation proceeds under right-wing parties, whereas significantly lower efforts to privatise are observed under left-wing regimes. Moreover, the internal fragmentation of the cabinet and the status as minority government seems to significantly hamper inhibit privatisations. Finally, a kind of problem pressure seems to matter as well, since a weak economic performance prior to the period of observation is significantly enhancing the extent of sales of state-owned enterprises (SOE). Bortolotti/Fantini/Siniscalco (2003) and Bortolotti/Siniscalco (2004) compare the

[1] The following 3 chapters are to a great part taken from the paper Belke, Baumgärtner, Schneider and Setzer (2006).
[2] See, for instance, Abromeit (1988), Wright (1994: 5), Bortolotti/Siniscalco (2004) and Obinger/Zohlnhöfer (2004: 4).
[3] See Belke/Schneider (2005), Clifton/Comin/Diaz Fuentes (2003), Scharpf (1999), and Schmidt (1998).
[4] Compare, for instance, Clarke/Pitelis (1993), Feigenbaum/Henig/Hamnett (1998), Sinn/Whalley (2004), Toninelli (2000), Vickers/Wright (1989), and Wright (1994).

privatisation pattern of 48 countries between 1977 and 1999. They cannot reject empirically that political institutions and political parties have a significant impact on privatisation effort. Specifically, a right-wing orientation of the government significantly fosters privatisation proceeds. Moreover, higher proceeds can predominantly be observed in majoritarian democracies and less so in countries where power is fragmented horizontally and vertically. In addition, privatisation revenues are significantly lower in autocracies than in democracies (Bortolotti/Siniscalco 2004: 55). Hence, political regime types are also important from another angle. Finally, this panel study finds that German civil law countries tend to privatise to a lesser extent than other countries. If the analysis is limited to the OECD countries, effects of political institutions stay significant, albeit their indicator of government partisanship does not prove to be significant any more. Most important, Bortolotti/Siniscalco (2004: 56) suggest that “a more proper test of the partisan dimension of privatisation should be carried out in the context of wealthy and established democracies.”

In this respect, the spirit of this contribution is similar to a recent study by Obinger/Zohlnhöfer (2004) which investigates the differences in the privatisation proceeds raised by EU and OECD countries between 1990 and 2000 based on simple OLS regressions. However, it is by now generally accepted that such a procedure has several limitations. It is therefore preferable to use panel data and more sophisticated estimation methods.

4. Some Theoretical Considerations using the Public Choice Approach

In order to deliver a sound explanation of the differences of the privatisation proceeds among the EU countries, this study concentrates on the well-established theoretical approach and public choice which have been used successfully in a number of policy fields. The public choice approach focuses on political coalitions and their effect on input usage and reward and/or product characteristics. The public choice approach also includes the theory of bureaucracy and appears to provide a broader analysis than the property rights one. It assumes that politicians, bureaucrats, managers of public enterprises are selfish utility maximisers subject to constraints. In this approach it is assumed, e.g., for a politician that he acts selfish in order to reach his ideological or personal goals under the constraint not to loose the next election. Since to stay in power is the most important constraint (or even sometimes a goal) for a politician, he will also use public utilities for his own selfish goals.[5] In the remaining parts of the paper, on six approaches are presented, which should be interpreted as partly complementary with each another.

4.1 Privatisation as means to cope with macroeconomic problem pressure

It is sometimes argued that an increase in privatisation effort is not more than a reaction of governments to economic challenges. Hence, privatisations should be observed above all when the macroeconomic problem pressure is high. Faced with high unemployment, decent economic growth and excessive public debt, governments tend to follow the at first glance less popular recommendations of supply-side economics which has increasingly dominated the economic policy debate since the 1980s (Hall 1993, Boix 1997). Both, the microeconomic and case study data are supportive of the positive effects of privatisation as an important imperative of supply side economics, i.e. to roll back the state's influence on the economy, over time on growth and employment (Davis/Ossowski/Richardson/Barnett 2000, Megginson/Netter 2001).

According to this approach, the main focus is on the privatisation of state owned enterprises (SOE) since it is by now a stylised fact that privately owned firms are more efficient than SOE (Megginson/Netter 2001, Belke/Schneider 2005). Due to government intervention, SOEs as a rule suffer from a lack of unambiguously defined goals. They just face an important conflict

[5] See, for instance, Boes/Schneider (1996), Castles (1998), Mueller (2002), Schmidt (2002), and Schneider (2002).

between efficiency-enhancing profit maximisation and following traditional targets of government policy in the fields of employment or industrial policy. Using this trade-off might cause significant losses of efficiency. However, inferior efficiency of SOE can also be caused by the absence of a “hard” budget constraint and the capture of SOEs by utility-maximising politicians and selfish bureaucrats who tend to exploit public enterprises to secure their influence and power. If privatisation goes along with increasing market competition like within the EU’s single market program, efficiency gains of privatisation are supposed to be even larger (Schneider 2002, Belke/Schneider 2005).

Hence, there are good theoretical reasons for privatisation and that the proceeds from privatisation, especially if used in a clever fashion in the areas of education, technology, and infrastructure, can increase the welfare of such countries. The main argument is that the classical public good argument still applies for these areas. Privatisations foster economic growth and, thus, also employment. Governments will most likely be more inclined to follow this advice if they and their electoral constituency are confronted with unsatisfactory economic performance (Obinger/Zohlnhöfer 2004). Hence, a negative impact of economic growth on privatisation proceeds is expected, since poor growth performance will increase a government’s inclination to implement growth-stimulating measures, including privatisation. As the other side of the same coin, unemployment should be a positive driving force of privatisation revenues.

The overall intensity of state regulation of the economy is one important determinant underlying these economic problems. It might become even more significant in view of increasing globalisation and, thus, governments’ competition for investment. From this point of view, an economic policy approach of deregulation and privatisation could contribute to make markets more flexible and to give some leeway for the unravelling of growth and employment in heavily regulated economies that would otherwise suffer from low economic growth. Hence, a positive impact of the level of regulation of the economy is expected, i.e. a negative impact of economic freedom, on privatisation efforts and finally on proceeds.

Public finance, and especially the existing amount of public debt, tends to have direct impacts on privatisation efforts as well. It is reasonable to assume that a government that is plagued by a high level of public debt and/or a distinct budget deficit usually strives for options to cope with this problem. However, most measures that have budget consolidation as the main target, e.g. expenditure cuts and tax increases, are not rewarded by the voters. Hence, reducing a public deficit or even turn it into the positive is always politically difficult to achieve. The privatisation of SOE may well support governments to get out of this dilemma by raising revenues, diminishing subsidies for SOE and abolishing the need to bail their deficits out. Hence, privatisation efforts are able to markedly improve the budgetary stance without hampering taxpayers even further or incur spending cuts (Boix 1997: 477, Wright 1994: 20).

4.2 Government ideology, partisanship and privatisations

From the literature on Partisan Political Business Cycles it is well known that the propensity of governments to adhere to supply-side economics is dependent on the partisan (ideological) orientation of their constituency. For instance, the conservative Thatcher and Reagan governments in the UK and in the United States and to a lesser extent also the bourgeois coalitions in Denmark, Germany and the Netherlands in the early eighties may serve as examples of the adoption of important elements of supply side economics. Since partisan theory actually argues that right-wing parties favour market solutions in economic policy anyway, the propensity of centre-right parties to sell off state-owned enterprises tends to be higher than that of centre-left ones, since partisan theory essentially argues that these parties favour market solutions in economic policy anyway.[6]

Moreover, right-wing governments are often said to have an electoral incentive to strive for privatisation, since right-wing executives with re-election concerns design privatisation to spread share ownership among domestic voters.[7] By selling under-priced shares in the domestic retail market (as in the UK in the 1980s) *and not abroad, right-wing governments* attract the median voter, shape a constituency interested in the maximisation of the value of financial assets and averse to redistribution policies to the left. As a consequence, the economic interests of many voters may change in favour of the more market-friendly policies implemented by bourgeois parties which might promise to maximise the value of their shares.[8]

Left-wing parties, in contrast, until recently declared a lack of confidence in the stability of the private sector. This manifested itself in the fact that nationalisations of key industries were important elements in these parties' economic strategies. SOEs were typically utilised as "employment buffers" during recessions and as important instruments of macroeconomic fine-tuning.[9] Moreover, partisan theory has always stressed that left-wing parties face electoral incentives to delay privatisation since SOE employees represent an important part of their core clientele and most probably are among the main losers of privatisation. Hence, right-wing

[6] See Belke/Schneider (2005), Bortolotti/Fantini/Siniscalco (2003: 308), Obinger/Zohlnhöfer (2004: 6), and Schmidt (2002).

[7] Most prominent examples are the recent "right-wing" coalition in Austria, the privatisation in the UK as a part of a whole "right-wing" Thatcherism package, or the French privatisation as an element of the now-famous Mitterand U-turn in economic policies towards a "right-wing" orientation.

[8] See Abromeit (1988) and Richardson (1994: 69).

[9] See Belke/Schneider (2005) and Schneider (2002). Examples are the Austro-Keynesian type of stabilisation policy until the 1980s, the nationalisation policies of the French socialist government after 1981, and the rather slow speed of amending the British Labour Party program, especially the hotly debated "Clause IV". See Obinger/Zohlnhöfer (2004).

governments are expected to be positively related to privatisation proceeds, whereas left-wing governments should lead to lower privatisation revenues.[10]

4.3. Do institutions matter for privatisations?

In order to answer the question whether institutions matter for privatisations it is important to note that in most cases the decision to privatise is the final result from a legislative process. Consequently, political institutions should be an important determinant of privatisation effort. It is well known from standard veto player theory that a change away from the status quo becomes more difficult in the number of veto players – mainly due to increasing transaction costs (Tsebelis 2002). Moreover, the probability of one player vetoing the privatisation decision increases, when the number of players grows. In the EU-15 context, powerful second chambers, strong presidents or direct democracy might be considered as the relevant prominent veto players.[11] The procedures for changing the constitution may have an impact on privatisation effort as well, because SOE enjoyed protection by the constitution in some countries like France and Portugal (Corkill 1994: 219-20, Feigenbaum/Henig/Hamnett 1998: 108-109). Hence, it is justified to derive the hypothesis that privatisation proceeds will be negatively influenced by the number and power of veto players like, for instance, second chambers, presidents and referenda.

Also the number of parties taking part in a government could in principle have an influence on the privatisation politics. However the direction of the influence is not clear from a theoretical point of view. On the one hand it can be assumed that the amount of privatisation revenues decline with an increasing number of coalition partners according to veto player theory (Boix 1997: 481). On the other hand the opposite hypothesis could be feasible: If coalition governments aim at a containment of the budgetary deficits, they will possibly select the most uncontroversial

[10] See Biais/Perotti (2002), and Perotti (2005).

[11] Programmatic dissent or the fact that important political allies, interest groups or decisive parts of the electorate oppose a privatisation might be the reason. For example, see Dumez/Jeunemaitre (1994: 93).

consolidation path. Thus, the privatisation option appears to be the most passable way considering the resistance against expenditure cuts or tax increases.[12]

Besides it must be noted that the potential for privatisations, i.e. the state-owned enterprises that are to be privatised, is allocated on different national levels. In Germany, for example, a huge part of the privatisation potential lay at the level of the states and the local authorities at the end of the eighties. This could reduce the privatisation activity, if the central government is in favour of privatisations but has no access to large parts of the state-owned enterprises. However, the reverse case is possible as well. Hence, the overall impact of federalism is difficult to derive from theory. A significant negative impact of the degree of federalism on privatisations does only make sense if a central government strives at selling off a state-owned enterprise of high regional importance but sees itself opposed by regional authorities refusing to privatisation and disposing of formal or informal ways of influencing the decision-making process at the federal level.[13] Hence, a weak negative impact of the extent of federalism on privatisation proceeds would be plausible overall.

4.4 Interest groups and privatisations

Generally, employers' and unions' interests concerning privatisation policies are sharply opposed to each other. On the one hand, enterprises might actually be in favour of the privatisation of public utilities like telecommunication, energy and transportation since they expect lower charges stemming from efficiency gains and, thus, an attraction of further clients. Besides they could appear as shareholders of privatised enterprises in hope for future profits. Nevertheless, since collective representation of the diverging interests on the part of these associations is not possible

[12] Jones/Megginson/Nash/Netter (1999) provide further interesting information on the effects when governments have certain objectives.

[13] Examples for this scenario can be found in the process of privatisation in Germany in the 1980s, especially in Bavaria and Lower Saxony. See Obinger/Zohlnhöfer (2004: 7).

in the end, these enterprises are unlikely to express their strong interest in favour of privatisation policies.

On the other hand, labour unions after all experience tend to oppose privatisations since the employees of SOEs profit from reasonably safe and jobs with well above-average working conditions and payment (Schwartz 2001). This view is supported by the fact that union density is much more significant in the public sector than in the private sector. All in all, it is reasonable to assume that privatisation puts the comfortable situation of the SOE's employees into question. Hence, it appears overall plausible that unions had a strong incentive to plea and to fight against the privatisation of SOEs. One empirical implication is, thus, that privatisation revenues should be lower if union strength or militancy is large and vice versa.

4.5 Supra-national impacts on privatisation: EU-membership as the "whipping boy"?

International developments can affect privatisation politics as well. Particularly, the European integration as well as the internationalisation of financial and other markets are the relevant factors. In times of economic globalisation the national economic policy is subject of increasing control by the international capital markets. As a consequence, credibility becomes a major goal of governments (Obinger/Zohlnhöfer 2004: 8). Governments could see themselves compelled to take a more orthodox political-economic way of decreasing the national enterprise property. Moreover, privatisations have a beneficial impact on a government's budgetary stance that is an important signal for international capital markets (Mosley 2000). Thus, privatisation revenues of a country are expected to increase with a rising openness of its capital market.

European integration also can force privatisation politics as could be observed in particular in the southern European countries (Lavdas 1996). At least two ways of influence are to be considered here: First of all via the single market program, which led to the liberalisation of many sectors, and second through the Maastricht fiscal criteria.[14] Before the liberalisation the services concerned were usually provided by state-owned enterprises. With increasing competition on these markets a further motive for liberalisation arose: If the former state monopolies were to succeed after liberalisation, i.e. under conditions of significant competition on the home market or as a global player in world markets, they had to be freed from the politically and/or administratively motivated restrictions that are typical of public enterprises.[15]

Secondly, also the fulfilment of the Maastricht fiscal criteria was a preponderant motive of the strive for privatisation in EU countries. European governments with their aim of joining monetary union were obliged to reach a current public deficit of less than 3 percent of GDP and an overall public debt below 60 percent of GDP in 1997. Since the debt criterion gave leeway for some exceptions, EU governments mainly focused on fulfilling the public budget deficit. Hence, the public deficit criterion, and later on, also the stability and growth pact, exerts intense fiscal pressure at least on those governments that already incurred a significant risk of failing. Although the Maastricht Treaty does not allow the direct use of privatisation proceeds to lower the relevant public deficit figure, these governments in turn seem likely to resort to privatisations since government net worth will rise to the extent that private sector ownership leads to an increase in efficiency and the government shares in this gain.

4.6 Path-dependence of privatisation efforts

As a final argument, the level of state ownership at the beginning of our sample comes into play as an explanation of privatisation efforts in the EU. The differences in the size of the SOE sector can be interpreted as an equivalent of the potential for privatisation at the disposal of the

[14] See Schmidt (1998) and Clifton/Comin/Diaz Fuentes (2003).
[15] See Wright (1994: 4) and Schmidt (1996).

governments in the 1990s.[16] Starting from the observation that a government can only privatise as many SOE as are in its hands, the amount of privatisation proceeds should be particularly low in countries where the state as a tradition was the owner of only a few enterprises anyway (for instance, in Germany) or got rid of most of the SOEs before 1990 (e.g., the United Kingdom).

4.7 Summary of the theoretically derived hypotheses

If the theoretically derived hypotheses are summarized, the following 10 hypotheses show up:

Hypothesis 1: A negative effect of economic growth on privatisation proceeds is expected, ceteris paribus.

Hypothesis 2: A positive effect of unemployment on privatisation revenues is expected, ceteris paribus.

Hypothesis 3: A positive effect of the initial level of political regulation of the economy on privatisation proceeds is expected, ceteris paribus.

Hypothesis 4: A budget surplus will be negatively related to privatisation proceeds, ceteris paribus.

Hypothesis 5: Right-wing parties tend to be positively associated with privatisation proceeds, whereas social democratic government participation should result in lower privatisation revenues, ceteris paribus.

Hypothesis 6: Privatisation proceeds will be inversely related to the number of veto players, ceteris paribus.

Hypothesis 7: A weak negative effect of federalism on privatisation proceeds is expected, ceteris paribus.

[16] For the different reasons of nationalisations of enterprises see in detail Toninelli (2000: 10-21).

Hypothesis 8: Privatisation revenues decrease as union strength militancy increases, ceteris paribus.

Hypothesis 9: Privatisation proceeds should be positively related to the level of a countries' economic integration, ceteris paribus.

Hypothesis 10: Privatisation proceeds will be particularly low in countries, where the government traditionally owned few enterprises or sold most of them before 1990, ceteris paribus.

5. Econometric Estimation Procedure and Results

5.1. Methodological issues

In order to show what type of data is used and how the dependent and independent variables are defined, Table 5.1 presents the definition of variables.

-Table 5.1 about here-

Most variables in our dataset are index variables. Hence, non-stationarity should not be a matter of concern. For the remaining variables, stationarity was tested by the widely used Levin-Lin-panel unit root test. Even in these cases, none of the variables turned out to be non-stationary. Accordingly, in the following empirical analysis all variables were used in levels. In order to determine the degree of heteroskedasticity, a likelihood ratio test was performed to compare the model with heteroskedasticity to the model without heteroskedasticity. As expected, the test statistic indicates significant heteroskedasticity. Thus, any estimation procedure has to account for the heteroskedasticity property.

Table 5.2 shows the empirical test equation with the parameters strictly indexed in accordance with the index of the hypotheses formulated at the end of section 3. Note that all economic variables and the strike variable are lagged one period in order to avoid a possible endogeneity bias.

-Table 5.2 about here-

5.2 Empirical Results

Table 5.3 displays the regression results for different specifications of our model. The estimation technique is FGLS (Feasible Generalized Least Squares) applied to panel data with a heteroskedastically consistent covariance matrix. The goodness of fit of each regression was checked by the Akaike information criterion (AIC) and the Bayes information criterion (BIC).[17] Additionally, the bottom part of the table includes a chi-square statistic that tests for the joint significance of all coefficients (other than the constant). The *p*-value of the test statistic is also included.

- Table 5.3 about here-

It is started by establishing a full model with all variables included (first column of Table 5.3). All economic and most political variables perform as predicted. As expected, a positive relationship between unemployment and privatisation proceeds (hypothesis 2) is identified. The level of federalism also appears to play an important role. A higher degree of federalism is associated with statistically significant lower privatisation proceeds (hypothesis 7). Consistently with hypothesis 3, economic freedom is negatively related to privatisation revenues. Only the coefficient of the initial level of state ownership (SOE) enters with the opposite sign to what would be expected from the theoretical model. This surprising result may be driven by problems

[17] Note, however, that the AIC and BIC are only directly comparable if the number of observations is equal across different specifications.

of multicollinearity, given the high correlation between the size of the public sector (SOE) and the degree of economic freedom (ECOFREE).[18] Removing ECOFREE from the test equation results in a more consistent picture. As is evident from model (2), the variable SOE changes sign and turns out to be significant indicating that privatisation proceeds in the 1990s were higher in countries where the level of state ownership was high at the beginning of the decade (hypothesis 10). Low GDP growth is now also positively associated with lower privatisation proceeds (hypothesis 1). The remaining variables are not significant at standard levels. The models (3) and (4) check for alternative specifications removing those variables that are not significant throughout our estimations. Both the sign and the statistical significance of the remaining variables do hardly change. The most notable change is that the variable SOE turns out to be significant even at the 1 percent level now.

A comparison across different specifications reveals that the statistical significance of the variables is hardly affected by the removal of variables. In terms of goodness of fit, the chi-square statistic shows that in all specifications coefficients are jointly significant at the 1 percent level. One may conclude that the information criteria identify regression (2) as the preferred model. However, one problem with the AIC and the BIC is that if several models have similar AIC or BIC values and if the number of observations varies across different specifications, as presently is the case, the difference is probably not of any consequence.

To get a sense of the magnitude of the effects predicted by the model, consider the coefficient for UNER(-1) in column (1) of Table 5.3. The estimate of 0.048 implies that, ceteris paribus, a one-point increase in the unemployment rate increases privatisation proceeds by 0.048 percent of GDP. Results for the federalism variable are also as theoretically expected. A one standard deviation increase in the level of federalism would decrease privatisation proceeds by 0.93

[18] The correlation between both variables is r=0.67.

percent of GDP. In view of average yearly privatisation revenues of 0.67 percent of GDP, the economic effects of these results are small, but non-negligible.

5.3 Robustness Checks

Given the heterogeneity in the sample, a number of robustness checks are conducted in order to see whether our results are robust to the sample period, the countries in the sample, and the estimation procedure.

A first robustness check adds interval dummies to the specification for three different sub-periods in order to model time effects (1990-1994, 1995-1997, 1998-2000).[19] Table 5.4 displays the results for these estimations.

-Table 5.4 about here-

The magnitude of the estimated coefficients and their significance levels increase notably. Again, the coefficients of the level of federalism and the initial level of state ownership display the expected sign and enter in a statistically significant fashion. The negative and statistically significant parameter coefficients of the variables GDP(-1) and GGFB(-1) lent support to the hypothesis that poor macroeconomic conditions such as low growth or a lax fiscal policy stance increase the incentive to privatise. However, the negative sign for UNER(-1) is at odds with such a view. The partisan variables both gain statistical significance, indicating that right-wing parties are more likely to privatise than their left-wing counterparts. Additionally, privatisation revenues increase with a country's international economic integration (variable OPEN).

Table 5.5 tests the robustness of our regression results to changes in the sample of countries. The stability of the results in terms of the country dimension is examined by alternately removing

[19] Yearly time dummies were not used because this would reduce the number of degrees of freedom below a critical level.

countries with the highest and the lowest privatisation revenues. The EU member country with the highest privatisation proceeds in relation to GDP is Portugal. Models (1) and (2) in Table 5 display the regression result when Portugal is excluded from the sample.

-Table 5.5 about here-

The pattern of results shows many similarities with the results obtained by the benchmark regression in Table 5.3. High unemployment and a high degree of decentralisation, and to a somewhat lesser extent also low growth, government ideology, and a high initial level of state ownership cannot be rejected to increase privatisation revenues, while the remaining variables are not statistically significant.

Germany is the country with the lowest relative privatisation revenues. When it is removed from the sample (models (3) and (4) in Table 5.5), the degree of openness and the level of federalism change sign, but still enter statistically significantly. This result suggests that the positive relationship between centralisation and privatisation revenues found in our benchmark regression in Table 5.3 is exclusively driven by Germany - a country with a highly decentralised structure and very low privatisation proceeds in the 1990s.

Finally, it is tested whether our results are independent of the estimation method. Beck/Katz (1995) propose that analysts deal with the complicated panel error process by using Prais-Winsten parameter estimates with asymptotic standard errors that are corrected for correlation between the panels ("panel corrected standard errors", PCSE). Their Monte Carlo simulations showed that this method is accurate in the presence of contemporaneous correlation and heteroskedasticity across panels. In order to use this procedure, any serial correlation of the data must be eliminated before. Correcting for serial correlation is done by using the Prais-Winsten estimator, as indicated in Greene (2003). Following Beck/Katz (1995: 638) and Greene (2003:

605) who both strongly recommend estimating an AR coefficient that is the same for all countries, hence the restriction of a common AR(1) is imposed across countries in all cases. The empirical performance of the variables when included in the PCSE estimation is presented in Table 5.6.

-Table 5.6 about here-

As before, the degree of federalism displays the expected sign and enters statistically significant. The results further confirm the important role of the initial level of state ownership. Moreover, the findings reveal that privatisation revenues increase with strike activity. The remaining variables are not statistically significant. GDP growth, government balance, and the partisan variable even change sign. Overall, the relatively low robustness with respect to the empirical specification is an important caveat to bear in mind when interpreting the results.

6. Summary and Conclusions

If one summarises the results of this paper, one will clearly realize, that Italy plays a major role with respect to privatisation over the period 1990-2000. During this period Italy was one of the countries with the biggest amount of privatisation and over the period 1992-2000 98.4 billion Euro have been achieved by privatisation proceeds/revenues up to the year 2004 this figure increased to 117.3 billion Euro.

Finally, to conclude: This paper empirically investigates the differences in the motives of raising privatisation proceeds for a sample of EU countries for the time period 1990 to 2000. More specifically, it is tested whether privatisations can be mainly interpreted can be mainly interpreted (a) as ingredients of a larger reform package of economic liberalisation in formerly overregulated economies, (b) as a reaction to an increasing macroeconomic problem pressure and (c) as a mean to foster growth and, thus, increase tax income and relax the fiscal stance with an eye on the demands by integration of economic and financial markets (dependent on the degree of federalism). Whereas the empirical results support hypothesis (a) only partly, consistent empirical evidence can clearly be achieved in favour of hypotheses (b) and (c).

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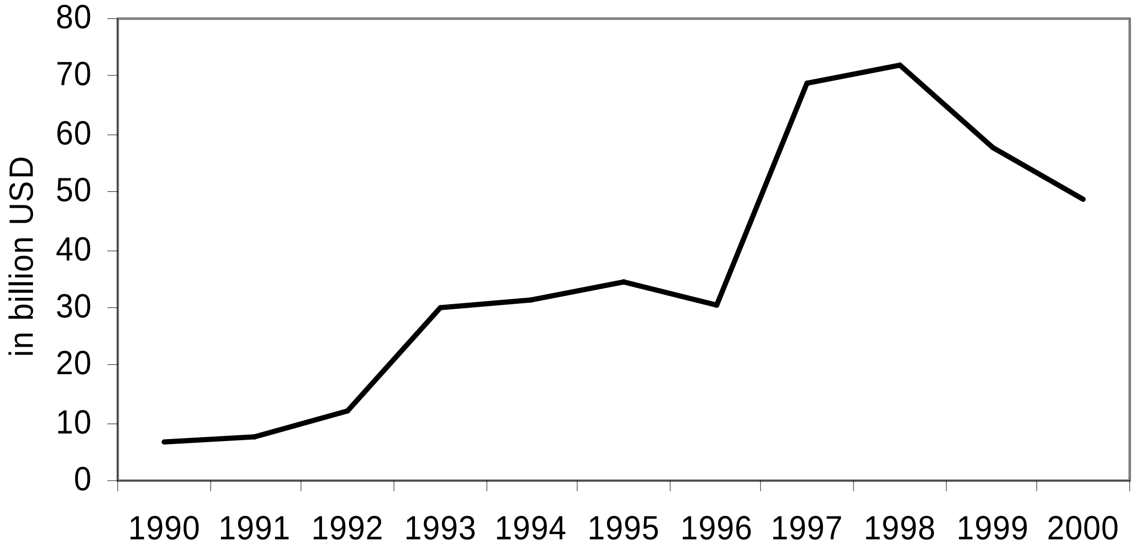
Table 2.1: Privatisation Proceeds in 23 OECD Countries over 1990/91 to 2000

Country	Privatisation Proceeds in billion USD					
	1990/91	**1992/93**	**1994/95**	**1996/97**	**1998/99**	**2000**
Australia	**1,061**	**3,950**	**10,144**	**36,011**	**22,366**	**6,239**
Austria	**80**	**191**	**1,735**	**3,954**	**2,564**	**2,083**
Belgium	**-**	**956**	**3,297**	**3,039**	**2,277**	**-**
Canada	**2,312**	**2,004**	**4,488**	**1,768**	**11**	**-**
Denmark	**644**	**122**	**239**	**411**	**4,521**	**111**
Finland	**-**	**229**	**1,529**	**1,746**	**5,713**	**1,827**
France	**-**	**12,160**	**9,615**	**13,288**	**22,460**	**17,438**
Germany	**325**	**435**	**240**	**14,353**	**7,098**	**-**
Great Britain	**34,731**	**9,127**	**8,032**	**12,154**	**-**	**-**
Greece	**-**	**35**	**117**	**1,953**	**8,772**	**1,384**
Ireland	**515**	**344**	**157**	**293**	**4,846**	**1,458**
Italy (in % of all OECD-Countries)	***-***	***1,943 (1.8%)***	***13,927 (10.5%)***	***33,984 (13.6%)***	***39,230 (14.2%)***	***9,728 (15.0%)***
Japan	**-**	**15,919**	**13,773**	**10,388**	**21,497**	**-**
Luxemburg	**-**	**-**	**-**	**-**	**-**	**-**
New Zealand	**3,912**	**1,597**	**293**	**1,839**	**1,772**	**-**
Poland	**194**	**806**	**1,826**	**3,485**	**5,501**	**5,993**
Portugal	**2,390**	**2,826**	**3,557**	**7,932**	**5,884**	**3,256**
Spain	**172**	**4,043**	**4,399**	**15,201**	**12,582**	**1,079**
Sweden	**-**	**630**	**3,165**	**1,840**	**2,243**	**8,082**
Switzerland	**-**	**-**	**-**	**-**	**4,426**	**-**
Tschech. Republic	**-**	**-**	**2,282**	**1,436**	**1,176**	**544**
Turkey	**730**	**989**	**1,973**	**758**	**1,816**	**2,712**
Ungarn	**508**	**2,562**	**4,830**	**3,123**	**441**	**66**
Total 23 OECD Countries	***62,423***	***107,332***	***133,873***	***249,562***	***275,804***	***65,063***

Source: OECD, Paris, various years.

Figure 2.1: Privatisation Revenues in EU Countries over 1990-2000



Note: Luxembourg is excluded.

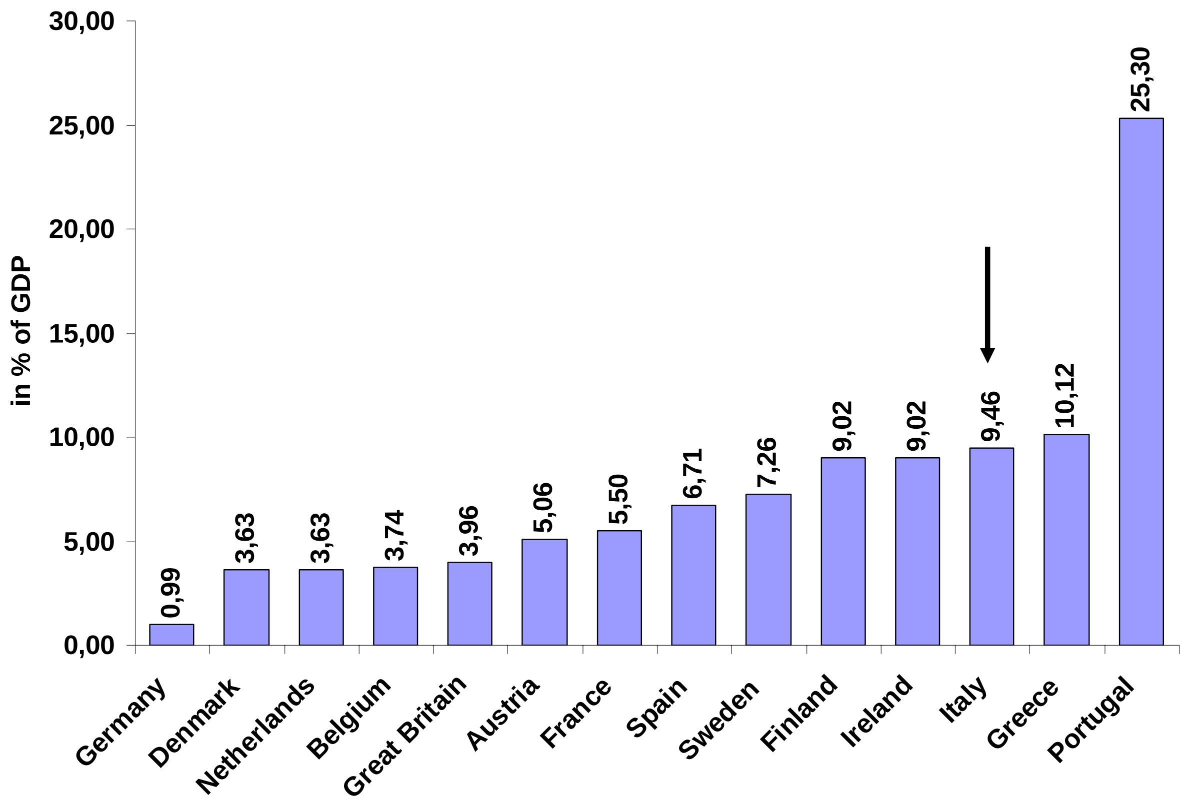
Source: OECD (2002), Paris.

Table 2.2: The Extent of Privatisation Proceeds aggregated over 1999-2000

Country	**Privatisation revenues (1990-2000)**		
	Total (Mio. USD)	**% of GDP**	**per capita (USD)**
Austria	**10,436**	**5.06**	**1,273**
Belgium	**9,611**	**3.74**	**925**
Denmark	**6,048**	**3.63**	**1,110**
Finland	**11,000**	**9.02**	**2,103**
France	**75,488**	**5.50**	**1,240**
Germany	**21,711**	**0.99**	**263**
Great Britain	**42,808**	**3.96**	**706**
Greece	**12,329**	**10.12**	**1,154**
Ireland	**7,613**	**9.02**	**1,875**
Italy	***108,642***	***9.46***	***1,869***
Netherlands	**13,641**	**3.63**	**827**
Portugal	**25,292**	**25.30**	**2,385**
Spain	**37,660**	**6.71**	**932**
Sweden	**17,295**	**7.26**	**1,918**

Source: OECD (2002), Paris.

Figure 2.2: The Extent of Privatisation Proceeds in % of GDP over 1999 to 2000



Source: OECD (2002), Paris.

Table 2.3: Privatisation Proceeds from public enterprises in Italy

Year	Annual Proceeds billion Euro (in %)	Total cumulative proceeds (billion Euro)
1992	0.6 (0.5%)	0.6
1993	2.6 (2.2%)	3.2
1994	7.6 (6.5%)	10.8
1995	8.4 (7.2%)	19.2
1996	9.5 (8.1%)	28.7
1997	21.6 (18.4%)	50.3
1998	12.93 (11.0%)	63.23
1999	24.37 (20.8%)	87.6
2000	10.8 (9.2%)	98.4
2001	4.2 (3.6%)	102.6
2002	1.5 (1.3%)	104.1
2003	5.6 (4.8%)	109.7
2004	7.6 (6.5%)	117.3
SUM	117.3 (100%)	117.3

Source: OECD Country Study, Italy, Paris, November 2005.

Table 5.1: Data description and sources

Variable	Description	Source
PRIVGDP	Yearly privatisation proceeds (in % of GDP)	OECD (2002b) IMF (2005)
GDP	Annual growth rate of GDP	World Bank (2003)
UNER	Rate of unemployment	OECD (2005)
ECOFREE	Economic freedom, increasing values = increasing degree of economic freedom	Gwartney/Lawson (2004)
GGFB	General government financial balances, surplus (+) or deficit (-) as % of nominal GDP	OECD (2002a)
RPCAB	Right party cabinet portfolios as a % of all cabinet portfolios	Swank (2005)
LPCAB	Left party cabinet portfolios as a % of all cabinet portfolios	Swank (2005)
VETO	Number of veto players	Keefer/Stasavage (2003)
FED	Level of federalism (1= centralized, 5= decentralized)	Lijphart (1999) World Bank (2001) OECD (2002c) OECD (2003b) Stegarescu (2004)
STRIKE	Yearly number of working days lost per 1,000 employees through industrial conflict	Armingeon/Leimgruber/Beyeler/Menegale (2004)
OPEN	Share of exports and imports over GDP	World Bank (2003)
SOE	Size of SOE sector in 1990	Europäischer Zentralverband der öffentlichen Wirtschaft (CEEP) (2000)

Table 5.2: Theoretically derived test equation explaining privatization proceeds

(1) PRIV/GDP $_{i,t}$ = (Priv. Proceeds in % of GDP)	α_i · country-specific intercept	+
	α_1 · GDP (-1)$_{i,t}$ (Annual growth rate of GDP, lagged)	+
	α_2 · UNER (-1)$_{i,t}$ (Unemployment rate, lagged)	+
	α_3 · ECOFREE $_{i,t}$ (Economic freedom)	+
	α_4 · GGFB (-1)$_{I,t}$ (general government financial balances; surplus+, deficit-, lagged)	+
	α_5 · RPCAP $_{i,t}$ (Right parties cabinet portfolios as a % of all cabinet portfolios)	+
	α_6 · VETO $_{i,t}$ (Number of veto players)	+
	α_7 · FED $_{I,t}$ (Intensity of federalism)	+
	α_8 · STRIKE (-1)$_{i,t}$ (Number of working days lost through strikes, lagged)	+
	α_9 · OPEN (-1)$_{i,t}$ (economic openness, lagged)	+
	α_{10} · SOE $_{i,t}$ (Size of the SOE-sector)	+
	$\varepsilon_{i,t}$ (error term)	

with the expected signs= $\alpha_1<0$; $\alpha_2>0$; $\alpha_3>0$; $\alpha_4<0$; $\alpha_5>0$; $\alpha_6<0$; $\alpha_7<0$; $\alpha_8<0$; $\alpha_9>0$; $\alpha_{10}>0$; i= country,t = time (year); index number corresponds to hypothesis number in section 3.

Table 5.3: Determinants of privatization proceeds in 14 EU countries, 1989-2000, feasible generalized least squares

	(1)	(2)	(3)	(4)
GDP(-1)	-0.023	-0.040*	-0.031	-0.025
	(0.024)	(0.022)	(0.022)	(0.020)
UNER(-1)	0.048***	0.034*	0.040***	0.039**
	(0.018)	(0.018)	(0.015)	(0.015)
GGFB(-1)	-0.002	-0.009		
	(0.016)	(0.017)		
ECOFREE	-0.328*			
	(0.182)			
RPCAB	0.000	-0.000		
	(0.001)	(0.001)		
VETO	-0.025	-0.040	-0.034	
	(0.033)	(0.033)	(0.031)	
FED	-0.067***	-0.076***	-0.093***	-0.093***
	(0.023)	(0.024)	(0.021)	(0.022)
STRIKE(-1)	-0.000	-0.000		
	(0.001)	(0.001)		
OPEN(-1)	0.002	0.002	0.002	
	(0.002)	(0.002)	(0.001)	
SOE	-0.016	0.018*	0.030***	0.028***
	(0.020)	(0.011)	(0.009)	(0.009)
Constant	2.793*	0.184	0.064	0.051
	(1.507)	(0.232)	(0.218)	(0.171)
Observations	97	97	114	114
Number of countries	14	14	14	14
Wald chi^2	48.97	39.10	52.01	46.44
Prob>chi^2	0.00	0.00	0.00	0.00
AIC	162.44	162.35	199.85	198.48
BIC	190.76	188.09	219.00	212.16

Note: Dependent variable is yearly privatization proceeds in percent of BIP. $^{*}, ^{**}, ^{***}$ indicate significance at the 10%, 5%, 1% level, respectively. Standard deviations are reported below each value in brackets.

Table 5.4: Determinants of privatization proceeds in 14 EU countries, 1989-2000, feasible generalized least squares, robustness check in time dimension

	(1)	(2)	(3)	(4)
GDP(-1)	-0.022**	-0.027**	-0.027**	-0.023**
	(0.011)	(0.012)	(0.012)	(0.011)
UNER(-1)	-0.026*	-0.031*	-0.027*	-0.021
	(0.015)	(0.016)	(0.016)	(0.015)
GGFB(-1)	-0.054***	-0.058***	-0.053***	-0.046***
	(0.017)	(0.018)	(0.018)	(0.017)
ECOFREE	-0.571***			
	(0.181)			
RPCAB	0.005***	0.005***	0.006***	
	(0.001)	(0.001)	(0.001)	
LPCAB				-0.005***
				(0.000)
VETO	0.045	0.029		
	(0.032)	(0.033)		
FED	-0.091***	-0.101***	-0.112***	-0.119***
	(0.020)	(0.022)	(0.021)	(0.021)
STRIKE(-1)	0.000	0.000		
	(0.001)	(0.001)		
OPEN(-1)	0.004***	0.005***	0.005***	0.004***
	(0.001)	(0.001)	(0.001)	(0.001)
SOE	-0.025	0.030***	0.036***	0.027***
	(0.019)	(0.011)	(0.010)	(0.010)
p9597	0.115**	0.049	0.066*	0.093***
	(0.054)	(0.050)	(0.037)	(0.036)
p9800	0.714***	0.640***	0.624***	0.666***
	(0.066)	(0.065)	(0.062)	(0.060)
Constant	4.215***	-0.486**	-0.441**	0.167
	(1.498)	(0.225)	(0.217)	(0.221)
Observations	97	97	97	97
Number of countries	14	14	14	14
Wald chi^2	429.65	410.27	394.84	452.40
Prob>chi^2	0.00	0.00	0.00	0.00
AIC	148.79	153.92	150.79	143.16
BIC	182.26	184.81	176.53	168.91

Note: Dependent variable is yearly privatization proceeds in percent of BIP. $^{*, **, ***}$ indicate significance at the 10%, 5%, 1% level, respectively. Standard deviations are reported below each value in brackets.

Table 5.5: Determinants of privatization proceeds, 1989-2000, Portugal (models (1) and (2)) and Germany (models (3) and (4)) are excluded from the regression, feasible generalized least squares

	(1)	(2)	(3)	(4)
GDP(-1)	-0.040*	-0.024	-0.015	
	(0.022)	(0.020)	(0.021)	
UNER(-1)	0.041**	0.045***	0.058***	0.032*
	(0.018)	(0.015)	(0.021)	(0.017)
GGFB(-1)	-0.008		0.017	
	(0.017)		(0.016)	
RPCAB	-0.000		0.002*	0.002**
	(0.001)		(0.001)	(0.001)
VETO	-0.027		-0.014	
	(0.032)		(0.033)	
FED	-0.064***	-0.078***	0.220***	0.168***
	(0.024)	(0.022)	(0.060)	(0.046)
STRIKE(-1)	0.000		0.000	
	(0.001)		(0.001)	
OPEN(-1)	0.002		-0.005***	-0.004***
	(0.001)		(0.002)	(0.001)
SOE	0.010	0.019**	0.004	0.010
	(0.011)	(0.010)	(0.010)	(0.009)
Constant	0.110	0.030	-0.035	-0.026
	(0.230)	(0.169)	(0.198)	(0.178)
Observations	88	104	88	93
Number of countries	13	13	13	13
Wald chi^2	37.14	41.67	33.87	25.12
Prob>chi^2	0.00	0.00	0.00	0.00
AIC	122.79	154.71	153.26	157.70
BIC	147.57	167.93	178.04	172.90

Note: Dependent variable is yearly privatization proceeds in percent of BIP. *, **, *** indicate significance at the 10%, 5%, 1% level, respectively. Standard deviations are reported below each value in brackets.

Table 5.6: Prais-Winsten regression, corrected for contemporaneous correlation, serial correlation, and heteroskedasticity

	(1)	(2)	(3)	(4)
GDP(-1)	0.027	0.023		
	(0.048)	(0.047)		
UNER(-1)	0.017	0.023	0.021	0.018
	(0.041)	(0.047)	(0.047)	(0.046)
GGFB(-1)	0.022	0.009	0.010	0.003
	(0.046)	(0.048)	(0.048)	(0.046)
ECOFREE	-0.160			
	(0.301)			
RPCAB	-0.001	-0.001	-0.001	-0.000
	(0.003)	(0.003)	(0.003)	(0.002)
VETO	-0.084			
	(0.073)			
FED	-0.095**	-0.081*	-0.092**	-0.107***
	(0.039)	(0.044)	(0.043)	(0.038)
STRIKE(-1)	-0.001	-0.001*	-0.001*	-0.001*
	(0.001)	(0.001)	(0.001)	(0.001)
OPEN(-1)	-0.003	-0.004	-0.003	
	(0.003)	(0.003)	(0.003)	
SOE	0.055***	0.068***	0.069***	0.074***
	(0.016)	(0.021)	(0.021)	(0.022)
p9597	0.265	0.184	0.233	0.243
	(0.251)	(0.219)	(0.191)	(0.190)
p9800	0.332	0.369	0.432	0.455*
	(0.310)	(0.318)	(0.263)	(0.256)
Constant	1.719	-0.010	-0.025	-0.339
	(2.421)	(0.375)	(0.369)	(0.440)
Observations	97	97	97	97
Number of countries	14	14	14	14
Wald chi^2	54.39	61.43	62.18	30.03
Prob>chi^2	0.00	0.00	0.00	0.00

Note: Dependent variable is yearly privatization proceeds in percent of BIP. $^{*,\ **,\ ***}$ indicate significance at the 10%, 5%, 1% level, respectively. Standard deviations are reported below each value in brackets.