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Left, Right and Center: Partisanship, taxes and the welfare state

Abstract

This article argues that partisans tax their supporters, challenging, in particular, the notions that the welfare state is primarily an instrument of redistribution and that left wing governments tax the rich to benefit the poor. Using insights from the tax compliance literature, data for 18 OECD countries from 1970-1999 and historical vignettes from the 1950s onward, I show that countries with more long-term left influence finance welfare expenditure primarily through regressive taxes on consumption and labor, rather than progressive ones on income and capital. Furthermore, I provide preliminary evidence showing that countries with more right wing influence raise more revenue from income and capital. These findings indicate that conventional accounts of partisanship, taxation and the welfare state need re-evaluating. While left wing and center parties have been vital for the development of the welfare state, the extent of redistribution is exaggerated. Political parties act like insurance agents, not Robin Hood.

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Introduction

Thanks to the innovative work of Hibbs (1977), Stephens (1979), Boix (1998) and others, the economic and social consequences of partisanship have been studied from a variety of angles over the past thirty years. Although left, right and center are now thought to have relatively minor impacts on macroeconomic outcomes because of rational expectations, independent central banks, globalization and labor market institutions, partisanship is still thought to matter for taxes, spending and social welfare. As Bradley, Huber, Moller, Nielson and Stephens (2004) put it: "longer periods of rule by the left will be associated with greater social spending ceteris paribus [and] the distributive profile of the welfare state will be more favorable to lower income groups. Taxes are more progressive and transfers and publicly provided services are more equally distributed in welfare states developed under social democratic governments (197)."

The notions that long-term left-wing power is associated with more progressive taxation and that the welfare state is essentially a mechanism of redistribution enjoy widespread support in the literature (Stephens 1979; Korpi 1983; Boix 1998; Bradley et. al. 2004), but the myth of Robin Hood rests on shaky empirical foundations, a point Baldwin (1990) made many years ago. Building on the theoretical insights of Cuckierman and Tommasi (1998), the empirical findings of Steinmo (1989, 1993), Garrett (1998), Kato (2003) and Lindert (2003; 2004), and the tax compliance literature (Alm, McClelland and Schulze 1992; Andreoni, Erard and Feinstein 1998), this paper argues that the welfare state is primarily an insurance mechanism and that left-wing parties are the insurance agents. Using pooled cross-sections and panel data from 18 OECD countries from 1970 to 1999, I show while left wing power has been vital for the development of the welfare state and the expansion of transfers, as proponents of the power resource theory argue, the welfare state is primarily financed by regressive taxes on consumption and labor, rather than progressive taxes on capital and income. Furthermore, the greater the long-term political reign by the left (relative to the right), the more money OECD governments raise from consumption and labor taxes as a percentage of GDP and the less they raise from progressive taxes. Finally, I provide preliminary evidence

suggesting that countries with more right-wing influence raise more revenue from income and capital taxes. With few exceptions, the results presented below are consistent across specification, vis-à-vis alternative explanations, and with controls for other relevant variables, such as labor market institutions and globalization. Moreover, the coefficients are considerable: a one standard deviation increase in long-term left wing power is associated with more than two-thirds a standard deviation increase in consumption taxes as a percentage of GDP, while a one standard deviation increase in long-term right rule is associated three quarters of a standard deviation decrease in social security taxes and one-third of a standard deviation increase in corporate taxes. Nor does it seem that the results are a statistical finding confined to the OECD: left-wing governments around the world have introduced more value added taxes (VATs) than right wing governments, and their rates are as high, if not higher, even for essential items.

The theoretical explanation for the paradoxical finding that partisans tax their supporters is that taxation is a game of credible commitment, rather than a game of pure coercion (North 1981; Bates and Lein 1985; Levi 1988; Timmons 2004). Because establishing and collecting taxes is devilishly difficult, states have incentives to trade revenue for services, rather than clubbing people and taking their money. The tax compliance literature shows that many people pay taxes much of the time because they believe they are getting something in return, not because of the threat of punishment (Erard and Feinstein 1994; Andreoni, Erard and Feinstein 1998; Slemrod 2002; Frey and Feld 2002). Given the existence of quasi-voluntary compliance (Levi 1988), governments that can credibly commit to provide services to a given group of taxpayers can raise more money from them (but not from groups that do not receive services). Since the welfare state is essentially an insurance mechanism for the poor, working and middle classes, governments that expand the welfare state should be able to tax lower income groups more intensely.

Partisanship is important because political parties are typically the biggest bridge between different social groups and the state, serving as agents for different constituencies. Because of their control over spending, parties play a pivotal role in ensuring that taxes will be spent as taxpayers

desire. Since left parties are committed to providing social benefits, the longer their reign the more the state can expand social welfare spending and, consequently, the more revenue it can raise from lower income groups. Raising money from the wealthy, in contrast, is more difficult for governments with greater long-term left-wing dominance because they cannot count on quasi-voluntary compliance from the rich; instead, they must resort to the club. Governments with greater long-term right-wing influence, on the other hand, cannot typically commit to spend as lower income taxpayers want. Instead of taxing the poor intensely (and providing social services), governments with more right wing influence appear to rely more on corporate taxes (their natural constituency) to fund the state.

The counter-intuitive logic of taxes and spending perhaps can be best illustrated by Cuckierman and Tommasi´s (1998) formal model of Nixon going to China. According to their model, when governments have better information than voters, left wing governments have more credibility when they propose a policy shift to the right than right-wing governments (and vice-versa) because voters are more likely to believe that such a policy is driven by necessity, rather than ideological concerns. By extension, governments with more left influence can tax lower income groups precisely because they can more credibly claim that taxes will be used to provide the benefits coveted by those groups. When the left cannot credibly commit to social spending—because it does not control all veto gates, because expects its rule to be transitory, or because of constraints on spending (say, large deficits or IMF programs)—left-wing parties may rationally oppose taxes on lower income groups—as they do in the Unites States.[1] But as long as the left can

[1] The conditional nature of preferences over taxes help explain the divergence between the results presented herein and individual country studies of the United States and the United Kingdom, where there is some partisan cycling (Steinmo 1993; Sala 1994). When the left takes power in the United States or the United Kingdom, for example, it sometimes attempts to impose higher taxes on the rich and spend more on the poor; when the right takes power, it attempts to decrease taxes on

expand the welfare state, it has incentives to take advantage of quasi-voluntary compliance by lower income groups, increasing the tax burden on them. (In theory, governments that provide more benefits to the wealthy should be also be able to tax them more intensely. Although a rigorous test of this proposition is beyond the scope of this paper, Models 3 and 4 in Table 6 provide preliminary evidence in favor of this proposition and section 6 provides anecdotal evidence from Japan.)

This article is divided into six sections. Section 1 reviews the existing literature about partisanship, redistribution and the welfare state. For people who are easily bored with statistics, section 2 uses data from 18 OECD countries to provide a brief snapshot of the evidence that left power, regressive taxes and the welfare state go hand in hand, while progressive taxes accompany long-term rule by the right. Section 3 uses cross-sectional and panel analysis to test these hypothesis

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the rich and spend less on the poor—though the dollar amounts shifted are typically fairly small (Sala 1994). In the United States (and Japan and Switzerland), for example, the left has never had sufficient political power to enact comprehensive social welfare programs, suggesting that they should oppose taxes on lower income groups; in the United Kingdom, the absence of veto gates means that the left should be wary of taxes on lower income groups, given that a right wing government could soon take power and reverse its spending commitments. The left´s conditional acceptance of taxes on the poor is perhaps best illustrated by Britain´s Labor party under Tony Blair. The British Labor party has traditionally favored higher taxes on the wealthy and opposed taxes on lower income groups. Under Blair, the Labor party reversed that stance, cutting taxes on the wealthy and accepting higher taxes on the poor. Blair took such steps knowing that the British welfare state was in reasonably secure hands. Not only did Labor have a comfortable majority, but Conservative Prime Ministers Margaret Thatcher and John Major had failed to roll-back the most important elements of the welfare state during their reign and the Conservative party was in complete disarray. Moreover, since at least the mid 1990s, Conservative party leaders have pledged to continue most welfare programs, notably national health services.

in more depth, controlling for economic factors, domestic political institutions, labor market institutions and globalization. Section 4 presents the results from those regressions. Section 5 uses Sweden and Japan to illustrate the credible commitment hypothesis. Section 6 looks at the adoption of VATs around the world.

Section 1: Partisanship, Welfare and Tax Policy

Over the past 30 years, social scientists from a variety of disciplines have made great headway explaining the rise, size and variation in the modern welfare state (typically measured as spending on health, pensions, welfare and unemployment insurance as a percentage of GDP). The general consensus is that the driving forces behind the welfare state include increases in social demand, brought about by increased wealth and aging populations, to important changes on the supply side, notably increased unionization, proportional representation and partisanship. In particular, proponents of the power resource theory (Stephens 1979; Korpi 1983; Boix 1998) have linked the rise of the modern welfare state to the power of organized labor and left wing political parties. Although there is some evidence that business supported the development of the welfare state (Mares 2003) and that the insurance elements of the welfare state trump the redistributive ones (Baldwin 1990; Moene and Wallerstein 2001, 2003), the conventional wisdom is that the greater the long-term influence of the political left relative to the political right, the larger the welfare effort, the more progressive the tax system and the greater the degree of redistribution from rich to poor (Stephens 1979; Korpi 1983; Boix 1998; Bradley et. al. 2004).

With few exceptions, most studies showing that longer rule by left and center parties is associated with more welfare effort assume that spending is the equivalent of redistribution, with more spending (or a larger government) signaling more redistribution. Such a presumption is a mistake. Whether and how much redistribution occurs depends on who pays the taxes and who gets the benefits. Breaking down the distribution of the tax burden in the OECD into its regressive and

progressive components reveals a striking paradox, as Steinmo (1989) points out.[2] Because of its reliance on consumption and labor taxes and its generous deductions for investments, Sweden has a more regressive tax system than the United States even though it has generally had higher nominal tax rates on income taxes and corporations. In 1981, for example, lower income groups in Sweden paid 50-60 percent of their income to the fisc, slightly more than the wealthiest Swedes paid, and roughly double the percentage paid by their American counterparts. These findings have been echoed by Garrett (1998), Kato (2003), and Lindert (2003; 2004), all of whom have found that the welfare state is largely financed through regressive taxes on consumption and labor, rather than progressive ones on capital.

The latest advancement in the insurance versus redistribution debate has been to use micro-level data about household income, taxation and expenditure, rather than aggregate figures, taken

[2] While determining tax and benefit incidence is difficult because of tax-shifting, there is a general consensus about the incidence of most taxes. Most theoretical models and incidence studies suggest that consumption taxes are regressive in terms of current income because lower income groups pay more relative to their income than upper income groups. Similarly, most studies suggest that personal income taxes are progressive because upper income groups pay more relative to lower income groups. Corporate taxes are also generally considered to be progressive, though under some conditions (e.g., relatively labor intensive industries) corporations may shift the burden to consumers, rather than shareholders. Social security and other labor taxes are generally considered to be regressive because corporations can shift the burden to labor. There is more debate about the incidence of property and trade taxes, with the incidence depending on the elasticities of each market. It is worth noting that even with regressive taxes, the rich may pay more in dollar terms than the poor because they consume more; the notable exceptions are head taxes, which are assessed equally across all people, and sin taxes, which typically affect goods consumed more intensely by the poor (Fullerton and Metcalf 2002).

from the Luxembourg Income Studies (LIS). According to the LIS data, pre-tax/post-tax income inequality falls in every country for which there is data, with most of the gains accruing to people in the bottom three deciles, not the median-voter (Milanovic 2000). Given these findings, studies using LIS data have reached similar conclusions to the power resource theory: not only is redistribution widespread in democracies, but it increases with proportional representation, left-wing governments, voter turnout and unionization (Iversen and Soskice 2003; Bradley et. al. 2004).

What many people who use the LIS data fail to point out is that the LIS data do not take into account indirect taxes when measuring redistribution. In the LIS studies, redistribution equals the change in the gini coefficient between market income and disposable income (the sum of market income plus transfers minus the amount paid out in income and social security taxes).[3] The absence of consumption taxes is a significant oversight. Not only do indirect taxes have a much greater effect on the pocketbooks of the poor, but consumption taxes account for nearly one-third of tax revenue in the OECD (roughly 25% of total revenue, see Figure 1). Furthermore, they are especially important in countries with large welfare states, such as Sweden, which has exorbitant excise taxes on alcohol and tobacco and a VAT rate of approximately 24 percent, with virtually no exemptions.[4] In fact, among OECD countries changes in pre-tax/post-tax income inequality (ginich) are strongly correlated with consumption taxes (corr=-0.52), but not taxes on income and capital gains (corr=0.04), implying that analysis based on LIS data overestimate the amount of "redistribution" that occurs via the fisc. Figures 2 and 3 graph the reduction in income inequality (ginich) against revenue from consumption taxes and revenue from income and capital taxes for all countries/years with data. Although it is impossible to estimate how much redistribution occurs without more

[3] For details, see the LIS homepage, http://www.lisproject.org/keyfigures/methods.htm

[4] Sweden´s VAT varies from year to year, but for most of the 1990s rate was 24 percent.

precise data, there is a striking relationship between reductions in inequality and regressive taxes, but not progressive taxes.[5] **Insert Figures 1-3.**

Section 2. Left, right, taxes and services: A snapshot of the evidence

Tables 1-2 and Figures 4-5 essentially summarize the argument tested more rigorously below. Table 1 presents a correlation matrix between total transfers and taxes on consumption as a percentage of GDP and taxes on income and capital as a percentage of GDP for most OECD countries for 1970, 1980, 1990 and 1995.[6] The correlation between taxes on consumption as a percentage of GDP (primarily value added and excise taxes) and total transfers as a percentage GDP (pensions, unemployment insurance, welfare, health public care, and housing) ranges from 0.78 to 0.83.[7] In contrast, the correlation between capital taxes (primarily personal and corporate income and capital gains taxes) and total transfers ranges from 0.1 to –0.25. Assuming that consumption taxes are

[5]In a separate paper I combine World Bank data with the LIS data to obtain crude estimates of the elasticity of the gini index with respect to taxes on consumption. With reasonable controls, the coefficient ranges from -0.2 to -0.4, depending on specification, and is significant even when controlling for other relevant factors. These findings do not indicate that there is no redistribution; they just suggest that redistribution is orders of magnitude less than conventionally thought.

[6]The data about taxes as a percentage of GDP comes from the World Bank´s World Development Indicators (2001); the data about partisanship come from Huber et. al. 2004b; and the data about social transfers come from Lindert 2004 (pp. 12-13). Although I only show data for 1970 and 1995, comparative data are also available for 1980 and 1990, and there is relatively little change across time. Note that Portugal and Greece are excluded from the sample because we do not have data about partisanship.

[7] Lindert (2004) provides data about housing subsidies for 1970, 1980, 1990 and 1995. In the regressions, housing subsidies are excluded because data are not available for most years.

regressive, while capital taxes are progressive, these correlations are prima facia evidence that the welfare state is not financed primarily via redistribution.

Insert Table 1 here.

Table 2 presents correlation matrices of long-term partisanship trends, social transfers and the distribution of the tax burden in 1970 and 1995. There is a fairly strong positive correlation between the cumulative percentage of cabinet seats held by left wing parties since 1946 and consumption taxes (about 0.58) and total transfers (0.60 to 0.70, depending on the year), but not between left wing reign and capital taxes (0.22 to -0.20).[8] These correlations suggest that while the left may construct the welfare state, it has not done so by taxing the rich. In contrast, there is a strong negative correlation between cumulative cabinet seats held by the right and taxes on consumption (-0.35 to -0.65) and transfers (-0.56 to -0.86), while the correlation between right wing cabinets and capital taxes is positive (0.26 to 0.41). These correlations indicate that the right neither constructs welfare states, nor taxes the poor as heavily as left or center governments.

Insert Table 2 here.

Figures 4-5 show where different OECD countries fall along the left/right and tax/transfer axis. Figure 4 graphs the amount of revenue raised from consumption taxes as a percentage of GDP versus the amount of total social transfers in 17 OECD countries for 1995. Figure 5 graphs the amount of revenue from consumption taxes as a percentage of GDP in 1995 versus the cumulative number of cabinet seats occupied by the left between 1945 and 1995. (Note: These graphs are fairly representative of the entire period under study. Figures 6-12 in the supplemental material graph comparative data for capital taxes, transfers and the right.)

Insert Figures 4-5.

[8] The data about the cumulative number of cabinet seats are drawn from Huber et. al. 2004b.

Section 3: Data and analysis

This section explains the econometric framework used to test the hypothesis that left power, regressive taxes and the welfare state go hand in hand.

There are three inter-related hypothesis:

1) More long-term left influence is associated with greater welfare effort.
2) The welfare state is financed through regressive taxes, indicating relatively little redistribution.
3) More long-term left influence is associated with greater taxation of lower income groups, rather than the wealthy, indicating relatively little redistribution.
4) More long-term right influence is associated with greater taxation of upper income groups.

The alternative hypothesis are as follows:

2a) The welfare state is financed through progressive taxes, indicating high levels of redistribution.

3a) More long-term left influence is associated with greater taxation of upper income groups, rather than lower income groups, indicating high levels of redistribution.

3b) More long-term right influence is associated with greater taxation of lower income groups, rather than the wealthy.

Most of the data come from the Comparative Welfare States Data Set, assembled by Huber, Ragin and Stephens (1997) and updated by Huber, Ragin, Stephens, Brady, and Beckfield (2004). The Huber et. al. dataset has become the benchmark for studies of the welfare state because of the quality of the data about partisanship and labor market institutions and the prolificacy of its authors. The updated Huber et. al. data are combined with tax data from the World Bank (2001), the IMF (Stotsky and WoldeMariam, n.d., available from author) and Mendoza, Razin and Tesar (1997), and social spending data from Lindert (2004), who provides comparative data for most OECD countries from 1975 to 1995. The data are for central government only.

Social welfare is measured both as total transfers as a percentage GDP (pensions, unemployment insurance, welfare, public health care) and welfare spending alone, taken from Lindert (2004). Based on previous findings (Goodin, Headey, Muffels and Driven 1999), I assume that in the OECD aggregate social spending and welfare spending, in particular, benefit lower income groups more than upper income groups, even though some elements of the welfare state are less progressive than others (Moene and Wallerstein 2003).

To measure partisanship, I use the cumulative percentage of cabinet seats held by left, center and right parties from 1946 to the year of observation, based on the Huber et. al. 2004b framework. Huber et. al. 2004b classify cabinet seats into left, right, center, Christian center, Catholic center, Christian right, Catholic right (note: not all cabinet seats are classified into their 8 categories in every year). I focus on left, right and center parties, excluding the religious dimensions, which simplifies the analysis but does not substantially alter the results.[9] As of 1995, cumulative left cabinet ranged from 0 in the United States and Canada to 37.9 in Norway and 39.9 in Sweden; cumulative right ranged from 0.43 in Austria to 30.3 in Australia; cumulative center ranged from 0 in Austria, Australia, New Zealand and the United Kingdom to 34.6 in Canada.

To measure the distribution of the tax burden, I use several different methods and datasets.[10] Following the general convention in political economy, I measure taxation as a

[9] In the regressions, the results for left and right are fairly similar when all of the partisan categories are included. The other categories (e.g., Christian center, Catholic center) vary across specification; in general, however, the farther to the left, the more the state raises from consumption taxes and the higher welfare spending. The farther to the right, the less the state raises from consumption taxes and the less it spends on social welfare. Relative to Catholic parties, Christian parties raise more from consumption taxes and spend more on social spending.

[10]There are a variety of ways of measuring the distribution of the tax burden. The conventional way is to compare taxes as a percentage of GDP, which has advantages in terms of simplicity, cross-

percentage of GDP, which controls for size of the economy, is readily available for a variety of countries and years, and can be fairly easily assigned into distributional categories (see fn1; Fullerton and Metcalf 2002; Lieberman 2002). Based on the World Bank´s classification scheme (2001), I disaggregate government revenue into three broad categories: **Regressive taxes as a percentage of GDP:** Regressive taxes include general sales and turnover or value added taxes, selected excises on goods, selective taxes on services, taxes on the use of goods or property, and profits of fiscal monopolies. **Progressive taxes as a percentage of GDP**: Progressive taxes include taxes on income, profits and capital gains, as well as fines, fees, recoveries, inheritance taxes, and nonrecurrent levies on capital.[11] **Other revenue as a percentage of GDP**: Other revenue includes employer payroll and other labor taxes, property taxes, import and export taxes, taxes not allocable

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country comparability, and incidence assignment. A second way is to try to establish average or marginal tax rates based on tax codes. In theory, average or marginal tax rates offer a more fine-grained approach for establishing tax incidence than taxes as a percent of GDP, but since they do not take into account tax exemptions, deduction and evasion, it is devilishly difficult to establish "true" average or marginal tax rates. A third way is to use the effective average tax rate on factor incomes, pioneered by Mendoza, Razin and Tesar (1994) and Mendoza, Milesi-Ferretti and Asea (1997). Effective average tax rates are taxes paid on factor incomes minus the tax base for a given tax. The Mendoza et. al. method has clear advantages in terms of revealing the actual amount of taxes paid on the different tax bases (consumption, labor income, and capital income), but it is difficult to make assumptions about the incidence of the taxes—as they note—because the labor tax component includes both income taxes (typically a progressive tax) and social security (typically a regressive tax). Second, there are considerable gaps in the sample, significantly reducing the N and introducing more problems with potential selection bias.

[11] Fines, fees and recoveries may not necessarily be progressive. Unfortunately, it is impossible to separate them out in the analysis.

to other categories and non-tax revenues. The three broad categories sum to total revenue. Since the third category lumps together an odd assortment of tax and non-tax revenue, I assume that the incidence of the third category is, in principle, unknown. In order to analyze the third category in more depth, I subdivide it into social security taxes, unassigned taxes (trade, other labor taxes, property taxes and unspecified taxes), and non-tax revenue. Unfortunately, this subsequent breakdown is imperfect because there are inconsistencies in the data that I have been unable to resolve.[12] Because of this shortcoming, I present the results in two stages, first with the three broad categories and second with the other revenue category disaggregated into its component parts. Within the other revenue category, I assume that social security taxes are regressive and am agnostic about the incidence of unassigned taxes. Taken together, consumption, social security and capital taxes account for 94 percent of tax revenue and 85 percent of total revenue. Unassigned taxes account for the remainder.

Control variables

Previous researchers (e.g., Hicks and Swank 1992; Moene and Wallerstein 2001; Iversen and Soskice 2003; Bradley et. al. 2004), have identified a host supply and demand side variables that affect social welfare expenditure. Based on their analysis, the following control variables were included in the analysis:

[12] In other words, social security taxes, unassigned taxes and non-tax revenue should sum to the other revenue category, but they do not. The other revenue category and the sum of its component parts are correlated at 0.99, but there is some slippage, particular with Sweden, where the discrepancy is as large as 4% of GDP in some years.

Demographic controls: Urban population % (World Bank 2001); Population 65+ % (World Bank 2001); Population 15-64 % (World Bank 2001); Total population logged (World Bank 2001).[13]

Economic controls: The log of per capita income (RGDPCH, Penn World Tables, Heston, Summers and Aten 2002); fuel exports % GDP (World Bank 2001).

Institutional controls: Presidential, 0-1 dummy (Database of Political Institutions (DPI) Beck, Clarke, Groff, Keefer and Walsh 2003); Federalism, 0-1 dummy (DPI); Proportional Representation, 0-1 dummy (DPI); Voter turnout (Huber et. al. 2004b); Neo Corporatism (Kenworthy 2003, in Huber et. al. 2004b); Net union membership % (Huber et. al 2004b).

Globalization: Trade as a percentage of GDP (OPENK, Penn World Tables); Capital controls, 0-4 scale (Quinn 1997, in Huber et. al. 2004b)

Year and Country dummies.

Econometric model

Conducting a rigorous causal test of the aforementioned hypothesis requires a simultaneous equation, using instrumental variables that change over time. Because of the difficulty of finding appropriate instruments and eliminating serial correlation at the same time, I rely on ordinary least squares (OLS), with pooled and panel data, which demonstrate systematic correlations between long-term left rule, welfare spending and taxes on the poor, rather than causality. The tests are conducted with contemporaneous and lagged values of the independent variables, time dummies and fixed effects. They focus on the long-run effects of partisanship, rather than the short-term effects, even though there is some evidence that the two may be different (see fn1). Although I tried to separate out these effects econometrically, it proved to be beyond my capabilities even with

[13] The percentage of the population 65+ is highly correlated with cumulative left cabinet (0.66) and revenue from consumption (0.56). When feasible, it is included in the regressions. When not feasible, I use population aged 15 to 64.

relatively sophisticated techniques, such as Arellano-Bond (1991).[14] Levin and Lin tests (1992) with detrended data and 3 lags of the relevant variables indicate that the revenue and spending data are non-stationary, while Dickey-Fuller tests (DF_ρ, DF_t and ADF, as described in Kao 1999 and Baltagi 2001) suggest that the tax and spending data are cointegrated.[15] These tests indicate that cross-sections should capture the relevant long-term equilibriums, even if the series wander apart in the short-run.

The OLS regressions are conducted on pooled and panel data for all 18 countries with lags of the independent variables, which are assumed be exogenous, and with Stata´s cluster command, a variant of Huber-White robust standard errors, which provides correct standard errors in the

[14] I tried Arellano-Bond (1991) techniques, generalized least squares with fixed effects, and panel corrected standard errors (PCSE, Beck and Katz 1995) with a lag of the dependent variable and pairwise case selection. The Arellano-Bond specifications—which might help us separate out the long-term and short-term effects of partisanship—were consistently the right sign and significant vis-a-vis my predictions, but they failed to simultaneously reject serial correlation and accept the validity of the instruments (see Table 1 in the supplementary material). The results of the GLS and PCSE regressions were also fairly consistent (especially with hypothesis 1 and 2), but they were plagued with problems of persistent serial correlation. Part of the problem is that there is considerable cross-country variation in terms of taxes and relatively little within country variation, making it difficult to tease out short-term-effects. In terms of the composition of taxes, for example, the variation between OECD countries has been at roughly five times the variation within countries since 1970, suggesting that partisan cycles—if they are systematic—are relatively small in terms of revenue as a percentage of GDP.

[15] Because of missing data, the Levin and Lin tests were only conducted with data from 13 countries. Since cointegration tests have a variety of complications, these tests should be seen as preliminary.

presence of any pattern of correlation among errors within units (including serial correlation, heteroskadisticity and unit-specific effects, Rogers 1993). Since the cluster correction assumes that the clusters are independent of each other, a relatively strong assumption, I also use OLS cross-sections with annual, 5 and 10 year averages with contemporaneous values of the independent variables (1970-1979; 1980-1989; and 1990-1999). The simple cross-sections are more sensitive to specification and, by necessity, include fewer control variables, but RESET tests (Ramsey 1969) suggest that there are no omitted variables in the cross-sections, even with the minimalist specifications. The cross-sectional results with averaged data also show no particular pattern in terms of the contemporaneous or lagged relationships between left, right and center cabinet seats and the taxation variables.[16] This null finding indicates that the long-run influence of partisanship swamps its short-run influence, consistent with the claims of historical institutionalists that public finances are sticky (Huber et. al. 2004a).

Out of a total of 540 possible observations, most of the pooled cross-sections and panels include 322 to 475 observations from 18 countries from 1970 to 1999. The main reasons for the variation in the number of observations is that tax data for Germany is unavailable before 1991, the data about labor market institutions (specifically neo-corporatism) is only available for 1970 to 1994, and Lindert´s data ends in 1995.[17] Most of the results presented remain consistent when any

[16] Relatively simple panel regressions using lags of the partisan composition of government and the composition of tax revenue and/or social spending give no support for the cycling hypothesis in a large sample of countries. This does not mean that there is not a complex interaction between veto gates, cycling and revenue collection; it just means that I have been unable to sort it out theoretically or empirically.

[17] Most of the remaining missing observations are either at the very beginning or end of the time period under analysis.

one country is dropped from the regression models and they are reasonably robust with time and country dummies.

Section 4: Results

Table 3 shows the relationship between long-run trends in partisanship and social transfers. Model 1 presents the cross-sectional results from 1990-1995 (which are fairly representative of other cross-sections); Models 2-4 present the pooled cross-sectional results with controls for globalization, labor markets and political institutions, with and without time and country dummies.[18] Model 5 presents the pooled cross-section for welfare spending alone. In all five models, the R-squared are relatively high and the coefficients on cumulative left cabinet are positive and significant at or above the 95 percent confidence level, while the coefficients on cumulative center cabinet are always positive and typically significant, and cumulative right cabinet is always negative and significant (with the exception of the fixed effects model: note). Model 3, which presents the average relationship across all units and years, is probably the best estimator for total social spending since a test of joint significance indicates that year dummies are significant, while country dummies are not.[19] Excluding the fixed effect model, the coefficients on cumulative left cabinet range from 0.16 to 0.31 and on cumulative right cabinet from –0.14 to -0.31. These results suggest that a one-standard deviation increase in long-term left power is associated with roughly one-third to one-half of a standard deviation increase in total social transfers and one-third of an increase in

[18] Although the cross-section is relatively sparse, the R-squared is relatively high (0.95), indicating that the basic regression captures most of the variation in spending across countries. Other potential explanatory variables (e.g., population 65 plus, proportional representation, net union membership) are excluded because they are not significant and lower the R-squared.

[19] I have erred on the side of over-fitting the models because it does not typically make much difference in terms of the variables of interest. With slimmed down versions of the regressions (available from the author), the coefficients on left cabinet and goods and services tend to be larger.

welfare spending alone, while a one standard deviation increase in cumulative right cabinet is associated with somewhere between one-third to two-thirds of a standard deviation decrease in total social transfers and one-fifth of a standard deviation decrease in welfare spending. (Table 8 provides data about minimums, maximums, means and standard deviations for the relevant variables). In short, as others have shown, the longer the left has been in power, the more the state spends on social welfare; the longer right is in power, the more lower income groups have to fend for themselves. Other things worth noting: Presidentialism is consistently positive and significant at conventional levels with social transfers, a result driven Finland and France, while federalism is negative and significant, a result driven by the United States, Canada and Switzerland.

Insert Table 3.

Table 4 shows the relationship between the distribution of the tax burden and the levels of total social transfers and welfare spending. The coefficients on consumption taxes are always positive and significant at conventional levels, even with year and country dummies (note: the latter is not significant, shown in Model 5); capital taxes are generally positive but not typically significant; and other revenue is consistently positive and generally significant. Since tests of joint significance indicate that time and country dummies are each individually significant, but that only time dummies are significant when they are both included, Model 3 is probably the model to focus on; because of attenuation bias, its coefficient of 0.48 on goods and services should be seen as a lower bound. A one standard deviation increase in revenue from consumption taxes translates into a minimum of one-third (and probably closer to one-half) of a standard deviation increase in total social transfers and one-half a standard deviation increase in welfare spending, while a one standard deviation increase in other revenue (primarily social security, see below) translates into roughly one-half of a standard deviation increase in transfers. Capital taxes are typically positive with both welfare spending and total social spending, but they are rarely significant (except with fixed effects, which typically do not belong). Even with the most generous estimate for capital taxes (Model 5), where the coefficient is barely significant at the 90 percent confidence interval, a one standard

deviation increase in capital taxes would only translate into one-sixth of a standard deviation increase in transfers. In other words, the bulk of welfare state financing comes from regressive taxes, indicating that the welfare state is primarily insurance, not redistribution. Note also, that most of the other variables that were significant with transfers are also significant with taxes. To wit: Federal systems and more unionized countries spend less on social welfare, but they also raise less in regressive taxes; presidential systems and countries with higher voter turnout spend more on social welfare, but they also raise more from regressive taxes.

Insert Table 4.

Table 5 shows the relationship between partisanship and regressive taxes. In both the cross-sections and panels, cumulative left and cumulative center cabinet are always positive and generally significant with consumption taxes, while cumulative right cabinet is always negative and insignificant. Because neither time, nor country dummies are significant, Model 2 is the preferred model; the coefficients of 0.31 on left cabinet and 0.18 on center cabinet suggests that a one standard deviation increase left is associated with more than two-thirds of a standard deviation increase in consumption taxes, compared to one-third of a standard deviation increase for center cabinets. The results indicate that moving leftward on the left-right spectrum substantially increases the tax burden on lower income groups.

Insert Table 5.

Table 6 shows the relationship between partisanship and progressive taxes. Neither the cross-section (which fail the F-test of joint significance), nor the pooled X-section (country-fixed effects are never significant) offer any indication that more long-term left wing influence translates into more revenue from progressive taxes. In the preferred model (Model 2), the coefficient on all of the partisan variables are negative, but only left is significant at conventional levels. Given the coefficient of -0.22, a one standard deviation increase in left cabinet translates into roughly one-half a standard deviation decrease in progressive taxes. Furthermore, separating progressive taxes into its component parts with the IMF data described in footnote 11 indicates that long-term right

influence translates into greater corporate taxation, while long-term left influence translates into lower personal and corporate taxes.[20] While there is some variation across specification, cumulative right cabinet is always positive and typically significant at conventional levels with corporate taxes (Models 3 and 4), while left is negative and typically significant with both personal income and corporate taxes (Models 3-5). Although the coefficient of 0.033 on right cabinet vis-à-vis corporate taxes might not seem like much, a one-standard deviation increase in right cabinet translates into just over a third of a standard deviation increase in corporate taxes.

Insert Table 6.

Table 7 shows the relationship between the disaggregated other revenue category, partisanship and total transfers, using just the pooled X-sections and panels. Model 1 shows that social security and non-tax revenue are positive significant with total transfers, while unassigned taxes are negative and significant. A one standard deviation increase in social security taxes is associated with more than one-half of a standard deviation increase in transfers; a one standard deviation increase in non-tax revenue is associated with roughly one-seventh of a standard deviation increase in transfers; and a one standard deviation increase in unassigned taxes is associated with approximately one-seventh of a standard deviation decrease in transfers. In other words, within the other revenue category, most of the amount used for social transfers comes from regressive taxes. Model 2 shows that while all of the partisan variables are negative with social security taxes, only cumulative right and center are significant.[21] A one standard deviation increase in right cabinet is associated with three-quarters of a standard deviation decrease in social security taxes, while a one standard deviation increase in center cabinet is associated with roughly half of a standard deviation

[20] The main source of variance with right cabinet is personal income taxes, which are typically positive, but not always significant.

[21] Cumulative left cabinet is typically positive and significant without population 65+, which is fairly highly correlated with both left cabinet and social security taxes.

decrease in social security taxes. In short, longer rule by the left (relative to the right and center) translates into higher taxes on labor, all things being equal. Model 3 shows left and center cabinets are negative with unassigned taxes (which are negative and significant with social spending), while right is positive and significant. A one standard deviation increase in cumulative right cabinet is associated with one-half of a standard deviation increase in unassigned taxes. Model 4 shows that left is positive and significant with non-tax revenue (which is positive and significant with transfers). A one standard deviation increase in left is associated with third quarters of a standard deviation increase in non-tax revenue.

Insert Table 7 and Table 8.

The results can be summarized as follows: The welfare state is largely financed through regressive taxes on consumption and labor (and non-tax revenue), rather than progressive taxes on income. Governments with more cumulative left influence spend far more on social welfare than countries with greater right wing influence. But governments with greater left influence also raise considerably more revenue from the poor, working and middle classes (and non-tax revenue) than governments influenced by the right. They also use non-tax revenue for social spending, unlike countries with more right and center influence. Governments with more left influence do not tax the rich any more intensely than governments with more right and center influence; if anything, they raise less revenue from the rich. Governments with more cumulative right wing influence spend less on social welfare than everyone else, but they also tax the poor, working and middle classes less intensely. They also appear to place a greater tax burden on corporations, their core supporters. In short, in countries where the right dominates lower income groups keep more of their income, but they have to fend for themselves in the market; in countries where the left dominates, lower income groups turn more of their money over to the state, which returns it to them in the form of services.

Section 5: Sweden vs. Japan

The idea that left governments tax lower income groups to finance the welfare state, while right governments tax upper income groups (notably corporations), rather than the poor, is supported not

just in statistics, but also by history. The quintessential cases are Sweden and Japan. Although these stories have been admirably told by Steinmo (1989; 1993) and Kato (2003), the highlights are worth recapping here.

Prior to the end of World War 1, Sweden was ruled by a constitutional monarch with a highly restricted franchise that ensured conservatives would control the parliament. With conservatives in control, the welfare state accounted for just 1.14 percent of GDP in 1920, moderate by the standards of that time, but tiny by today's standards (Lindert 2004). Though a progressive income tax was introduced in 1902 and top rates were increased substantially during the first two decades of the 20th century, indirect taxes financed most government expenditures (Kato 2003).

With industrialization, urbanization and the adoption of universal franchise in 1921, the Social Democrats (SAP) emerged as a major political force in the 1920s and 1930s. Campaigning on promises of full employment, economic growth, fair division of national income, and social security, the SAP became the leading government party in 1932 and captured an outright majority in both houses in 1940 (Steinmo 1993). Despite Social Democratic ascendance, there were no revolutionary changes in tax policy in the 1930s (in fact, one of the SAP´s first acts as majority partner was to raise consumption taxes). During World War II, taxes were increased across the board, with marginal income tax rates topping 80 percent and a new 5 percent sales tax filling government coffers. The new revenues went for the war effort, not redistribution.

In 1947, with the Communist party making substantial inroads into their electoral base, the Social Democrats finally made good on their pledges to increase redistribution. Not only did they move to expand the welfare state, but they raised income taxes, especially for high income earners, introduced a second estate/inheritance tax, and abolished the 5 percent sales. By 1954, indirect taxes had fallen to around 40 percent of revenues, compared to 70 percent before World War I (Kato 2003), but the resulting revenues were insufficient to finance growing public expenditures. In the late 1950s, SAP leaders, influenced by technocrats, decided that re-introducing the sales tax would be the best way to fulfill their public spending promises without spooking the business community

and compromising economic growth. Against the wishes of their electorate, their key constituencies, notably organized labor, and their coalition partner, the Communists, SAP leaders introduced a 4.2 percent general sales tax in 1959. By presenting the issue in the Riksdag as a no-confidence vote, they outmaneuvered the Communists, whose electoral support was abating. Rather than risk a fresh election, the Communists abstained, and the measure became law (Steinmo 1993).

The 1960 election affirmed the basic bargain of regressive taxes for progressive spending. The Social Democrats campaigned for the national sales tax, arguing that it was the best way to finance the growing social welfare state, which now consumed 10.8 percent of GDP (Lindert 2004 12-13). Conservatives campaigned against the tax because they opposed the growth in social welfare programs and feared that the tax rate would soon be increased, a fear that was borne out in just a few short years. The Social Democratic publicity team swung into action, increasing support for the tax among SAP supporters from 39 percent to 66 percent in less than a year, aided in part by promises to expand social spending, especially on public housing (Kato 62; Steinmo 1989). In the election of 1960, the Social Democrats carried the day, increasing their vote share in the Riksdag from 46.2 percent in 1958 to 47.8 percent, enough to keep their majority in both houses (Steinmo 1993 129). Over the next two decades under Social Democratic leadership social spending ballooned, reaching 29.8 percent of GDP in 1980. So did revenue from the sales tax (converted to a VAT in 1969), reaching 10 percent of GDP by 1980. In the meantime, social security taxes increased from 5 percent of GDP in 1970 to 11 percent in 1980, while corporate and personal income taxes fell from 8.9 to 6.1 percent of GDP.[22] Although Social Democrats are no longer the hegemonic force they once were, the basic bargain endures. Sweden taxes lower income groups intensely; in return, they enjoy the most comprehensive social safety net in the world.

Japan is the mirror opposite of Sweden. For virtually all of the post-war period, Japan has been governed by the conservative Liberal Democratic Party (LDP). With few exceptions, the

[22] Excise taxes also increased substantially during this period.

political left has only posed a minor electoral threat. By rich country standards, Japan has an exceptionally small welfare state, with expenditures on social welfare accounting for only 5.7 percent of GDP in 1970 (excluding housing subsidies). Taxes have been correspondingly low, especially on consumption. Until the 1990s, the state accounted for less than 20 percent of GDP and more than two-thirds of Japan´s revenue came from taxes on capital, the highest percentage among OECD countries (World Bank 2001). While the Achilles´ heel of the LDP has been factionalism, the main threats to the LDP hegemony have coincided with LDP efforts to introduce a national sales tax or VAT.

Consider the following examples. In 1978, both the Government Tax Research Council and the LDP Tax System Research Council recommended the introduction of a general consumption tax (similar to a VAT) to shore up public finances, which had deteriorated in the wake of the oil shocks of the 1970s. Heeding their advise, Prime Minister Ohira announced plans to implement the tax, making it a centerpiece of the 1979 campaign. Faced with mounting opposition from within his own party, the public, and the opposition Socialist party (which should rationally oppose the tax because they did not control spending), Ohira renounced the tax before the election, but the damage was done. The LDP experienced its worst poll results in the post war period, retaining only a plurality in the Diet, a loss that was in large measure attributed to the new tax (Kato 2003).

Following the election, the Diet issued a resolution that restoration of fiscal balances should not depend on a revenue increase from a "general consumption tax" (Kato 173)." When Ohira died the following year, the new prime minister, Zenko Suzuki, went one step further, pledging to undertake fiscal reconstruction without increasing taxes. Five years later, with Japan´s fiscal position still relatively tenuous, Prime Minister Nakasone floated plans to simplify and reduce income taxes, a move that would bolster LDP support among urban salaried workers, who claimed (with some reason) that they were bearing an unduly large share of the tax burden. Worried about revenue losses, technocrats in the Ministry of Finance (MOF) pushed for a new VAT as part of the reform, expecting it to more than make up for any lost revenue. But with elections on the horizon,

opposition from LDP back-benchers and little public support for the proposal, Nakasone rejected the MOF´s pleas, pledging not to introduce a general consumption taxes. The LDP subsequently won a resounding victory in the 1986 elections, clinching a record-setting share of seats. Despite Nakasone´s pledge, technocrats within the MOF continued to advocate for a VAT, which they thought was essential for solidifying government finances. Nakasone eventually relented and a series of new tax proposals soon made their way to the Diet, including one for a 5 percent VAT. These proposals were derailed by the 1987 unified municipal elections as local LDP branches, fearing the repercussions of a VAT, successfully lobbied national leaders to withdraw the proposals.

In 1988, the government of Noboro Takeshita finally approved a watered down version of the VAT, with numerous exemption and a 3 percent rate, one of the lowest rates for a new VAT in history (Ebrill, Keen, Bodin and Summers 2001). Less than one year later, the LDP experienced its worst electoral defeat on record, winning less than one-third of the seats in the upper house. The LDP´s loss was attributed to a remarkable confluence of events, including the Recruit corruption scandal, agricultural liberalization and the new VAT. The LDP subsequently recovered in the polls and raised the VAT to 5 percent in 1997. Even with the rate increase, Japan´s VAT is one of the lowest revenue yielding VATs in the world. In the meantime, Japan´s welfare state has grown modestly. Expenditures on social expenditures (including housing subsidies) accounted for approximately 12 percent of GDP in 1995, considerably higher than in 1970, but still among the lowest in the OECD. In short, Japan (like the US and Switzerland) is a case of weak left parties, low taxes on the poor and relatively limited social welfare.

Section 6: The adoption of VATs

Given their long term left and right influence, Sweden and Japan represent two ends of the spectrum in terms of taxes and spending. The question is how generalizable are these experiences. The adoption of the VAT around the world indicates that they fit into a broader pattern. For at least three decades, the VAT has been widely recognized as an excellent source of revenue. VATs are relatively easy to implement, they cause relatively few economic distortions, and they are capable

of generating large amounts of revenue (Ebrill et. al 2001). The main objection to VATs is that they are typically regressive. Despite the potential revenue gains from VATs, not every country has introduced one. Over the past forty years, left wing governments have successfully introduced more VATs than right wing governments, and their rates are as high, if not higher, even for basic items.

Table 10 presents data about the partisan composition of government as classified by the DPI and the adoption and rate structure of VATs, as complied by Ebrill et. al. (2001). Of the roughly 100 countries that adopted value added taxes between 1965 and 2000, 41 countries (27 democracies and 14 non-democracies) had chief executives classified as left, compared to 26 governments (15 democracies and 9 non-democracies) with chief executives classified as right and 10 with chief executives classified as center (all democracies).[23] While there are certainly reasons to question the DPI´s classification scheme, especially for non-democracies, changing the partisan orientation of a few chief executives would not alter the analysis, nor would using the partisan composition of the legislature. It is unlikely that the discrepancy between left and right chief executives can be attributed to overrepresentation of the left in the sample because there was a rough balance in the DPI data between left and right governments.[24] It is also unlikely that the

[23] Left-right data is only available for 77 of the countries that introduced VATs.The democracy/non-democracy classification comes from the PolityIV dataset (Marshall, Jaggers and Gurr 2000). Countries scoring greater than 10 on the net autocracy/democracy scale were counted as democracies. Malta and Vanatua were classified as right by the DPI coders, but no Polity data is available for them.

[24] In the sample I use (which is slightly smaller than the original DPI data because countries without tax data are dropped), executive right accounts for approximately 700 observations and executive left accounts for approximately 800 observations. Executive center accounts for approximately 160 observations.

discrepancy can be explained by EU requirement that members introduce a VAT because the ratio of left to right VATs outside of the EU is 31 to 20 in favor of left wing governments.

Insert Table 9.

A critical question is whether VAT rates between left and right governments vary. Definitive evidence is hard to come by because the data challenges are exceptional. For the 37 countries that I have data for (from Tait 1988), it seems that VAT rates are statistically indistinguishable between left and right governments at time of introduction. Excluding zero-rated items, for which no data is available, the lowest, standard and highest rates for left governments at time of introduction were 8.7 percent, 12.8 percent and 16.8 percent, compared to 8.3, 11.5 and 13.7 percent for right governments. In the long run, the evidence suggests that VATs introduced by the left trend higher, even for basic items. As of April 2001, VATs introduced by left wing executives over the past 35 years had higher basic and standard rates than ones introduced by right wing governments.[25] Within democracies, for example, the average rate for "essential" items in 2001 was 11.8 percent under left wing executives versus 8.2 percent for right wing executives and 5.5 percent for centrists executives. Within the OECD, cumulative left cabinet is strongly and positively correlated with both VAT revenue and rates, while cumulative right cabinet is negative with both revenue and rates.[26] An analysis of excise taxes—arguably the most regressive consumption taxes—would probably show a similar pattern (see Figure 12 in supplementary material and Lindert 2004).

[25] A test of means shows that VATs introduced by left wing-governments were 1.8 percentage points higher for standard items and 1.6 percentage points higher for basic goods at the 95 and 90 percent confidence interval.

[26] The correlations between cumulative left cabinet and lowest, standard and highest rates in April 2001 were 0.58, 0.73 and 0.78, compared to –0.20, -0.60 and –0.62 for cumulative right cabinet.

Section 7: Conclusion

The purpose of this paper has been to re-examine the long-run relationship between partisanship, taxes and the welfare state. Building on the tax compliance literature, which shows that many people pay much of the time because they value the services that governments provide, I argued that partisans have incentives to tax their supporters when they can credibly commit to providing benefits valued by their constituents. Using data from 18 OECD countries, I then showed that the welfare state represents a bargain between lower income groups and the state, held together by left parties: the greater the influence of the left, the more the state spends on social welfare and, *contrary to conventional wisdom, the more it taxes lower income groups, but not the rich*. The reason lower income groups accept higher taxes on themselves when the left has more political influence is that they know that the resulting spending will benefit them. Governments more influenced by the right, in contrast, cannot generally commit to such spending. As a result, they find it devilishly difficult to tax lower income groups. Instead of taxing the poor and providing social benefits, governments with more right wing influence appear to tax their supporters (corporations) more intensely and allow the poor to fend for themselves in the market. The flip side is that governments with more left wing influence raise less revenue from the rich, precisely because they are committed to helping the poor. In short, because it is easier to trade services for revenue than to play Robin Hood, the welfare state functions as an insurance mechanism, not an instrument of redistribution.

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Figure 1: The Sources of Revenue in OECD countries

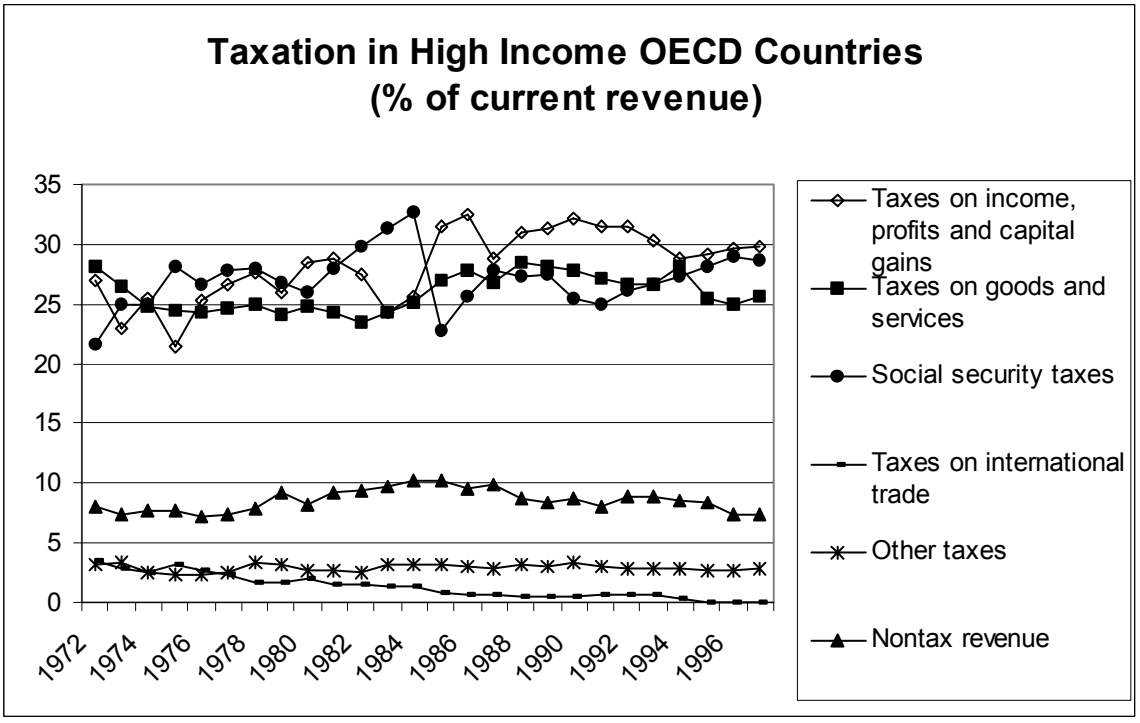
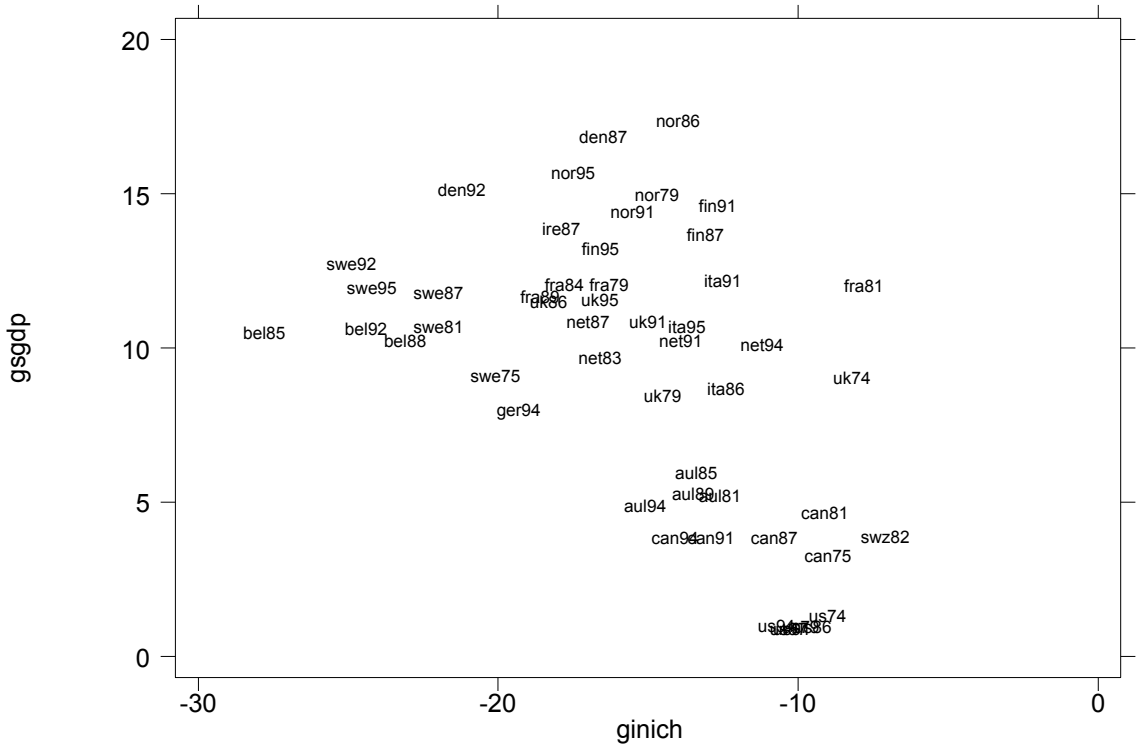
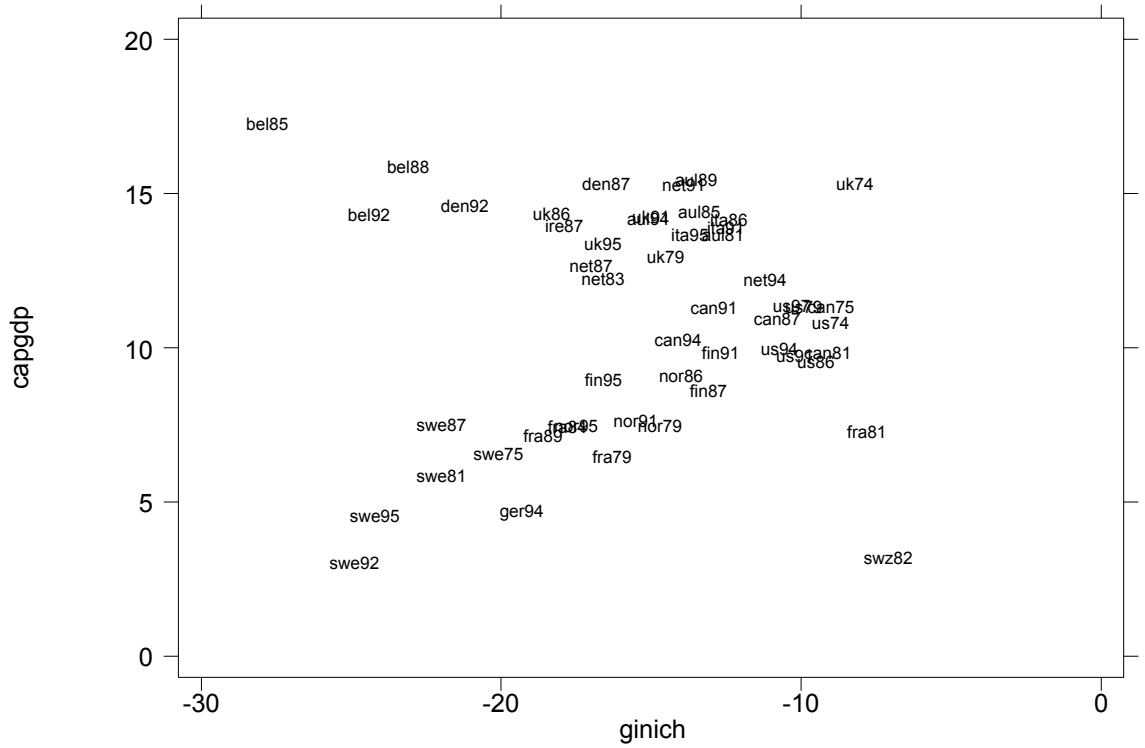


Figure 2: Change in pre/post tax gini and revenue from consumption taxes. All countries and years with available data shown.



Note: The Y-axis shows amount of revenue raised from consumption taxes (gsgdp) as a percentage of GDP. The X-axis shows the change in pre-tax/post tax income (ginich) for all countries/years in the sample. The plot indicates that countries that raise more from consumption taxes have greater reductions in pre-tax/post-tax income than countries that raise less revenue from regressive taxes. Because lower income groups pay more of their income in consumption taxes (which are not included in the pre-tax/post tax calculations), it suggests that the actual change in the gini index is over-stated.

Figure 3: Change in pre/post tax gini and revenue from capital taxes



Note: The Y-axis shows amount of revenue raised from capital and income taxes (capgdp) as a percentage of GDP. The X-axis shows the change in pre-tax/post tax income (ginich) for all countries/years in the sample. The plot indicates that there is no systematic relationship between the amount raised from capital taxes and the change in pre-tax/post-tax income.

Table 1: Correlation between total transfers, consumption taxes and capital taxes in 17 OECD countries.

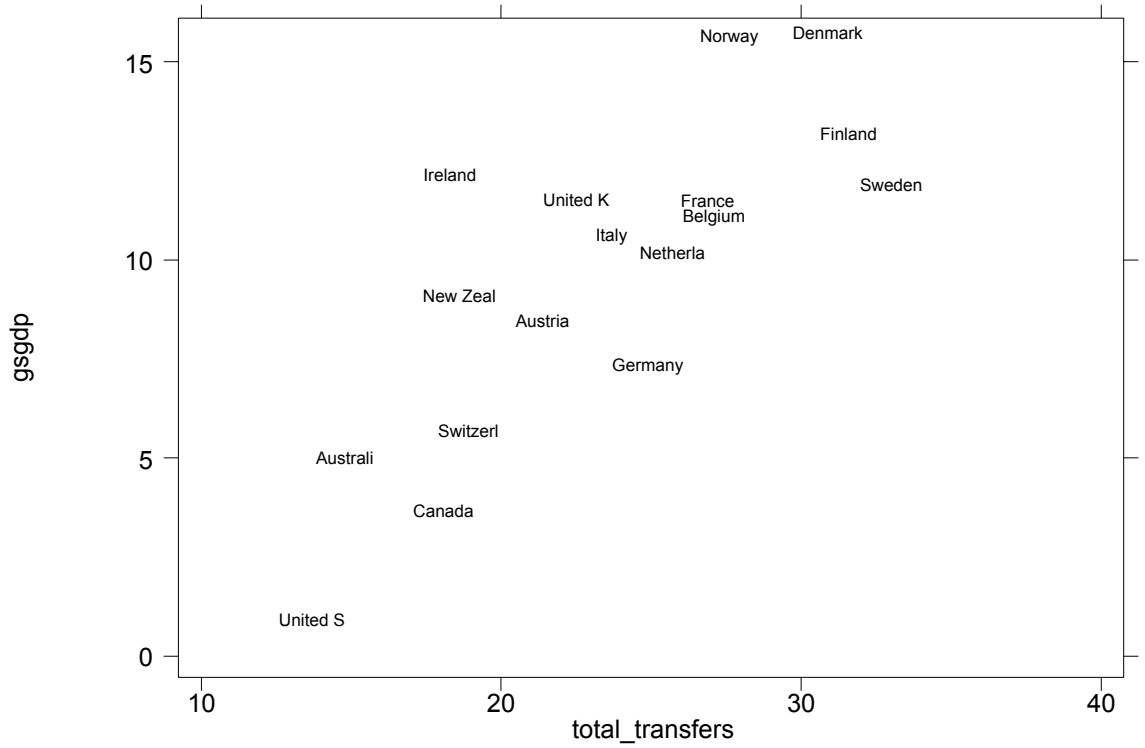
Year	Total Transfers & Consumption Taxes	Total Transfers & Capital Taxes	N
1970	0.8307	0.0902	10
1980	0.7016	-0.0332	17
1990	0.7826	-0.1868	16
1995	0.7871	-0.2450	17

Table 2: Correlation Matrix between tax revenue, partisanship and total transfers in OECD countries, 1970 and 1995.

1970 N=10	Consumption Taxes % of GDP	Capital Taxes % of GDP	Total Transfers % of GDP	Cumulative Left Cabinet (1945-1970)	Cumulative Right Cabinet (1945-1970)
Consumption Taxes	1				
Capital Taxes	0.4395	1			
Total Transfers	0.8307	0.0902	1		
Cumulative Left Cabinet	0.5863	0.2172	0.6959	1	
Cumulative Right Cabinet	-0.6485	0.2643	-0.8599	-0.6187	1
1995 N=17	Consumption Taxes % of GDP	Capital Taxes % of GDP	Total Transfers % of GDP	Cumulative Left Cabinet (1945-1995)	Cumulative Right Cabinet (1945-1995)
Consumption Taxes	1				
Capital Taxes	0.0957	1			
Total Transfers	0.7871	-0.2450	1		
Cumulative Left Cabinet	0.5841	-0.2040	0.5996	1	
Cumulative Right Cabinet	-0.3484	0.4147	-0.5629	-0.3222	1

Sources: World Bank 2001; Huber et. al. 2004b; Lindert 2004a.

Figure 4: Revenue from consumption taxes vs. total transfers in 17 OECD countries (1995).[27]



[27] Although the graph only shows 1995 data, it (and others shown below) is representative of most years.

Figure 5: Revenue from consumption taxes (1995) vs. cumulative left cabinet positions (1945-1995)

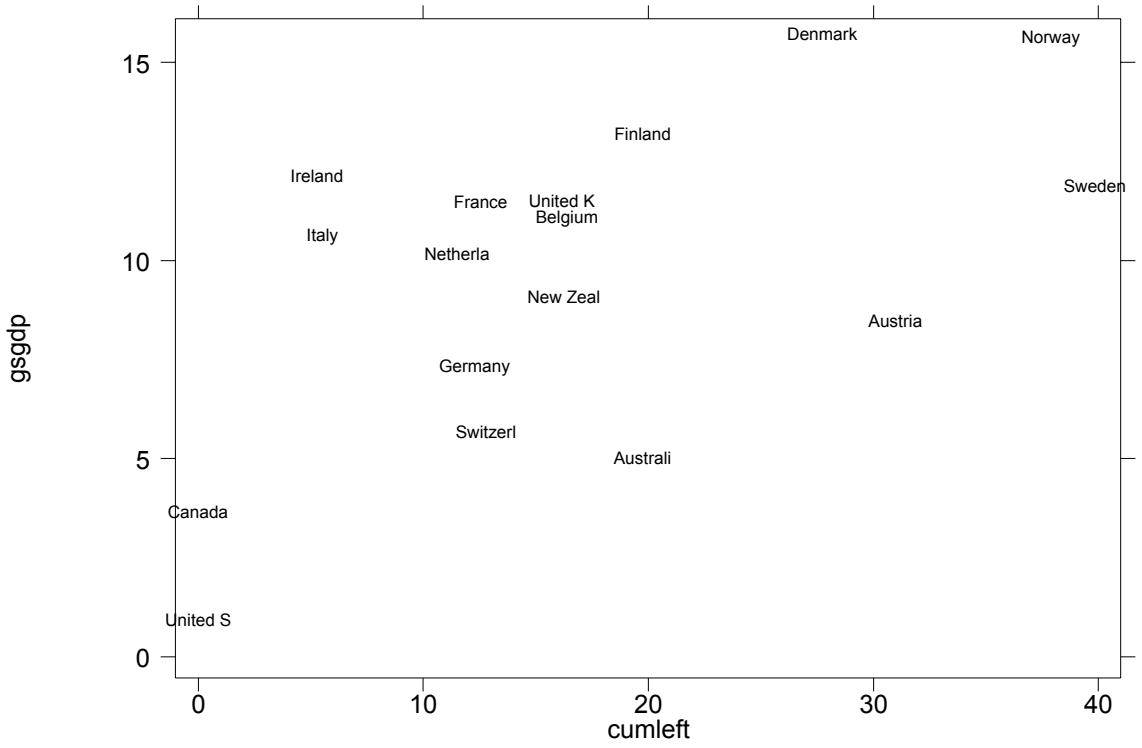


Table 3: Left, Right, Center and Total Social Transfers (% of GDP)

	Model 1	Model 2	**Model 3**	Model 4	Model 5
	Total Social Transfers	Total Social Transfers	**Total Social Transfers**	Total Social Transfers	Welfare Spending
	X-section 1990-95[28]	**Pooled X-section**	**Pooled X-section w/ year dummies**[29]	**Panel w/ year & country dummies**[30]	**Pooled X-section w/ year dummies**[31]
Left Cab Cum$_{t-1}$	**0.163*****	**0.314*****	**0.209****	**0.422*****	**0.0604****
	(0.038)	**(0.096)**	**(0.096)**	**(0.106)**	**(0.027)**
Right Cab Cum$_{t-1}$	**-0.312****	**-0.139*****	**-0.231*****	**0.091**	**-0.0237***
	(0.031)	**(0.046)**	**(0.054)**	**(0.146)**	**(0.013)**
Center Cab Cum$_{t-1}$	**0.027**	**0.183*****	**0.086**	**0.612****	**0.030***
	(0.039)	**(0.043)**	**(0.062)**	**(0.209)**	**(0.017)**
GDPPC (log)	-7.374**	0.256	**-4.353***	-9.491**	-3.881***
	(3.243)	(1.414)	**(2.460)**	(4.017)	(0.659)
Urban Pop	0.262	0.148***	**0.188*****	0.506*	0.065***
	(0.040)	(0.036)	**(0.040)**	(0.268)	(0.011)
Presidential	5.199***	5.069***	**5.517*****		1.636***
	(0.950)	(1.089)	**(1.447)**		(0.366)
Federal	-5.398***	-5.433***	**-4.715****		-0.347
	(0.764)	(0.571)	**(0.693)**		(0.215)
Pop 65+ %		0.092	**0.016**	0.806	-0.002
		(0.313)	**(0.344)**	(0.493)	(0.083)
Neocorporatism		0.319	**0.768**	2.930	0.666**
		(0.677)	**(0.858)**	(4.515)	(0.295)
Union net		-9.322	**-3.772**	-4.092	2.364
		(5.662)	**(6.839)**	(7.990)	(2.156)
Trade GDP		0.007	**-0.011**	0.003	-0.008
		(0.022)	**(0.025)**	(0.027)	(0.005)
Capital control		2.370***	**1.531****	1.060	0.262
		(0.809)	**(0.623)**	(0.637)	(0.243)
V. Turnout		0.190***	**0.123****	-0.024	0.021
		0.033	**(0.050)**	(0.051)	(0.011)
Prop. Rep.		2.239***	**1.386***		-0.091
		(0.697)	**(0.687)**		(0.223)
Constant	77.672**	-20.468	**28.922**	49.448	29.999***
	(31.959)	(13.715)	**(24.569)**	(31.079)	5.956
N	18	346	**346**	346	346
Groups		18	**18**	18	18
Adj. R-Squared	0.9489	0.8652	**0.8894**	0.9513	0.8434
Prob > F	0.0000	0.0000	**n/a**	n/a	n/a

[28] This cross-section uses contemporaneous values of left, right and center.
[29] Test of joint significance for year dummies F=0.0119.
[30] Test of joint significance for year dummies F=0.1617 and country dummies F=0.4828.
[31] Test of joint significance for year dummies F=0.0048.

Table 4: Taxes and Transfers (% of GDP)

	Model 1	Model 2	**Model 3**	Model 4	Model 5	Model 6
	Total Social Transfers	Total Social Transfers	**Total Social Transfers**	Total Social Transfers	Total Social Transfers	Welfare Spending
	x-section 1990-99	**Pooled X-section 1975-95**	**Pooled X-section w/ time dummies**[32]	Panel with country dummies[33]	Panel with year & country dummies[34]	**Pooled X-section** w/ time dummies[35]
Consumption	**1.141*****	0.507***	**0.476*****	0.578***	0.699***	0.077**
$Taxes_{t-1}$	**(0.286)**	(0.130)	**(0.132)**	(0.152)	(0.134)	(0.034)
Capital Taxes	**-0.196**	0.046	**0.028**	0.222	0.225*	-0.008
GDP	**(0.307)**	(0.094)	**(0.010)**	(0.148)	(0.129)	(0.017)
All other	**0.212**	0.470***	**0.493*****	0.363***	0.244	0.112***
Revenue GDP	**(0.195)**	(0.055)	**(0.055)**	(0.122)	(0.145)	(0.015)
GDPPC	-1.359	7.497***	**4.545**	-3.440	-9.307***	-2.986***
	(9.251)	(2.550)	**(3.804)**	(2.364)	(4.305)	(0.703)
Urban Pop	0.121	0.029	**0.048**	0.586*	0.226	0.051***
	(0.099)	(0.038)	**(0.053)**	(0.280)	(0.273)	(0.009)
Presidential	1.931	2.630**	**3.026*****			1.172***
	(2.340)	(0.986)	**(1.024)**			(0.246)
Federal	0.142	-2.941***	**-2.725*****			0.191
	(1.996)	(0.816)	**0.903**			(0.216)
Pop 65+ %		-0.703***	**-.776*****	0.433	-0.424	-0.168***
		(0.166)	**(0.201)**	(0.350)	(0.251)	(0.058)
Voter turnout		0.093***	**0.089*****	-0.062	-0.009	-0.0003
		(0.029)	**(0.033)**	(0.064)	(0.060)	(0.0077)
Neo		1.028	**1.444**	2.672	7.708	0.808***
Corporatism		(1.120)	**(1.038)**	(4.977)	(4.755)	(0.240)
Union net		14.894***	**16.067*****	3.436	14.639	7.267***
		(2.806)	**(2.440)**	(7.210)	(8.966)	(0.695)
Trade GDP		-0.002	**-0.010**	0.045	-0.06922	-0.012***
		(0.014)	**(0.014)**	(0.036)	(0.048)	(0.004)
Capital control		2.176***	**1.796*****	1.310**	0.858	0.194
		(0.653)	**(0.512)**	(0.555)	(0.548)	(0.204)
Prop. Rep.		0.157	**-0.111**			-0.419**
		(0.697)	**(0.890)**			(0.166)
Constant	13.768	-77.963**	**-49.287**	-27.810	73.219	23.803***
	(92.633)	(21.027)	**(33.021)**	(18.377)	(43.810)	(5.803)
N	18	322	**322**	322	322	322
Groups		18	**18**	18	18	18
Adj. R-Sq.	0.6851	0.8990	**0.9224**	0.9507	0.9639	0.8898
Prob > F	0.0051	0.0000	**n/a**	n/a	n/a	n/a

[32] Test of joint significance for year dummies F=0.0903.
[33] Test of joint significance for country dummies F=0.0237.
[34] Test of joint significance for country dummies F=0.8470 and year dummies F=0.0087.
[35] Test of joint significance for country dummies F=0.0000.

Table 5: Left, Right, Center and Regressive Taxes (% of GDP)

	Model 1	**Model 2**	Model 3	Model 4
	Regressive Taxes % of GDP	**Regressive Taxes % of GDP**	Regressive Taxes % of GDP	Regressive Taxes **% of GDP**
	x-section 1990-95	**Pooled X-section**	**Pooled X-section with year dummies**[36]	**Panel with country dummies**[37]
Left Cab Cum$_{t-1}$	**0.135***	**0.310*****	0.339***	0.035
	(0.065)	**(0.039)**	(0.044)	0.066
Right Cab Cum$_{t-1}$	**-0.120****	**-0.034**	-0.004	-0.042
	(0.053)	**(0.021)**	0.031	(0.094)
Center Cab Cum$_{t-1}$	**0.027**	**0.150*****	0.182***	0.108
	(0.066)	**(0.030)**	(0.052)	(0.110)
GDPPC (log)	-9.754	**-1.859**	-0.346	-1.553
	(5.517)	**(1.751)**	(3.115)	(1.796)
Urban Pop	0.067	**-0.010**	-0.023)	(0.097)
	(0.068)	**(0.034)**	(0.034)	(0.076)
Presidential	1.258	**2.382*****	2.202***	
	(1.616)	**(0.572)**	(0.717)	
Federal	-3.796**	**-4.658*****	-4.933***	
	(1.299)	**(0.560)**	(0.873)	
Pop 65+ %		**0.335***	0.377*	0.247
		(0.174)	(0.188)	(0.312)
Neocorporatism		**-2.614*****	-2.791*	-1.014
		(0.882)	(1.067)	(1.063)
Union net		**-9.650****	-11.336***	-4.324
		(3.629)	(3.483)	(3.459)
Trade GDP		**0.023**	0.029	0.037
		(0.017)	(0.017)	(0.027)
Capital control		**-0.614**	-0.423	0.132
		(0.371)	(0.449)	(0.253)
V. Turnout		**0.113*****	0.133***	0.004
		(0.024)	(0.031)	(0.027)
Prop. Rep.		**1.343**	1.610	
		(0.941)	(1.083)	
Constant	77.672**	**15.414**	0.310	13.000
	(31.959)	**(16.006)**	(31.504)	(16.012)
N	18	**350**	350	381
Groups		**18**	18	**18**
Adj. R-Squared	0.9489	**0.8687**	0.8727	0.9724
Prob > F	0.0000	**0.0000**	n/a	n/a

[36] Test of joint significance F=0.1516.
[37] Test of joint significance F=0.7216.

Table 6: Left, Right, Center and Progressive Taxes (% of GDP)

	All Income & Capital Taxes	All Income & Capital Taxes	Corporate Taxes (IMF data)	Corporate Taxes (IMF data)	Personal Taxes (IMF Data)
	x-section 1990-99	**Pooled X-section 1975-1999 w/ year dummies**[38]	x-section 1990-98	**Pooled X-section 1990-1998 w/ year dummies**[39]	**Pooled X-section 1990-1998**[40]
Left Cab Cum$_{t-1}$	**-0.076**	**-0.216****	**-0.002**	**-0.054*****	**-0.228****
	(0.123)	**(0.101)**	**(0.021)**	**(0.014)**	**(0.098)**
Right Cab Cum$_{t-1}$	**0.071**	**-0.030**	**0.033***	**0.033****	**0.134***
	(0.100)	**(0.077)**	**(0.0167)**	**(0.014)**	**(0.068)**
Center Cab Cum$_{t-1}$	**0.034**	**-0.111**	**-0.007**	**-0.072*****	**0.177**
	(0.125)	**(0.134)**	**(0.021)**	**(0.0140)**	**(0.118)**
GDPPC (log)	-14.610	**-3.417**	0.340	**-0.398**	**-2.997**
	(10.487)	**(2.952)**	(1.809)	**(0.782)**	**(5.795)**
Urban Pop	0.112	**0.140***	0.011	**-0.014**	**0.025**
	(0.130)	**(0.063)**	(0.022)	**0.014**	**(0.056)**
Presidential	-2.634	**1.647**	-1.077*	**-0.631*****	**5.511*****
	(3.073)	**(1.673)**	(0.519)	**(0.268)**	**(1.742)**
Federal	-0.124	**0.301**	-0.763	**-0.795*****	**1.616**
	(2.470)	**(1.133)**	(0.447)	**(0.261)**	**(1.187)**
Fuel exports GDP		**0.080***		**0.024****	**0.071***
		(0.041)		**(0.009)**	**(0.036)**
Land area (log)		**-1.225***		**0.298*****	**-2.285*****
		(0.675)		**(0.101)**	**(0.591)**
Union net		**17.765*****		**1.647***	**4.381**
		(4.378)		**(0.916)**	**(6.545)**
Trade GDP		**-0.005**		**0.015****	**-0.039**
		(0.032)		**(0.007)**	**(0.028)**
Capital control		**-0.225**		**0.101**	**0.204**
		(0.705)		**(0.012)**	**(1.366)**
V. Turnout		**0.098**		**-0.007**	**0.416*****
		(0.079)		**(0.018)**	**(0.080)**
Prop. Rep.		**-5.865*****		**0.155**	**-5.276*****
		(1.687)		**(0.319)**	**(1.448)**
Pop65+		**-1.200*****			
		(0.350)			
Constant	148.138	**53.096**	-1.791	**3.942**	**35.320**
	(103.352)	**(28.257)**	(17.780)	**(8.984)**	**(53.166)**
N	18	**362**	18	90	**90**
Groups		**18**		18	18
Adj. R-Squared	0.0507	**0.7543**	0.4467	**0.8697**	**0.7307**
Prob > F	0.4160	n/a	0.0587	N/a	**0.0000**

[38] Test of joint significance F=0.0029.
[39] Test of joint significance F=0.0001.
[40] Niether time nor country dummies are significant.

Table 7: Left, Right, Center and Other Revenue

	Model 1	Model 2	Model 3	Model 4
	Total Transfers	Social Sec. Taxes	Unassigned Taxes	Non-Tax Revenue
	Pooled X-section w/ time dummies[41]	Pooled X-sect. w/ time dummies[42]	Pooled X-sect. w/ time dummies[43]	Panel w/ country dummies[44]
Social Sec. Taxes$_{t-1}$	**0.595*** **			
	(0.089)			
Unassigned Taxes$_{t-1}$	**-16.003***			
	(7.750)			
Non-Tax Revenue$_{t-1}$	**0.466** **			
	(0.178)			
Left Cab Cum$_{t-1}$		**-0.132**	**-0.0010**	**0.127*** **
		(0.148)	**(0.001)**	**(0.044)**
Right Cab Cum$_{t-1}$		**-0.365*** **	**0.0024*** **	**0.0457**
		(0.082)	**(0.0008)**	**(0.059)**
Center Cab Cum$_{t-1}$		**-0.277***	**-0.0005**	**0.011**
		(0.136)	**(0.0016)**	**(0.047)**
GDPPC (log)	4.185***	-5.549	-0.0557	-0.080
	(0.069)	(3.660)	(0.0563)	(1.592)
Urban Pop	-0.003	0.160*	-0.0023**	0.214*
	(0.034)	(0.083)	(0.0009)	(0.121)
Pop 65+ %	-0.619**	0.833**	0.0019	-0.118
	(0.278)	(0.391)	(0.0025)	(0.133)
Pop 15-64 %	0.135	-0.646**	0.0008	0.179
	(0.262)	(0.271)	(0.0028)	(0.107)
Land area (log)	-0.511	1.062	-0.0061	
	(0.334)	(0.680)	(0.0084)	
Voter turnout	0.113***	-0.050	-0.0001	0.022
	(0.037)	(0.073)	(0.0009)	(0.030)
Neo Corporatism	-0.591	5.703***	0.0172	-1.180
	(1.327)	(1.925)	(0.0228)	(1.499)
Union net	26.064***	-23.088**	0.1993*	9.269***
	(3.0275)	(10.282)	(0.1019)	(3.005)
Trade GDP	-0.016	0.060	0.0001	-0.060**
	(0.023)	(0.044)	(0.0005)	(0.022)
Capital control	1.187*	0.505	0.0163***	0.596*
	(0.651)	(0.653)	(0.0082)	(0.336)
Prop. Representation	-0.639	0.419	0.0004	
	(0.653)	(0.846)	(0.0135)	
Federalism	-2.932***	-0.647	0.0491***	
	(0.767)	(1.187)	(0.0150)	
Presidentialism	3.640***	3.618	-0.0170	
	(1.053)	(1.634)	(0.0143)	
Constant	18.040	74.750	1.7307***	-19.645
	(39.131)	(38.407)	(0.5635)	(17.940)
N	323	350	350	381
Groups	18	18	18	18
R-Squared	0.9124	0.8695	0.5923	0.8239

[41] Test of joint significance F=0.0016.
[42] Test of joint significance F=0.0168.
[43] Test of joint significance F=0.0462.
[44] Test of joint significance F=0.0508.

Table 8: Minimums, Maximums, Means and Standard Deviations 1970-1999[1]

Variable	N	Mean	St. Deviation	Minimum	Maximum
Revenue Goods & Services % of GDP	475	8.871575	4.259414	.6065243	17.15446
Revenue Capital % GDP	475	10.72242	4.503249	1.802588	23.73842
Other Revenue % GDP	475	11.96257	6.359875	-.1144793	27.98604
Social Security % GDP	475	7.433281	5.749616	0	20.61217
Non-Tax Revenue % GDP	476	2.930296	1.772195	-1.472996	10.18147
Unassigned taxes % of GDP	475	1.065427	.0507086	.9481243	1.301449
Cumulative Left Cabinet	540	12.40698	10.33278	0	43.86
Cumulative Right Cabinet	540	12.26911	12.08093	0	51.73
Cumulative Center Cabinet	540	7.292101	9.585993	0	38.26
Total Transfers % of GDP	378	18.92802	5.928186	6.44	34.69

[1]The minimums, maximums, means and standard deviations are quite similarly for the cross-sections with the 10 year averages. They are available from the author.

Table 9: Partisanship and the VAT

Country	Year VAT introduced	Standard Rate April 2001	Lowest Rate April 2001[1]	Top Rate April 2001
LEFT EXECUTIVE				
DEMOCRACIES				
Argentina	1975	21	10.5	27
Austria	1973	20	10	32
Bangladesh	1991	15	15	15
Barbados	1997	15	7.5	15
Belarus	1992	20	10	20
Belgium[2]	1971	21	1	21
Benin	1991	18	18	18
Costa Rica	1975	15	15	15
Denmark	1967	25	25	25
Dom. Rep.	1983	8	8	8
Greece	1987	18	4	18
Israel	1976	17	6.5	17
Jamaica	1991	15	12.5	15
Lithuania	1994	18	18	18
Mozambique	1999	17	17	17
Namibia	2000	15	15	30
Nepal	1997	10	10	10
New Zealand	1986	12.5	12.5	12.5
Pakistan	1990	15	15	15
Slovak Rep.	1993	23	6	23
Slovenia	1999	19	8	19
Spain	1986	16	4	16
Sri Lanka	1998	12.5	12.5	12.5
Sweden	1969	25	6	25
Trin. & Tob.	1990	15	15	15
Ukraine	1992	20	20	20
Venezuela	1993	15.5	15.5	15.5
AVERAGE		**17.093**	**11.759**	**18.315**
SD		**4.074**	**5.561**	**5.718**
NON-DEMOCRACIES				
Algeria	1992	17	7	17
Bolivia	1973	14.9	14.9	14.9
Congo Rep.	1997	18	18	18
China	1994	17	13	17
Hungary	1988	25	12	25
México	1980	15	10	15
Senegal	1980	20	10	20
Tajikistan	1992	20	20	20
Tanzania	1998	20	20	20

Country	Year VAT introduced	Standard Rate April 2001	Lowest Rate April 2001[1]	Top Rate April 2001
RIGHT EXECUTIVE				
DEMOCRACIES				
Australia	2000	10	10	10
Canada	1991	7	7	7
Czech Republic	1993	22	5	22
El Salvador	1992	13	13	13
France	1968	20.6	2.1	20.6
Germany	1968	16	7	16
Iceland	1990	24.5	14	24.5
Japan	1989	5	4.5	5
Kyrgyz Rep.	1992	20	20	20
Paraguay	1993	10	10	10
Portugal	1986	17	5	17
Russia Fed.	1992	20	10	20
South Africa	1991	14	14	14
Turkey	1985	16	1	40
United King.	1973	17.5	0	17.5
AVERAGE		**15.507**	**8.173**	**17.107**
ST. Dev.		**5.342**	**5.537**	**8.032**
NON-DEMOCRACIES				
Albania	1996	20	20	20
Brazil	1967	20.48	9.89	36
Burkina Faso	1993	18	18	18
Croatia	1998	22	22	22
Chile	1975	18	18	18
Korea	1977	10	2	10
Nicaragua	1975	15	5	15
Taiwan	1986	5	5	25
Togo	1995	18	18	18
AVERAGE		**16.276**	**13.099**	**20.222**
SD		**5.493**	**7.612**	**7.259**
CENTER CHIEF				
ALL DEMOCRACIES				
Belgium[2]	1971	21	1	21
Colombia	1975	15	8	45
Finland	1994	22	6	17
Ireland	1972	21	0	12.5
Italy	1973	19	4	19
Luxembourg	1997	15	3	15
Macedonia	2000	19	5	19

Tunisia	1988	18	6	29	Moldova	1992	20	20	20
Turkmenistan	1992	20	20	20	Netherlands	1969	17.5	6	17.5
Uzbekistan	1992	20	15	20	Switzerland	1995	7.5	2	7.5
Vietnam	1999	10	5	15	**AVERAGE**		**17.7**	**5.5**	**19.350**
Zambia	1995	17.5	17.5	17.5	**SD**		**4.3153**	**5.662**	**9.868**
AVERAGE		**18.029**	**13.457**	**19.171**					
SD		**3.440**	**5.298**	**3.929**					

[1]Ebrill et. al. indicate that the lowest rates may not reflect items excluded from the VAT altogether. Unfortunately, I have not been able to put together a list of such exclusions.
[2]Belgium is classified as both center and left because it had a center-left coalition.

Left, Right and Center: Partisanship, taxes and the welfare state
Supplementary material

Supplementary Material

Table 1: XTABOND2 Specifications with total social spending

	Total Social Spending	Total Social Spending
Endogenous Variables		
Revenue Goods & Services	**0.852*** (0.211)**	**0.576*** (0.176)**
Revenue Capital	**-0.066 (0.175)**	**0.111 (0.112)**
Other Revenue	**0.375*** (0.090)**	**0.500*** (0.070)**
Lag Structure[1]	2, 7	2, 4
Exogenous Variables[2]		
GDP15Log	2.772*** (0.541)	2.067*** (0.511)
Pop1564Log	-0.002 (0.007)	0.009* (0.004)
Logland	0.157 (0.277)	0.140 (0.229)
Urban Population %	0.103 (0.062)	0.031 (0.042)
Gross Union %		12.110*** (3.449)
Constant	-38.789*** (6.567)	-41.415*** (6.125)
Instruments	363	353
Groups	18	18
Observations	317	304
Hansen Test[3]	1.000	1.00
1st order autocorrelation Z-stat[4]	-1.86	1.56
2nd order autocorrelation Z-stat	1.56	-1.78

Explanation of results

[1]Lag structure refers to the period and number of lags used as instruments with the endogenous variables. The first number refers to the first period to begin with (say, T-2 in Model 1), while the second refers to the number of lags to use (say, 7 in Model 1). The results with different lag structures were consistent with those above, but no specification I tried was successfully identified and unmarred by serial correlation.

[2]The endogenous and exogenous variables are defined in the paper except the following:
GDP15Log = Per capita GDP PPP-adjusted, multiplied by the percentage of the population above age 15.
Pop1564(log)= The total number of people between the ages of 15 and 64, logged.

[3]The null hypothesis for the Hansen tests is that the instruments are valid. Given the P-value of 1, we reject that hypothesis and conclude that the structural parameters are not appropriately identified.

[4]The null hypothesis for the autocorrelation tests is that there is no autocorrelation.

The results above are consistent with the hypothesis presented in the paper, but not valid because the rank and order conditions are not fulfilled.

Figure 6: Total transfers (1995) vs. cumulative left cabinet positions (1945-1995)

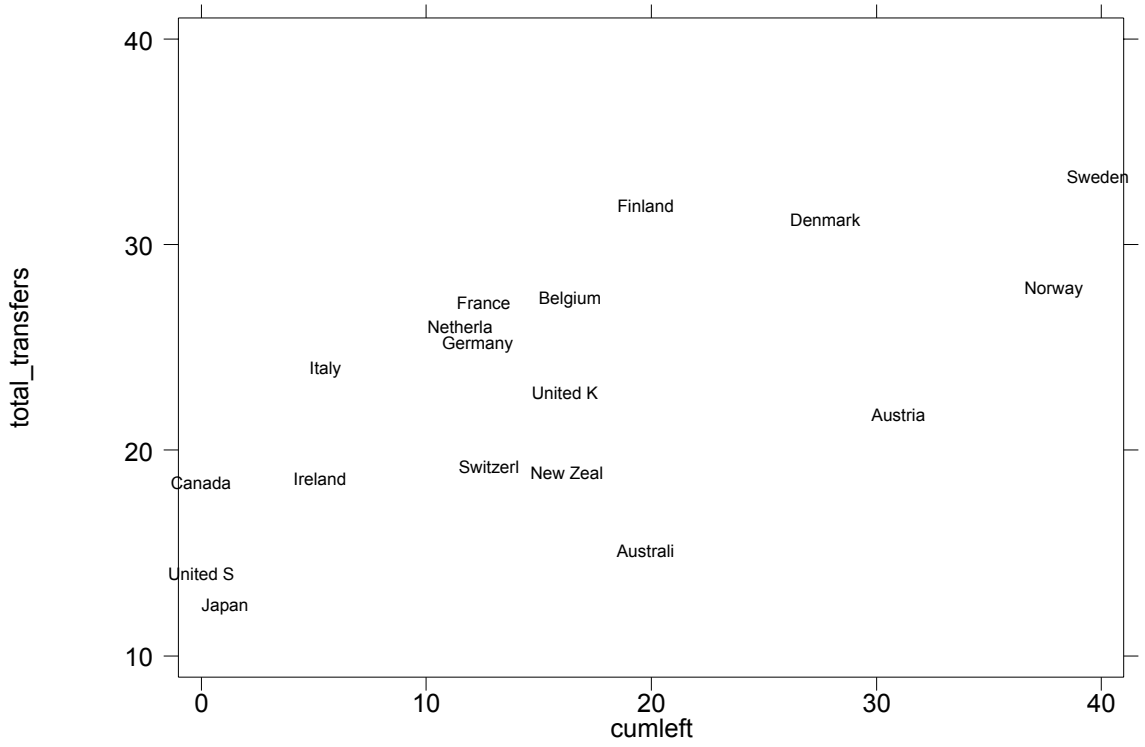


Figure 7: Cumulative left cabinet positions (1945-1995) vs. revenue from capital taxes (1995)

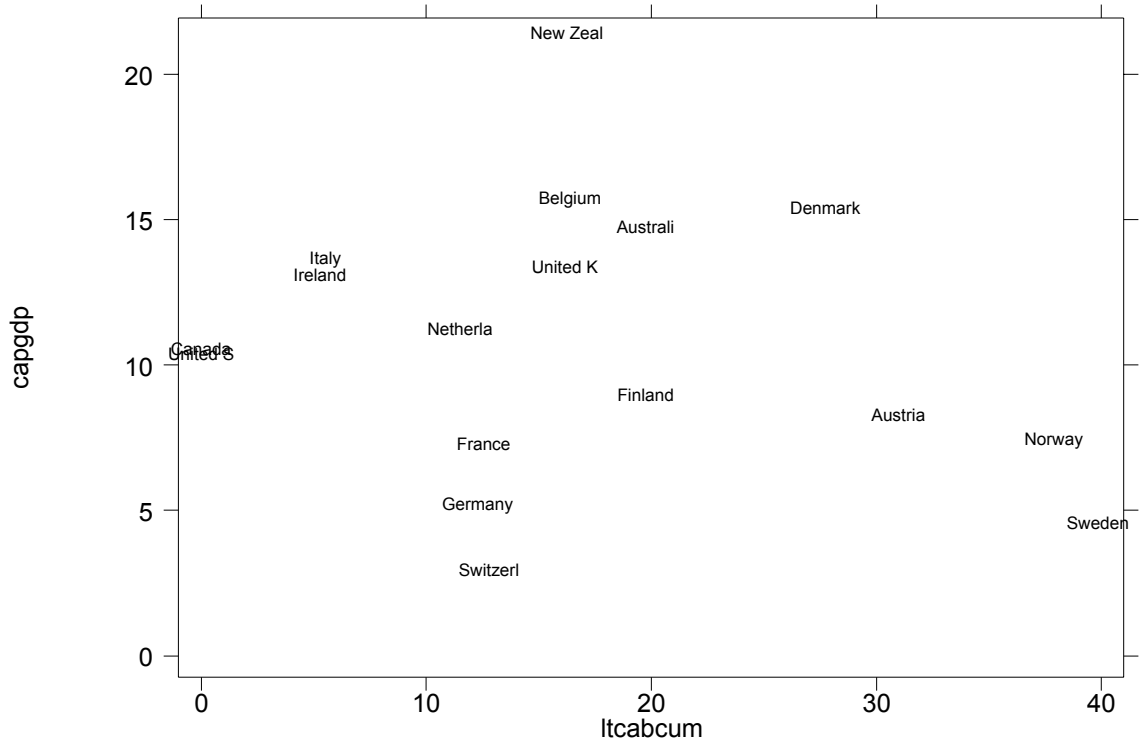


Figure 8: Revenue from capital taxes vs. total transfers (1995)

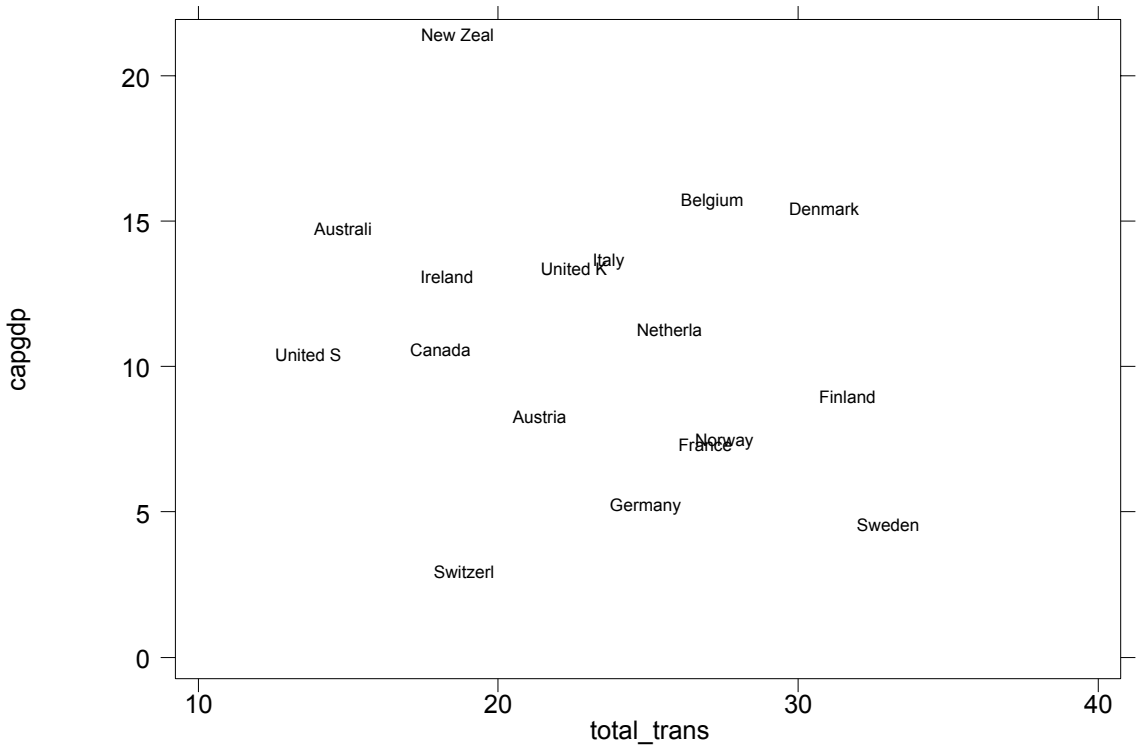


Figure 9: Revenue from capital taxes (1995) vs. cumulative right cabinet positions (1945-1995)

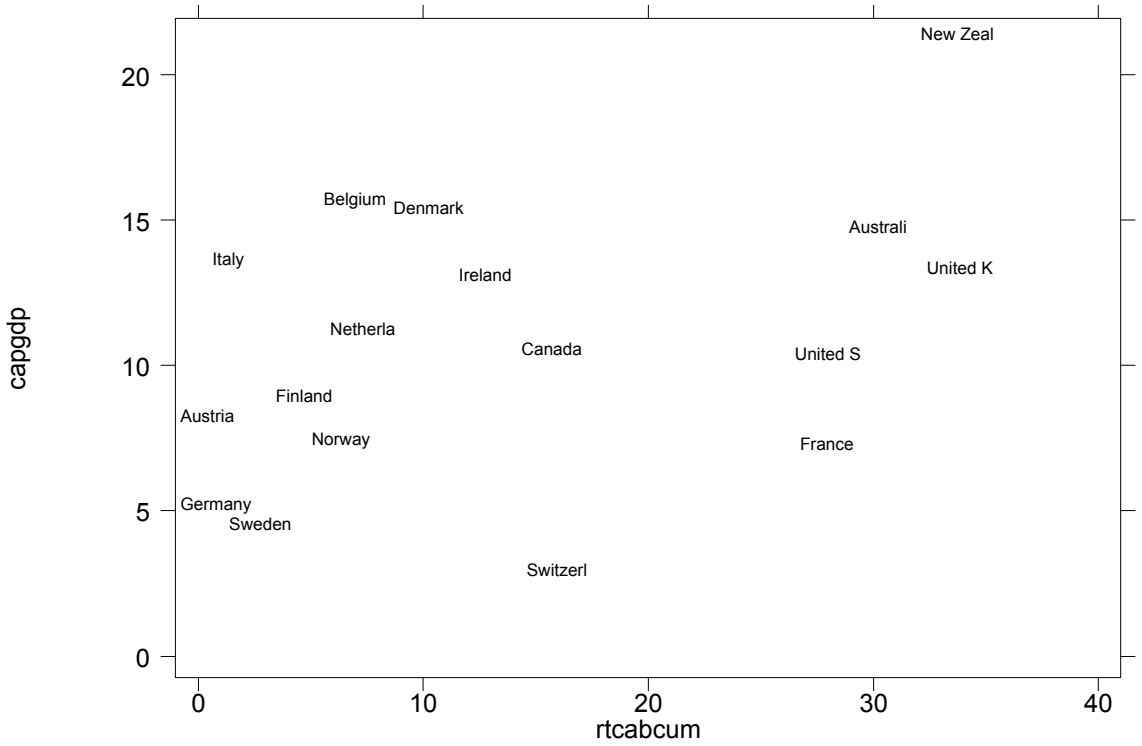


Figure 10: Total transfers (1995) vs. cumulative right cabinet positions (1945-1995)

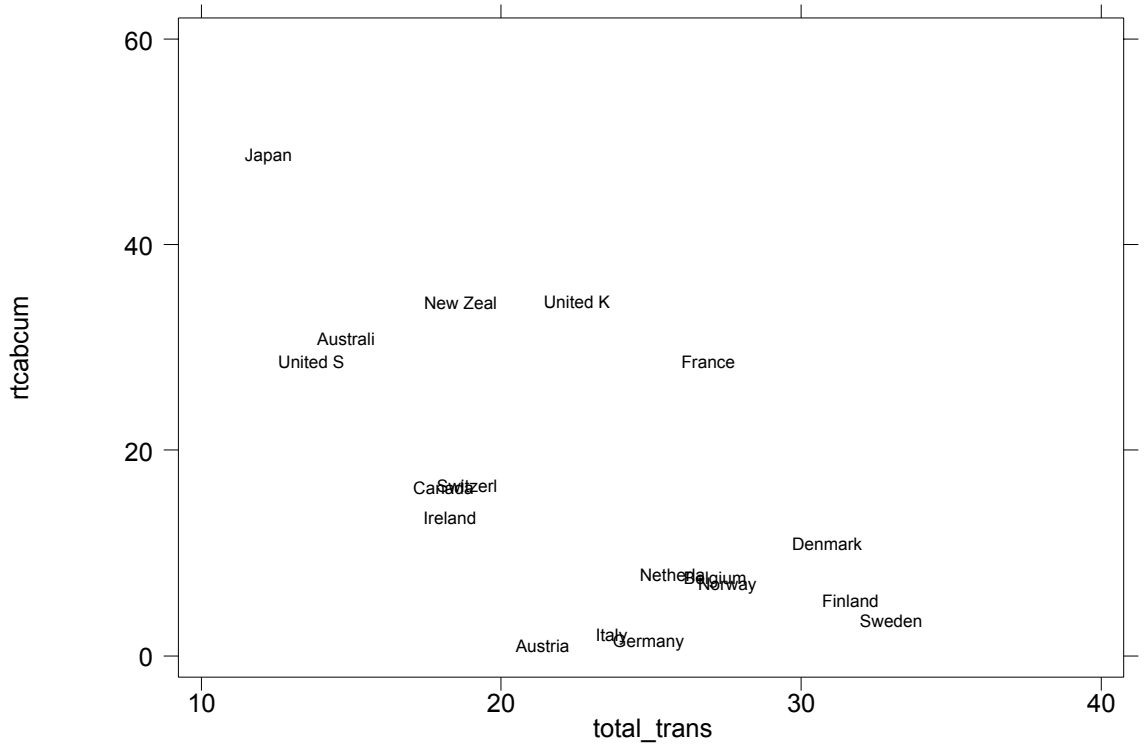


Figure 11: Corporate Tax Revenue (1990) vs. cumulative right cabinet positions (1945-90).

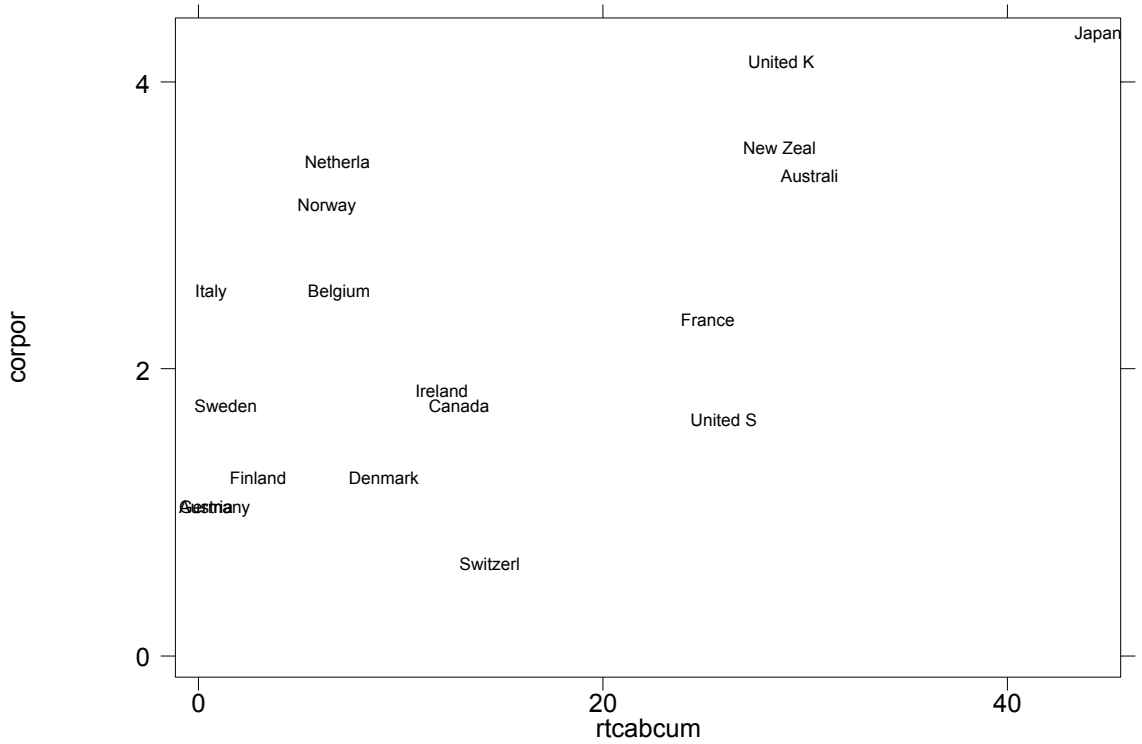


Figure 12: Excise tax revenue (1990) vs. cumulative left cabinet positions (1946-90)