Taxing work

THOMAS R. CUSACK[1] & PABLO BERAMENDI[2]
[1]*Wissenschaftszentrum Berlin für Sozialforschung, Germany;* [2]*Syracuse University, USA*

Abstract. This article examines the development of tax regimes across OECD countries in the latter part of the twentieth century. It gives particular emphasis to taxes on labour income. Taxes on labour income represent a major drain on private households. They have become the mainstay of many of these countries' public sector finances. Taxes on labour income rather than on capital appear to be the preferred instrument of finance for those economic and political interests that advocate and support a strong (and thereby expensive) welfare state. There is little 'free lunch' to be had in these welfare states; if anything, 'socialism in one class' seems to be the rule. Coordinated market economies tend to impose higher tax rates on labour because they have higher levels of wage coordination, their governments are more likely to be oriented to the left and their executives are relatively weak in relation to their legislatures.

Introduction

In recent decades, labour has carried an increasing burden of taxation in the postindustrial economies. What has been at work behind this development and what effect has it had on the labour market? In addressing these questions, we briefly discuss the problem of measuring the effective tax burden on labour and others within the economy, and demonstrate how, in general, the tax regimes of OECD economies have changed from the mid-1960s through the mid-1990s. We then set out an argument showing why taxes on labour income vary across countries and over time. Finally, we assess the empirical strength of this argument.

A number of results emerge from this examination of labour taxation policy. First, taxes on labour income represent a major drain on private households and they have become the mainstay of developed countries' public sector finances. Second, taxes on labour income, rather than on capital, appear to be the preferred instrument of finance for those economic and political interests that advocate and support a strong (and thereby expensive) welfare state.

Published by Blackwell Publishing Ltd., 9600 Garsington Road, Oxford, OX4 2DQ, UK and 350 Main Street, Malden, MA 02148, USA

Tax structures in the OECD

Scholars and international institutions have sought to quantify taxation policies by constructing different measures of average effective tax rates (AETRs).[1] Such measures have the advantage over traditional indicators (e.g., revenues obtained from a particular source of income expressed as a percentage of Gross Domestic Product, GDP) in that they are better (but admittedly imperfect) indicators of tax policy with respect to different and specific kinds of income and other economic stocks and flows than measures that compute the ratio of a tax category to GDP. Conventionally, to assess the burden of a particular class of taxes, scholars calculate a tax ratio that shows the magnitude of the category of taxes being collected relative to the size of the overall economy, usually measured by GDP (or Gross National Product, GNP). While neither uninformative nor useless, such a broad measure fails to deal adequately with the burden of the tax category on those actually paying it. A measure of national income (or product) is a societal-wide measure. If the tax base is narrower, the burden is actually greater than is reflected in the conventional measure, and the dynamics of the burden are also not reflected because the actual tax base may grow or shrink relative to the overall societal-wide product.

In order to get at the many rich theoretical and policy questions, the conventional approach is clearly distortionary. AETRS eliminate this distortion. An effective tax rate is calculated as the ratio between the tax revenues collected on particular taxes and the corresponding tax bases that can be obtained from detailed national accounts statistics (see Lucas 1990; Mendoza et al. 1994). The denominator of the measure is designed to reflect the actual base out of which the taxes are taken. Similarly, the nominator is usually closer to the actual tax yield than the more broadly gauged measures. Neither AETRs nor the broader measures can escape the fact that they are average measures.

The OECD in particular has been concerned with the issue of labour and capital taxation, and has been in the lead on charging that capital has been overtaxed relative to labour. In order to compute labour and capital AETRs, it is first necessary to calculate the overall average tax rate on household income. In the case of the Mendoza et al. formulation used here, this variable is equal to taxes on income, profits and capital gains of individuals expressed as a percentage of gross income (Volkerink & DeHaan 2001). The latter is defined as the sum of unincorporated business net income, household income, dividends and investment receipts, and compensation of employees less employers' social security contributions and employers' contributions to private pension plans. With this rate, and with a wage variable that is equal to

compensation of employees less employer contributions to public social insurance and private pension schemes, one can compute the AETR on labour.

The AETR on capital based on the Mendoza et al. version used here draws on unincorporated business net income, household income, dividends and investment receipts, corporate taxes on income, profits and capital gains of individuals, recurrent taxes on immovable property, taxes on financial and capital transactions, and the overall economy's operating surplus. The OECD variants differ from the Mendoza et al. AETR measures on labour and capital in a number of ways (see Carey & Tchilinguirian 2000; Volkerink & DeHaan 2001).

However, at the level of aggregation used in Figure 1 (i.e., OECD-wide averages), there turns out to be only one detectable difference among the three versions – the level of the AETRs (and not their time trajectories) all show similar upward trajectory except that the Mendoza et al. measure is larger than the OECD variants. All of the measures rose almost unabated through the three-decade period under observation. The cross-country average using the Mendoza et al. measure grew from 24.1 per cent in 1965 to 39.5 per cent in 1995. For the two OECD labour income AETRs, the corresponding figures are 22.1 per cent in 1965 to 36.1 per cent in 1995 and 21.5 per cent in 1965 to 35.6 per cent in 1995.

Along with the upward trajectory of the labour income AETRs, a common tendency during this three-decade period was for the alternative labour tax

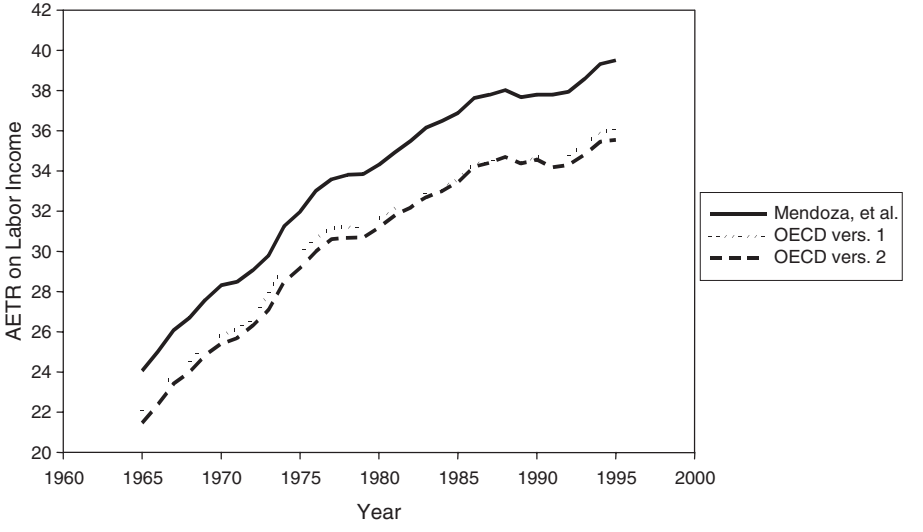

Figure 1. Average effective tax rates on labour income: cross-country averages, 1965–1995.

bases to increase initially and then to fall back to levels near where they started. Figure 2 shows the evolution of the three tax bases as a share of GDP between 1965 and the late 1990s. As mentioned above, the compositions of the different tax bases used in calculating these AETRs vary. These variations are reflected in the tax revenues measured as shares of GDP. On average, Mendoza et al.'s measure uses the smallest base. Again, the three series have followed similar time trajectories. All expanded in relative terms through to the late 1970s and then reversed direction generally returning to levels close to those that prevailed in the mid-1960s.

These two developments – the relentless growth in the AETR, and the growth and then decline in the base against which these tax rates are applied – have helped create the situation where labour income has come to provide a much larger share of the total resources the public sector extracts from the economy. Whereas in 1965, 11.5 per cent of GDP was taken in form of taxation on labour income by the state, that level had risen to nearly 20 per cent in 1995. Even higher levels are to been seen in the two OECD series on labour AETRs. In one, the share of GDP going to the state in the form of taxation on labour income rose from about 12 to approximately 21 per cent in the period from 1965 to 1995. Using the other OECD measure, this share grew from about 15 per cent to nearly 24 per cent of GDP.

As a consequence of these developments, the tax regimes of the OECD countries have come to rely extensively on labour income. By the end of the 1970s, taxes on such income amounted to approximately 50 per cent of all tax

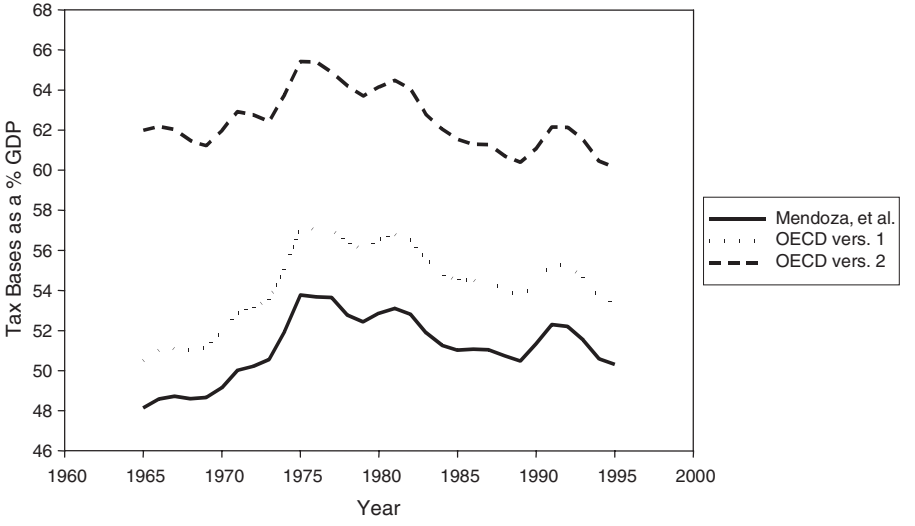

Figure 2. Relative sizes of labour income tax bases: cross-country averages, 1965–1995.

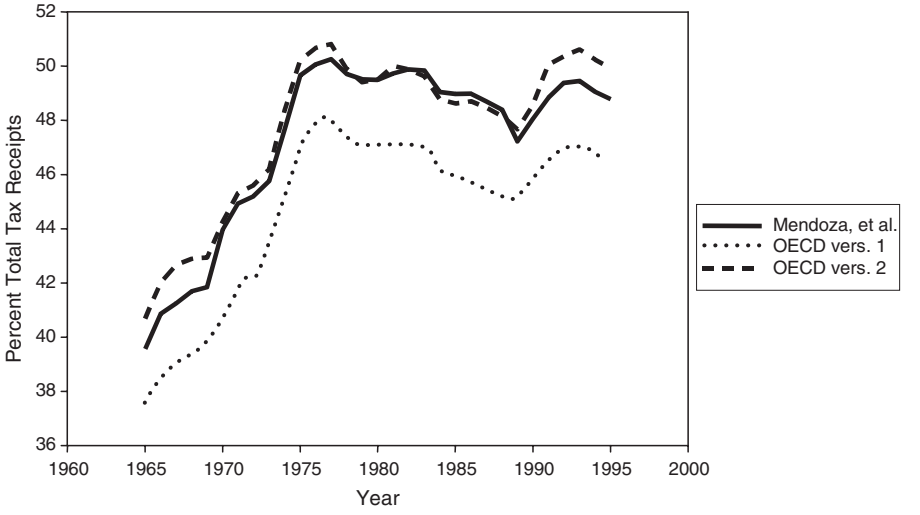

Figure 3. Tax on labour income as a percentage of total tax revenues: cross-country annual averages.

revenue garnered by the public sector (see Figure 3). Note, however, that there are important differences across these countries in terms of the structures of their tax regimes (see Table 1). For example, among the group of nations considered to have Liberal Market Economies (LMEs) (Hall & Soskice 2001), there is a clear tendency to avoid heavy taxation on consumption and labour, and rely to a greater extent on capital for tax receipts. And while labour income has come increasingly under taxation within this group of countries, the rates are nowhere near as high as those found within Coordinated Market Economies (CMES). The latter being particularly heavy-handed in terms of their extractions on consumption outlays, while much lighter of touch than LMEs in the taxes they extract from capital.

This tendency for CMEs to tax labour more heavily than capital appears to be a fairly consistent pattern across the tax regimes of the OECD countries. Rather clear evidence on this is given in Figure 4. This shows that CMEs have tax regimes that place higher AETRs on labour than on capital, while LMEs do the opposite.

We know that CMEs also tend to have larger and more generous welfare states than LMEs (Estevez-Abe et al. 2001). In turn, then, it would appear to be the case that CMEs are financing their generous redistributive programmes mainly by taxing the recipients of those programmes rather than taxing recipients of other income sources. This point is clearly conveyed by Figure 5, where the relation between labour taxation (Mendoza et al. 1994) as a percentage of

Table 1. National tax regimes in Liberal and Coordinated Market Economies, 1965 and 1995: AETRs on consumption, labour income, capital income and corporate profits (Mendoza et al. and OECD, version 2)

		Mendoza				OECD			
	Year	Cons.	Lab.	Cap.	Corp.	Cons.	Lab.	Cap.	Corp.
LME average	1965	10.4	15.4	35.3	27.4	10.9	14.4	45.8	36.5
	1995	10.9	26.5	44.8	31.7	10.5	23.9	56.6	49.0
CME average	1965	14.6	27.5	19.1	24.0	13.2	24.6	28.8	29.6
	1995	17.9	44.7	32.2	26.1	13.5	40.2	42.9	30.4
Individual LMEs									
United States	1965	6.4	15.4	36.8	30.4	6.5	14.0	47.1	46.3
	1995	5.6	26.6	41.1	24.2	5.7	22.5	49.0	39.3
Canada	1965	13.0	12.2	36.0	28.7	14.3	11.5	50.1	29.0
	1995	12.2	32.8	47.2	20.1	11.5	29.8	56.3	24.0
United Kingdom	1965	13.3	21.5	36.9	12.2	12.5	20.1	43.1	29.5
	1995	16.9	24.8	46.8	41.2	15.0	22.0	63.3	65.4
Australia	1965	8.7	12.4	31.3	38.2	10.3	12.2	43.0	41.2
	1995	8.8	21.7	44.2	41.3	10.0	21.1	58.0	67.3
Individual CMEs									
Netherlands	1965	–	33.7	22.2	18.6	12.7	28.5	27.1	18.6
	1995	18.2	50.6	28.1	21.8	16.0	40.8	37.8	21.8

Belgium	1965	–	28.7	17.5	17.0	15.0	24.4	21.3	17.0
	1995	16.6	47.1	36.2	29.4	15.0	39.3	44.6	29.5
France	1965	22.4	34.4	15.9	38.9	18.1	26.8	23.7	72.3
	1995	19.9	47.2	27.9	27.7	15.5	40.8	35.4	44.5
Switzerland	1965	5.7	19.3	14.4	12.0	5.9	–	–	15.6
	1995	–	34.5	31.8	23.7	7.8	31.1	49.5	29.4
Germany	1965	15.9	29.3	20.7	9.0	14.6	26.4	23.3	12.1
	1995	16.7	42.7	25.0	5.1	14.1	38.1	30.1	7.6
Austria	1965	17.9	35.3	14.8	5.6	13.9	38.5	22.0	8.2
	1995	19.0	48.0	22.4	7.4	14.2	57.0	45.6	9.8
Italy	1965	12.4	24.3	12.8	48.2	13.7	14.9	42.6	48.2
	1995	15.7	47.1	32.6	51.4	14.1	36.5	41.1	58.2
Finland	1965	17.1	22.3	22.5	31.8	16.8	19.0	37.1	44.8
	1995	26.1	49.8	32.1	15.3	17.3	46.5	33.5	18.0
Sweden	1965	16.4	32.7	30.0	24.7	14.5	30.6	32.3	24.8
	1995	22.5	52.5	41.4	27.7	15.0	47.9	45.5	33.6
Japan	1965	5.7	15.1	20.4	33.9	7.0	12.3	30.0	33.9
	1995	6.0	27.7	44.3	51.3	6.2	24.1	66.6	51.3

Notes: – data not available. Corporate income AETR in right-hand panel based on Volkerink and deHaan's definition; all other OECD AETR's are based on Carey and Tchilinguirian's formulations.

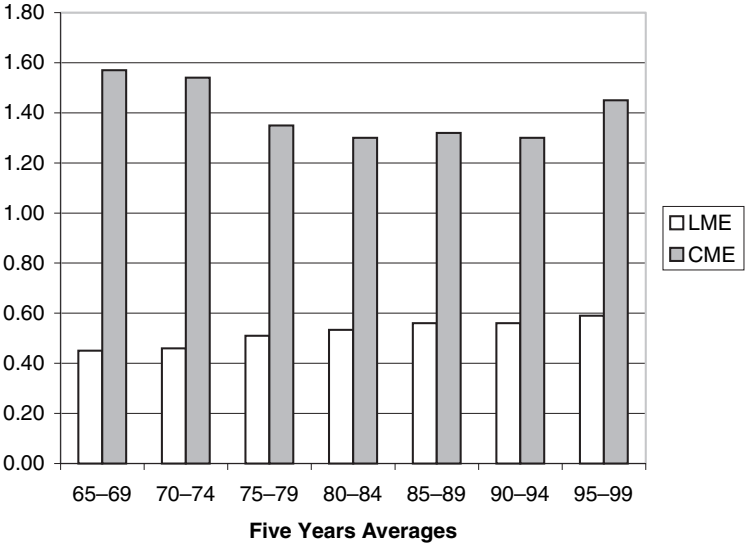

Figure 4. Labour to capital AETR ratio: LME versus CME.

GDP, and the share of GDP that governments transfer to households, is displayed.

This relationship between taxes on labour and transfers to households is puzzling. In general, the presence of social democratic parties in power is more likely in a CME than it is in an LME. In this context, one would think that redistribution involves not only a progressive income tax, but also, particularly from a social democratic perspective, an effort to make transfers between income classes (labour and capital). And yet CMEs consistently finance their social protection systems by taxing mainly labour. This puzzling situation prompts the following question: Why is it that CMEs are far ahead of LMEs in taxing labour income as opposed to other sources of revenues?

Setting tax policy

Our answer to this question is that welfare policy within OECD countries is principally a matter of redistribution within one class. One of the main policy instruments used to achieve this is taxation on labour income. In this section, we outline the forces at work in shaping this policy and pay particular attention to specific institutional features of the economic and political systems and how they contribute to the creation and maintenance of this policy.

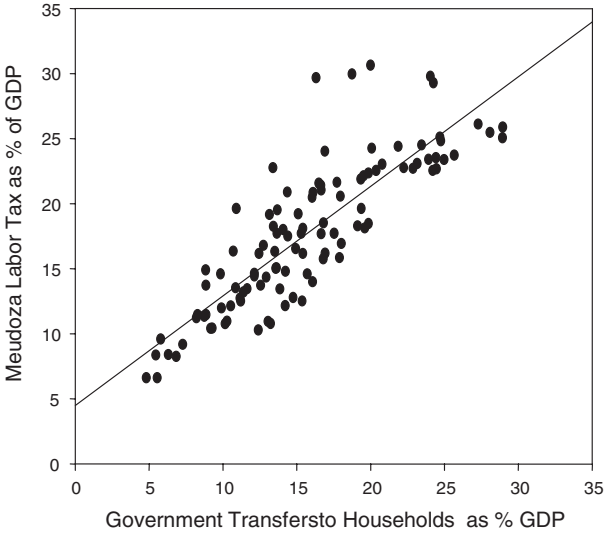

Figure 5. Government transfers and labour tax receipts (Mendoza): 14 countries, six five-year averages.

A central feature of the organization of the economy is the degree of wage coordination between capital and labour; indeed, this is conventionally regarded as a crucial aspect of the difference between LMEs and CMEs (Hall & Soskice 2001). Let us consider briefly the nature of such differences and their implications for labour income tax policies. LMEs rely heavily on markets as the main mechanism to allocate resources. In LMEs, firms coordinate their activities via competitive market arrangements. Relations between capital and labour are organized by individuals, and not by associations. Capitalists value their capacity to adjust to market fluctuations. So too does labour by investing in portable, general skills. Neither has an incentive to coordinate outside the market. Alternatively, markets are organized very differently in CMEs. Firms find incentives to coordinate with unions and the government around a fundamental 'non-market based' equilibrium between capital and labour. An equilibrium such as this becomes politically effective via the wage coordination compromise between capital, labour and the government.

By virtue of this compromise, labour agrees to restrain wage demands, thereby contributing to lower inflation and better economic conditions, but most importantly for itself, it gains a degree of income insurance for workers (see Cameron 1984; Regini 1984; Wallerstein et al. 1997; Wallerstein & Golden 2000). Government uses fiscal policy to compensate labour for its sacrifice and thereby reduces the costs of the compromise. It does this through a large welfare state that provides labour with an insurance system that guarantees

both a good income level in periods of economic downturns and longer-term earnings (pensions). In addition, labour unions obtain the capacity to ensure an egalitarian wage distribution and political control over the implementation of a large number of public policies (Coe & Snower 1997; Swenson & Pontusson 2000).

Coordination is beneficial for employers because it avoids the disruption in production associated with industrial disputes. In addition, the welfare state is also functional from the perspective of capitalists in that it contributes to the maintenance of a labour force with specific skills (Iversen & Soskice 2001). Finally, the employer's share of the compromise is to accept *solidaristic* wage policies and a large welfare state. In short, high levels of wage coordination imply that, in exchange for wage moderation on the part of labour, capitalists accept that the government (together with the unions) develops a large, very costly, public insurance system.

Because of the compromises involved in wage coordination, governments of CMEs, as opposed to those of LMEs, devote a larger share of their GDP to social transfers and public services (Estevez-Abe et al. 2001). As a result, governments in CMEs need to raise a larger amount of public revenues. This brings us to the relationship between the organization of economic institutions and the design of taxation structures. The question is who is going to bear the cost of the highly developed welfare states at work in CMEs? Our discussion in the previous section of the general patterns of taxation in OECD countries suggests that the answer to this question is mainly labour as opposed to capital. There are two reasons why this is the case. First, governments tax labour more than capital because taxing the latter has become increasingly difficult over time. The exits available to capital have grown in the modern era, thereby making it ever more difficult for government to tap this source of income (Genschel 2002; Ganghof 2003). Such has not been the case for labour. Mobility of this factor of production has been and remains quite limited. The second reason relates to wage coordination and the differences between CMEs and LMEs. It concerns the potential impact that different tax structures could have on the incentives of capital to maintain wage coordination with labour and, ultimately, to endorse the development of the welfare state. Simply put, if a tax structure were to place the cost of the welfare state on the shoulders of capital, it would eliminate the incentives for capitalists to coordinate with labour. High taxes on capital reduce firm owners' net profits, thereby harming investment and, in the long run, lowering economic growth. In such a case, the reduction in net income would outweigh the benefits obtained from coordinated wage bargaining.

These two points clarify why the cost of the welfare state must be carried principally by labour – a necessary evil for labour. Getting the benefits pro-

vided by a generous welfare state only comes at the price of paying its cost. This trade-off is one of the hallmarks of a CME. The constraints on capital income taxation and the opportunity costs they impose are also relevant to an understanding of the role of partisanship in shaping the variation in tax policies of OECD countries. Political parties at different ends of the ideological spectrum promote the interests of different groups of supporters and hold opposed views as to what the desirable level of redistribution should be.

Since the path-breaking contributions of Hibbs (1977, 1987), scholars endorsing the partisanship approach to public policy have argued that social democratic and other left-wing parties tend to promote the interest of labour, while conservative parties tend to promote the interests of 'upscale' groups. Generally, promoting the interests of labour is understood as taxing and spending more, whereas advancing the interests of upscale groups is seen as taxing and spending less. Thus, it is reasonable to expect a great deal of the variation in public policy outcomes to be the result of the ideological profile of the parties in control of government. For example, Esping-Andersen (1985) provided a detailed analysis of how Scandinavian social democrats used the welfare state to forge stable electoral coalitions leading them to, and keeping them, in power. In addition, many other students of comparative political economy have produced a great deal of evidence supporting the claim that left-/right-wing parties provide higher/lower levels of redistribution (Hibbs 1992; Franzese 2002; Bartels 2003).

The general evidence on the effects of partisanship is difficult to dispute (for a dissenting and critical view, see Blais et al. 1993; Imbeau et al. 2001). Nevertheless, the existence of the above-mentioned trade-off between redistribution *within labour* and redistribution *between income classes* qualifies our understanding of the relationship between partisanship and redistribution in the following sense. Reflecting the *structural dependence* of the state on capital, a large welfare state is only viable under the condition that capital not be taxed too heavily[2]. Thus, greater redistribution by left-wing governments should lead to higher levels of taxation on labour. Simply put, left-wing governments cannot promote the interests of labour by financing generous transfers with taxes on capital income. Rather, the policy choice is about the promotion of the interests of different types of workers. By choosing to combine very generous transfer policies with high levels of labour income taxation, left-wing governments stand for the interests of the lower part of the wage distribution. In contrast, by choosing a strategy based on reduced levels of generosity and lower tax rates on labour, right-wing governments promote the interests of high wage and salary earners, those who would bear the greatest costs under progressive income tax schemes. Provided one or another party is in office for a sufficiently long period, these two different strategies

should become sharply reflected in the taxation policies of OECD governments (see Steinmo 1993 – it should be pointed out that the results reported in Boix (1999), Swank and Steinmo (2002) and Bretscher and Hettich (2002) are not fully consistent in showing how partisanship influences tax policy).

Nonetheless, the clarity of the reflection is contingent upon specific aspects of the design of political institutions (see Schmidt 1996, 2002). Some of these institutions facilitate the unencumbered translation of ideological preferences into policy outcomes. Other institutional settings have both incentives and constraints that moderate or mute this translation. The rich literature on veto players and veto points is an illustration of this general proposition. For example, Tsebelis' (1995) theory of veto players points out how the presence of such actors militates against significant policy change. Huber et al. (1993: 728) and Huber and Stephens (2001) produce evidence that the number of institutional veto points existing in a country has a constraining effect on the levels of welfare effort (see also Schmidt 2000, 2002; Obinger & Kittel 2003; Cusack & Fuchs 2003). More qualitatively, Immergut (1992) shows how health policy outcomes in France, Switzerland and Sweden were affected by the structure of legislative veto points existing in these countries. All these contributions suggest that the translation of party platforms into public policies is far from automatic. While partisan differences exist, the size of these differences in terms of public policy is likely to depend on the pattern of executive-legislature relations and, in particular, the relative power of these two institutions in the setting of public policy.

Ultimately, the relative power depends upon the electoral system in use. For a variety of reasons (Lijphart 1999), strong executives seem to emerge in those political systems that use majoritarian voting rules. Likewise, weak executives (and, correspondingly, strong legislatures) have emerged in political systems that rely on proportional representation. How does this difference shape partisan effects on tax policy? Assuming that majoritarian electoral systems simplify elections to a competition between two major alternatives (Duverger 1954; Cox 1997) and that preferences about taxation can be subsumed into a single dimension, then the median voter theorem applies. In order to win the election, parties on both sides of the ideological spectrum must articulate their platforms and policies around the position of the median voter. As a result, the scope for partisan differences in majoritarian electoral systems is constrained by the nature of political competition; therefore one would see modest differences between left and right policies.

Electoral systems based on proportional representation (PR) shape political competition in exactly the opposite direction. In contrast to majoritarian systems, policy outcomes are expected to reflect positions further away from the median voter on either side of the ideological spectrum. As a result,

the partisan effects on policy outcomes will be sharper. In order to justify this claim we make use of a simplified version of the model developed by Austen-Smith and Banks (1988). Consider a legislature with three parties (P_K). Subscript K defines the ideological position of the parties (K = {L, C, R}), where subscripts L, C and R stand, respectively, for left, centre and right. Each party has a weight (W_K) that represents the share of seats in the legislature. Thus the weighted ideological profile of the legislature is given by $\Sigma P_K * W_K$.

The process of government formation is driven by parties' positions on a single dimension – namely, taxation policy. How do they bargain and what is the likely policy outcome? To answer this question, it is necessary to introduce a number of assumptions. First, parties have perfect information. Second, the sequence of the game between these three parties in the legislature is as follows. In the first stage of the game, t = 1, the party with the largest number of seats proposes a coalition. The proposal may be accepted or rejected. If the first proposal is rejected, then at time = 2 the party with the second highest number of seats proposes a different coalition. In case of failure, the party with the lowest weight gets to propose at time = 3. If no agreement is reached, a 'special' government is formed such that the payoff for the three parties is 0. Figure 6 provides a graphic representation of the bargaining process. Finally, we take as given the result proved by Austen-Smith and Banks (1988: 416–417) that in PR systems the party adopting the position of the median voter (WC) is the one that receives the lowest number of votes.

Each party's *strategy* consists of two elements: a proposal (ϕ_K) and a response to proposals by others ($r_K \rightarrow \{0,1\}$, where 0 means rejection and 1 acceptance of any given proposal). ϕ_K contains three elements itself – namely, a proposed set of coalition parties (C), a policy position (p_K) and a (proposed) distribution of portfolios between the parties in the coalition (g_K). In turn, the selection of a particular strategy is a function of the *utility* parties derive from the proposals to agree on a particular taxation policy and the *opportunity cost* attached either to the proposal itself (in the case of the proponent party) or to the response (in the case of the potential coalition partner). The opportunity costs are defined as the payoffs that would have been obtained should the party have chosen differently. For instance, the opportunity cost of a party accepting a proposal at t = 2 is the payoff that the party would have obtained from the outcome implemented at t = 3. In sum, the opportunity costs depend on the responses of parties to the proposals made at each stage. Let $\alpha(\phi) \rightarrow \{0,1\}$ represent the product of party responses to any given proposal ϕ at stages 1 to 3 in the model.

More formally, the utility that any given party P_K derives from a proposal ϕ_K at time t is defined by

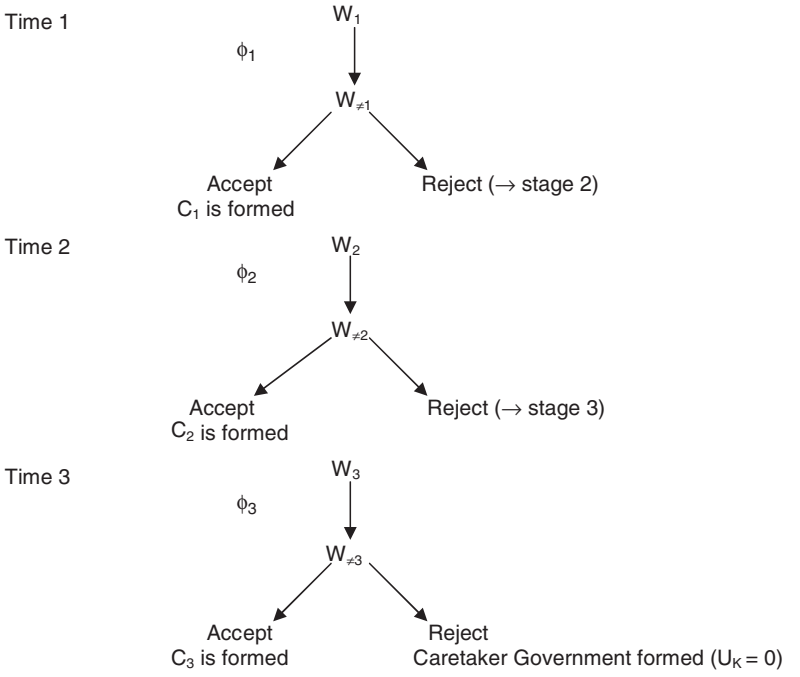

Figure 6. The sequence of the bargaining process ($W_1 > W_2 > W_3$).

$$U_K(\phi_K) = U_K(p_K, g_K) * \alpha(\phi_K) \tag{1}$$

where the functional form of U_K is set by Austen-Smith and Banks (1988) to be quasi-linear on g and quadratic on the differences between the expected coalition outcome (y) and the preferred policy position of each party.

$$U_K(p_K, g_K) = g_K - (y - p_K)^3 \tag{2}$$

Subsequently, the opportunity costs at the different stages (OC(s)) of the game are defined by:

$$\left.\begin{aligned} &OC(3)_K(\phi_K, r) = 0 (\text{by assumption}) \\ &OC(2)_K(\phi_K, r) = \alpha_3(\phi_K) * U_K(p_3, g_3) \\ &OC(1)_K(\phi_K, r) = \alpha_2(\phi_K) * U_K(p_2, g_2) + (1 - \alpha_2(\phi_K)) * OC(2)_K \end{aligned}\right\} \tag{3}$$

The interaction between the three parties is modeled as a legislative bargaining game with perfect information. In this context, a coalition will be in equilibrium if there is a proposal (ϕ^*) that maximizes the utility of the proponent party and a response by the joining party ($\alpha^* = 1$) that maximizes the joining party's utility.[3] For the purposes of our argument, the key aspect of this model

concerns the nature of the policy outcome of the bargaining solution. By establishing the characteristics of the policy that satisfies the equilibrium condition, the model highlights how the nature of political competition in PR systems reinforces partisan effects while dampening those effects in majoritarian systems.

Let us illustrate the nature of policy outcomes by considering first a specific case in which no party holds the majority (W_L, W_C, $W_R < {}^1/_2$) and the ranking of voting shares is $W_L > W_R > W_C$ (recall that, by assumption, the ranking of seats shares would be either $W_R > W_L > W_C$ or $W_L > W_R > W_C$). At time t = 1, P_L offers a coalition proposal to P_C. It is not offered it to P_R because of the anticipation of a negative response. Given that at time = 2 it is P_R who gets to propose, the opportunity cost of accepting a proposal at time = 1 is very high (see expression 3-OC(1) above), which in turns implies that in order to gain P_R's acceptance, P_L would have to make such concessions that the coalition outcomes would no longer be optimal. Thus P_L chooses y and g_L to maximize its own utility and the chances of getting a positive response from P_C. More formally, making use of expression 2 above, P_L chooses y and g_L to maximize the joint utility of the proposed coalition partners:

$$\text{Max } g_L - (y - p_L)^2 + \left(G - g_L - (y - p_C)^2\right) \tag{4}$$

where G stands for the total number of portfolios in the coalition. Solving this problem, the coalition policy outcome required to obtain an equilibrium is such that

$$y^* = (p_L + p_C)/2 \tag{5}$$

which implies that the taxation policy implemented by this coalition government would be in between the preferred policy positions of the left-wing party and the party representing the position of the median voter. A symmetrical result would be obtained if the ranking shares of parties were $W_R > W_L > W_C$. Alternatively, if at t = 1, one party holds the majority in the legislature ($W_k > {}^1/_2$), no bargaining between parties occurs. Under such circumstances, the policy outcome will reflect the policy position that maximizes the utility of the members of the winning party ($y^* = p_K^*$), which, in turn, corresponds to that of the median legislator within the winning party. Regardless of the side of the ideological spectrum being considered, this position would always be further away from the median than in majoritarian systems.[4]

In conclusion, whereas in majoritarian systems public policy will be oriented towards satisfying the median voter, in PR systems policy will appeal to the median supporter of the winning coalition, who need not be the median voter. In the latter case, partisan preferences are more clearly reflected in policy outcomes. What does this imply? We should expect that where strong

executives exist, the partisan effects on policy outcomes will be muted. As a consequence, one would see modest differences between left and right policies. On the other hand, partisan preferences will be given fuller rein in systems where the legislature is dominant and the executive weak. Tax policy will more fully reflect the partisan preferences of the dominant parties in the legislature and not in the electorate.

To sum up, our analysis of the determinants of labour income tax policy has pointed out a fundamental trade-off: large levels of redistribution on the expenditure side need to be funded mainly by taxing labour income. By implication, those factors conventionally associated with larger levels of redistribution should be found positively associated with higher tax rates on labour. More specifically, the following testable propositions can be derived from our argument:

- A high level of wage coordination is expected to be positively and significantly associated with higher tax rates on labour.
- Left-wing governments are expected to be positively and significantly associated with higher taxes on labour. Alternatively, right-wing governments are expected to produce lower taxes on labour.
- The magnitudes of these partisan differences are expected to be larger in political institutional settings where the legislature is dominant and the executive weak.

Empirical analysis

In this section, we provide an empirical test of these three propositions, but first we will specify the control variables in our analysis and say something about the data and design used. In addition to the variables considered in the main part of our argument, the empirical specification of the determinants of AETRs include a number of controls. First, we include the level of *electoral participation*. We hypothesize this variable to be negatively related to the AETR on labour income. The general line of argument here is that higher levels of electoral participation bring in more voters who are averse to high tax rates on labour; this in turn signals to politicians the increased electoral unpopularity of such a policy and should result in lower tax rates on labour.

The general point can be seen by considering those that normally vote and those that do not. For example, one group with high rates of electoral participation is the very rich; these people are happy to support high labour tax rates, and are likely to lower their own tax rates. High-income earners also can be expected to support higher tax rates on labour since they themselves have both

the resources and the incentives to use legally the complexities of the tax system to avoid being taxed. They also normally vote. The unemployed and retired are net recipients of transfers. It is in their interest to support high taxes on labour since this leads to higher income for them. Certainly the latter group, which is very large and known for its widespread electoral participation, would support higher taxes on labour income sources as long as the transfers they receive increase. On the other hand, medium- and low-income earners have good reason to be averse to higher labour income tax rates in that earnings from labour represent their only income source and an increase in this rate implies a greater loss. It is this group of voters who are likely to be fluctuating between participation and non-participation. Movement in the direction of the first option would increase the level of voter resistance to taxation on labour, while movement in the other direction would lower that resistance.

Next we need to take into account the effects produced by the *generosity* of welfare programmes. The current levels of generosity reflect previous policy decisions on the scope of the welfare state. Thus, such decisions affect the government's budget constraint in a way that is to a large extent independent of its current ideological preferences. The budget constraint on governments implies that, other things being equal, an increase in the levels of generosity of welfare programmes (be it in the form of the rate of transfers or the eligibility for recipient status) must have a positive and significant impact on the levels of revenues extracted. Since labour income has been shown to be the main source of revenues for OECD governments during the period of interest, an increase in the levels of generosity is expected to be associated with an increase in the levels of AETRs on labour.

Finally, we consider variation in the size of the *demographic burden*. This variable captures the effect of both the business cycle and structural demographic transformations. The business cycle, reflected in variations in unemployment – one of the components of the demographic burden – helps shape the AETR on labour income. So, too, does the other component of the demographic term: the structural demographic factor of population aging. The effect of the demographic burden term on the level of the AETR on labour income is expected to be positive. The higher the share of the population dependent on the state, the greater the need for the latter to extract revenues from the economy. As in the case of generosity, this requirement to extract further revenues is expected to lead to an increase in the AETR on labour.[5]

In an effort to evaluate the empirical utility of these ideas, we have specified a panel regression equation and estimated it using data on 14 OECD countries for six five-year periods.[6] The equation takes the following form:

$$LTR_{it} = \alpha + \beta_1 CCOG_{it} + \beta_2 LCOG_{it} + \beta_3 LEG_i + \beta_4 LCOG_{it} * LEG_i + \beta_5 EP_{it} + \beta_6 WC_{it} + \beta_7 DB_{it} + \beta_8 GEN_{it} + \varepsilon_{it}$$

Table 2 provides definitions of the variables specified in the equation.

Estimation results for this equation using OLS are reported in Table 3.[7] The estimated effects are similar across the three different data series used and so we focus our attention on the results reported in the first column. In general, the fit of the equation to the data appears satisfactory in all three instances. One problem, however, shows up in the two OECD series that is not evident in the case of the Mendoza data series – namely, there is some evidence, using the Lagrange multiplier test, of autocorrelated error.

With the Mendoza data, as with the OECD series, we see that all of the parameters for the control variables take on the signs expected of them and are statistically significant. Thus, both the prevailing level of generosity of the welfare state, as well as the relative size of an important part of the welfare state's clientele, have the predicted positive impacts on the level of the AETR on labour income. In addition, the anticipated negative effect of widespread electoral participation is registered. The higher the level of electoral participation, the lower the rate of taxation on labour income.

The impact of wage coordination on labour tax rates is positive (and statistically significant) as predicted. Thus, industrial relations systems with structural features that allow or promote highly coordinated wage bargaining will be marked by far higher tax rates on labour income than those systems where little or no such features exist. Given the parameter estimate (in column 1), a system with centralized bargaining by peak confederations would likely have, depending on the restrictiveness of the wage bargaining agreement (Kenworthy 2001: 79), an AETR on labour six to eight percentage points higher than a system with fragmented wage bargaining confined to individual firms or plants, all else being equal.

Examining the estimated parameters on the individual partisan and institutional variables in the model allows one to build up a picture of the degree to which partisanship affects tax policy and how the institutional context mutes or amplifies this effect. First, let us examine the effects of partisanship. We have a partisan term describing the cabinet and one describing the legislature. The parameter on the cabinet term is positive and statistically significant. Given the measure being used for the partisan character of the cabinet, this parameter implies that leftist governments have policies that entail higher levels of AETRs on labour income as predicted. On the other hand, the parameter on the partisan character of the legislature turns out to be negative, although statistically insignificant.

Table 2. Variables in model predicting AETR on labour income

Variable label	Variable definition
LTR_{it}	Average effective rate of taxation on labour income, period average. Three variants from Mendoza et al. and OECD. Data used for construction of these series derived from the OECD's National Accounts of OECD Countries, Detailed Tables, Volume II, various years.
$CCOG_{it}$	Cabinet centre of political gravity, average for period. This is a weighted measure of political orientation of the governing coalition's ideology using the Castle-Mair codings of parties' positions on a left-right scale. The data for this and the LCOG variable are described in Cusack (1997) and available online at: www.wz-berlin.de/mp/ism/staff/cusack_data_sets.en.htm#data.
$LCOG_{it}$	Legislative centre of political gravity, average for period. Similar to the cabinet measure, but based on the parties within the legislature.
LEG_i	The extent to which parliament dominates the executive: based on Lijphart's (1999) executive-parties dimension. This (Lijphart's first dimension) distinguishes political systems on the bases of the relative frequency of minimal winning one-party cabinets, the effective number of parliamentary parties, the degree of executive dominance, the extent of electoral disproportionality and the degree of interest group pluralism. The factor score has to be transformed so that the value for the system with the most executive strength and least legislative strength is set to 0.
LOC_{it} *LEG_i	Interaction between legislative centre of political gravity and the executive-parties dimension
EP_{it}	Electoral participation: Average percentage of electorate participating in elections during period. The data on this variable derives from the Institute for Democracy and Electoral Assistance's website: www.idea.int/.
WC_{it}	Kenworthy's wage coordination index, period average. Variable ranges between 1 (fragmented wage bargaining) and 5 (centralized bargaining by peak confederations with peace obligation). Dataset available online at: www.emory.edu/SOC/lkenworthy.
DB_{it}	Demographic burden. Retired population and unemployed expressed as a percentage of total population, period average. Data based on information derived from various annual issues of the OECD's Labour Force Statistics.
GEN_{it}	Generosity of welfare system. The ratio of government transfers to households as a percentage of GDP to DB, the demographic burden. Period average. Data can be found online at: www.wz-berlin.de/mp/ism/staff/cusack_data_sets.en.htm#data.

Table 3. Panel estimation results for model predicting AETR on labour income (five-year averages; OLS)

	Mendoza AETRs	OECD (1) AETRs	OECD (2) AETRs
Cabinet Centre of Political Gravity	1.50*	1.80	1.85
	(0.84)	(1.18)	(1.18)
Legislative Centre of Political Gravity	–5.11	–1.50	–3.18
	(3.72)	(5.34)	(5.60)
Legislative Institutional Dominance	–16.57***	–21.7***	–24.20***
	(3.82)	(5.20)	(6.05)
Legislative Centre of Political Gravity * Legislative Institutional Dominance	8.77***	10.24***	11.38***
	(1.88)	(2.63)	(2.94)
Wage Coordination	1.96***	3.33***	3.55***
	(0.42)	(0.58)	(0.59)
Electoral Participation	–0.19***	–0.24***	–0.25***
	(0.04)	(0.05)	(0.07)
Demographic Burden	1.83***	1.75***	1.76***
	(0.12)	(0.17)	(0.17)
Generosity of Welfare Programmes	0.18***	0.15***	0.15***
	(0.01)	(0.02)	(0.02)
Constant	0.25	–1.97	0.18
	(6.20)	(8.66)	(8.64)
R^2	0.924	0.850	0.858
Observations	84	84	78
Countries	14	14	13
Time units	6	6	6
LM Test: serial correlation, p-value	0.106	0.040**	0.046**

Notes: Standard errors in parentheses. Significance level: *p< 0.10, ** p < 0.05; *** p < 0.01. Lagrange Multiplier test p-value below 0.05 rejects the absence of serial correlation at 95 per cent confidence interval.

This seemingly contradictory indication that leftist legislatures follow policies of lower taxation on labour needs to be seen in light of the fact that the effect of the partisan character of the legislature is contingent on the relative institutional strength of the legislature. The latter impact is captured by the parameter on the interaction between the strength of the legislature and the partisan measure. The parameter on the constituent term, Legislative Center of Political Gravity, only has meaning in the situation where Legislative Insti-

tutional Dominance is 0 (i.e., where the executive is completely dominant), and then its effects are statistically indistinguishable from 0. The parameter for the other constituent term in the interaction – namely, the coefficient on Legislative Institutional Dominance variable – is negative and clearly statistically significant. This points to the conclusion that when the partisan orientation of the legislature is on the far right, then the effect on tax policy is to sharply lower the level of the AETR on labour income by an amount that is contingent on the degree of legislative dominance. At the same time, the parameter for the interaction between the legislative partisanship and legislative institutional term brings out the amplifying effect of a legislature that is both leftist and strong *vis-à-vis* the executive. This can be illustrated by drawing on a few examples of the model's predictions under a number of conditions where the cabinet and the legislature are unified or divided in terms of partisanship.

Table 4 (panel a) provides examples where the cabinet and legislature have common ideological orientations. On the left-hand side of the panel we see the effects of partisanship where the executive is weak. Here there is a gaping contrast between a unified government of the left and one of the right. In contrast to rightist governments, leftist governments follow a policy that taxes labour income heavily. On the right-hand side of the panel, which illustrates the effects of partisanship where government is unified but the executive is strong, one sees that while leftist governments continue to tax labour income more heavily than rightist governments, the contrast between left and right is much reduced.

The situation of divided government is illustrated in Table 4 (panel b). On the left-hand side we have a political configuration where the executive is weak (i.e., the legislature is the dominant institution) and the two institutions

Table 4 (panel a). Labour AETR under unified government: predicted levels of AETR on labour income given partisan situation and institutional context

	Weak Executive		Strong Executive	
	Left Cabinet-Left Parliament	Right Cabinet-Right Parliament	Left Cabinet-Left Parliament	Right Cabinet-Right Parliament
Mendoza et al.	38.9	27.3	32.4	30.8
OECD version 1	36.1	19.9	33.2	28.7
OECD version 2	37.9	22.2	34.6	31.0

Notes: Partisan and institutional terms set at mean +/– 1 standard deviation. All other factors set to their mean values.

Table 4 (panel b). Labor AETR under divided government: predicted levels of AETR on labour income given partisan situation and institutional context

	Weak Executive		Strong Executive	
	Left Cabinet-Right Parliament	Right Cabinet-Left Parliament	Left Cabinet-Right Parliament	Right Cabinet-Left Parliament
Mendoza et al.	29.2	37.0	32.7	30.5
OECD version 1	22.2	33.8	31.0	30.9
OECD version 2	24.6	35.5	33.4	32.2

Notes: Partisan and institutional terms set at mean +/– 1 standard deviation. All other factors set to their mean values.

have different ideological orientations. The lack of unity in terms of ideological orientation does not seem to matter greatly. Once again, where the legislature is the dominant institution, the pronounced difference in policy outcome, given the different ideological orientations, comes through. And, again, it is muted in the situation described on the opposite side of the panel, where the executive is the dominant institution.

In sum, then, partisanship works its effect on labour income tax policy. However, these partisan effects are either moderated or amplified by the institutional context within which political parties operate. Of particular importance are the relative strengths of the executive and legislature. Where the executive is more powerful, the force of partisanship is evident but very dampened. Such institutional settings are common to electoral systems based on majoritarian principles. These systems encourage moderation in policy since the leverage they give to the median voter facilitates the muting of partisan differences. This muting effect is absent in institutional settings where the legislature is the dominant branch. Such an institutional setting is found in systems regulated by electoral rules that promote proportionality. Here partisan effects are stark in manifesting themselves and here again we see that the left fosters much higher AETRs on labour income than does the right.

Ideological orientations of parties, the relative strength of governmental institutions and the degree of wage coordination within the economy: what is it about this set of factors that brings them together to shape tax strategy on labour income? They are related not only in that they influence this strategy, but also in that they are important features of CMEs and LMEs. Countries with higher levels of wage coordination (i.e., CMEs) are more likely to have left-wing governments and strong legislatures. Such a pattern speaks to the

notion of *institutional complementarities* as reinforcing mechanisms for the differences between LMEs and CMEs. Two institutions are said to be complementary 'if the presence (or efficiency) of one increases the returns from (or efficiency of) the other' (Hall & Soskice 2001: 17). In particular, two types of complementarities are relevant to our concerns. The first of these is between economic and formal political institutions. The long-term functioning of wage coordination agreements requires risky investments by both workers and employers. As a result, the latter 'cannot go down the route [of risky investments] unless they can be sure the government will sustain it' (Gourevitch & Haves 2002: 245–247).

Belief in a government's commitment to existing policy is more likely in those political systems where actors have a better chance to punish government if it deviates from that commitment. Hall and Soskice (2001) contend that systems based on PR are better than majoritarian systems in providing actors with this monitoring and control capacity over government. In majoritarian systems, a small shift in the distribution of votes theoretically could lead to a large shift in policy. In PR systems, such changes are uncommon; there the legislature is stronger *vis-à-vis* the executive and coalition governments are more common. In such a context, parties defending the interests of specific economic actors have a better chance to punish the government if it deviates from previous policy. As a result, government commitments are more credible in PR systems, and this facilitates the long-term functioning of economic institutions.

Gourevitch and Haves (2002: 246) show that there is indeed a strong positive correlation between the economic institutions of CMEs and the presence of proportional representation ($r = 0.71$) and coalition governments ($r = 0.72$). Using the Lijphart data on legislative dominance and Hall and Gingerich's index of overall coordination in the economy, our own analysis finds a similar positive correlation (details available on request from authors). In sum, the presence of strong legislatures in CMEs facilitates the sustainability of wage coordination agreements and, in turn, the adoption of a particular taxation strategy.

The second complementarity is to be found within the political realm – namely, between the electoral system and the partisan composition of the government. As Iversen and Soskice (2002) have pointed out, the co-existence of strong legislatures and left-wing governments is no coincidence. They are both associated with electoral systems that use PR. In such systems, middle-class parties need to compromise with other parties in order to govern. Iversen and Soskice (2002) show that it is in the interest of centre parties to coalesce with the left because the type of redistribution policy provided by a centre-left government would be closer to the centre's preferences than the redistribution

policy a centre-right coalition would provide. As a result, countries with strong legislative institutions are more likely to have left-wing governments, which in turn reinforces a model of redistribution based on a large welfare state and high tax rates on labour.

This section has highlighted the mechanisms that explain why CMEs tend to impose higher tax rates on labour. They do so because they have higher levels of wage coordination, their governments are more likely to be oriented to the left, and their executives are relatively weak in relation to their legislatures. The question remains as to the sustainability of a redistributive strategy based on high taxes on labour. A longstanding tradition in political economy and economic theory would suggest that such an approach undermines long-term economic performance. From Okun's (1975) formulation of a trade off between equality and efficiency to the more recent criticisms of Swedish social democracy spurred by the crisis of the early 1990s (Lindbeck 1997), it has been a commonplace among economists to argue that large levels of redistribution impinge on economic growth and labour market performance.

A critical point here is that high levels of labour taxation lead to high levels of unemployment. This argument, at the core of the differences between social Europe and liberal America (Nickell 1997; Bean 1994), is based on three elements. First, higher taxes on labour income increase the price of labour and thereby reduce the demand for it. The operating mechanism through which higher taxes reduce labour demand is the process by which gross wages adjust to labour tax increases. If higher taxes on labour are translated completely into higher gross wages in order to maintain workers' real net wages (Daveri & Tabellini 2000: 57–62), then the cost of labour taxes is fully shifted onto employers. If, in turn, higher taxes on labour are not fully reflected in higher gross wages, then its cost is shared by employers and labour. Second, high labour taxes create incentives for some people to either enter into or remain within the state of unemployment (Joumard 2001; Disney 2000). A lower number of working hours (at the extreme, 0) plus income transfers or subsidies may generate disposable income higher than that obtained by someone working more hours (and therefore being taxed more) and receiving less transfers or subsidies. Third, high levels of redistribution and labour income taxation go hand-in-hand with high levels of union power and employment protection, which in turn reinforce their damaging effects on the labour market (Coe & Snower 1997; OECD 1999).

Taken together, the three elements of this argument suggest that the existence of a large welfare state is double-edged. It may sustain the necessary conditions for the economic institutions of CMEs to work, but it is just as likely to undermine macroeconomic performance. Indeed, liberal economists such as Lindbeck (1993) would take the argument one step further and claim that

the costs in terms of growth and unemployment are likely to overcome the benefits of coordination. However, the logic behind this suspicion is not uncontested, nor is the evidence supporting it overwhelming. The ways in which the welfare state shapes economic performance are more complex than is usually assumed in models of perfectly clearing markets. As a result, it is not surprising that the evidence on the welfare state and labour taxes' effects on unemployment is far from conclusive (Atkinson 1999: 39–49). Nickell and Layard (1999: 3060) contend that 'the balance of evidence suggests that there is probably some overall adverse tax effect on unemployment and labour input. Its precise scale, however, remains elusive.' Causal relations between policies and outcomes are very difficult to grasp, and indeed 'the welfare state can work with, rather than against, the grain of economic policy' (Atkinson 1999: 7).

It has been pointed out that the demand and supply effects of labour income taxation are contingent on the institutional context of the labour market (Daveri & Tabellini 2000). In highly coordinated economies, employers trade their acceptance of the development of a large public insurance system for a commitment from the unions to wage moderation. If, as a result of the incidence of labour taxes and the high levels of generosity, labour costs increase dramatically, the incentives for employers to coordinate with the unions disappear. Thus, the capacity of unions to shift the cost of labour taxes onto employers via the adjustment of gross wages is heavily constrained and the impact of labour taxes on unemployment muted. Daveri and Tabellini provide empirical evidence according to which labour taxes lead to higher levels of unemployment only in those countries with large welfare states and moderate levels of coordination. Their conclusions suggest that, for some CMEs at least, a large welfare state is perfectly compatible with low unemployment and high economic growth.[8]

Conclusion

This article has examined how the tax regimes across the OECD countries developed in the latter part of the twentieth century. It has given particular emphasis to tax on labour income, which has become an important fiscal instrument. A number of results emerge from this examination. First, not only do labour income taxes represent a major drain on private households; they have become the mainstay of many OECD countries' public-sector finances. Second, these taxes, and not taxes on capital, appear to be the preferred instrument of finance for those economic and political interests that advocate and support a strong (and thereby expensive) welfare state. We have been able to

show that leftist parties, particularly in political systems where legislatures dominate the executive, push for higher taxes on labour with the apparent motive of helping to finance welfare spending. By pursuing this kind of tax strategy there is little 'free lunch' to be had in these welfare states. What the working class receives, the working class pays for. Capital is little burdened by the welfare state and, indeed, in those economies that enjoy a high degree of coordination (particularly in terms of wage bargaining) one can say capital is being subsidized by affording it favourable labour market conditions (e.g., skilled labour that has strong incentives to remain loyal to employers and make moderate wage demands).

Third, the recent results presented by Peter Lindert (2003) on the kind of taxation strategy we have described here suggest that there are beneficial qualities to such a strategy, at least in terms of overall economic growth. In addition, this strategy has also proved beneficial in terms of reducing income inequality. By sustaining a large welfare state on high taxes on labour, left-wing parties have been able to produce significant levels of redistribution through the spending side. The combination of high AETRs on labour with high levels of welfare benefit generosity produces a number of distributive consequences across different forms of income inequality. First, parties are able to compress the distribution of disposable income through their choices about fiscal redistribution (Hicks & Swank 1984; Bradley et al. 2003). This, in turn, will be reflected in the internal composition of effective labour tax rates. Social democratic parties will put relatively more weight on progressive income taxes and moderate social security contributions. In contrast, Christian democratic parties will rely more on earnings-based contributions, providing milder, though still significant, levels of redistribution. Second, a redistributive strategy based on high taxes on labour also reduces inequality within the labour market. High taxes on labour are consistently associated with lower levels of wage earnings inequality in that they are both the outcome of the co-existence between left-wing government and high levels of economic coordination (Beramendi & Cusack 2004). Yet, despite these beneficial consequences, the effort at financing the welfare state this way may come at a cost in terms of lost employment opportunities. In turn, the magnitude of this loss may itself be a function of the institutional conditions in the labour market. The examination of the consequences in terms of employment opportunities and distributive outcomes should be the focus of future research.

Acknowledgments

This paper was presented at the Annual Meeting of the American Political Science Association in Philadelphia and the European Consortium of Political Research Open Conference in Marburg. The authors gratefully acknowledge the helpful comments and suggestions of Chris Anderson, William Clark, Rob Franzese, Steffen Ganghof, Bob Hancké, Michael Wallerstein and two anonymous referees.

Notes

1. See the work of Mendoza et al. (1994). OECD critiques of this and alternative measures can be found in Carey & Tchilinguirian (2000) as well as Volkerink & DeHaan (2001). In addition, Eurostat reports an extensive set of annual statistics on AETRS (Eurostat 2000; Marinez-Mongay 2000).
2. As Przeworski and Wallerstein (1988) and Swank (1992) have pointed out, there are several ways in which political parties can reduce the risk of potential disinvestment by capital while pursuing redistribution. These include supply policy instruments outside the tax system, such as the facilitation of credits through public financial institutions, and, most importantly, the combination of high statutory tax rates with incentives to reinvest profits. This combination of instruments, at work in CMEs, reflects the constraints faced by left-wing governments in capitalist societies and helps to illuminate the coexistence of large levels of redistribution and relatively lower average effective tax rates on capital.
3. Formally, these two conditions require that (1) $U_K(\phi^*_K) > OC(s)_K(\phi^*_K, r)$ and (2) $\alpha^*(C_K, p_K, g_k) = 1$ if $U_K(\phi^*_K) \geq OC(s)_K(\phi^*_K, r)$. Condition (2) implies that the proposal made by the party must be Pareto-efficient (Austen-Smith and Banks 1988: 422).
4. Indeed, a similar outcome follows even if we relax the assumption that the median voter is represented by the party with the lowest number of seats. If it turns out to be the case that the center party is the one with the highest share in the legislature, the policy outcome is going to be either between the center and the right or between the center and the left, exactly as before. If, however, the center party is the one with the second highest number of seats, such that the legislature composition become either L > C > R or R > C > L, then the likely outcome is that the first round of negotiations fail due to the large ideological distances between the left and the right. Subsequently, the second round of negotiations will yield a policy outcome that will be, once again, between the preferred position of the median voter and either the left or the right.
5. The reader may wonder about the absence of a control for the integration of international capital and financial markets. In fact, consistent with this literature, we find no significant effects on labor tax rates after introducing the standard proxies for capital mobility (results are available on request from the authors).
6. The equation has been estimated three times: once using the Mendoza tax rates and then with the two variants from the OECD. Note that the missing data problems for one of the OECD variants reduced the number of countries to thirteen. The fourteen countries included in the first two estimation efforts include: Australia, Austria, Belgium, Canada, Finland, France, Germany, Italy, Japan, The Netherlands, Sweden, Switzerland, the United

Kingdom and the United States. Missing data problems excluded Switzerland from the estimation of the equation for the second OECD variant.

7. We do not report the results based on panel corrected standard errors (PSCE; Beck and Katz, 1995, 1996) estimates. The PCSE-based results are almost identical to those reported in Table 3 and are available on request from the authors.
8. As part of ongoing research on the economic outcomes of different redistributive strategies, we have replicated the Daveri and Tabellini (2000) analysis using a different indicator of coordination. Instead of interacting labour taxes with three dummy variables denoting country groups, we have interacted the AETRs on labour with the index of wage bargaining coordination computed by Kenworthy. The substantive findings are basically the same.

References

Atkinson, A.B. (1999). *The economic consequences of rolling back the welfare state*. Cambridge, MA: MIT Press.

Austen-Smith, D. & Banks, J. (1988). Elections, coalitions and legislative outcomes. *American Political Science Review* 82(2): 405–422.

Bartels, L.M. (2003). Partisan politics and the US income distribution (mimeo). Department of Political Science and Woodrow Wilson School of Public and International Affairs, Princeton University.

Bean, C. (1994). European unemployment: A survey. *Journal of Economic Literature* 32(2): 573–619.

Beck, N. & Katz, J. (1995). What to do (and not to do) with time-series-cross-section data. *American Political Science Review* 89: 634–647.

Beck, N. & Katz, J. (1996). Nuisance vs. substance: Specifying and estimating time-series-cross-section models. In J.R. Freeman (ed.), *Political snalysis*, Vol. 6. Ann Arbor, MI: University of Michigan Press.

Beramendi, P. & Cusack, T.R. (2004). Diverse disparities: The politics and economics of wage, market and disposable income inequalities (Discussion Paper, SP II 2004–08). Wissenschaftszentrum Berlin für Sozialforschung, Berlin.

Blais, A., Blake, D. & Dion, S. (1993). Do parties make a difference? Parties and the size of government in liberal democracies. *American Journal of Political Science* 37(1): 40–62.

Boix, C. (1999). *Political parties, growth and equality: Conservative and social democratic strategies in the world economy*. Cambridge: Cambridge University Press.

Bradley, D. et al. (2003). Distribution and redistribution in postindustrial democracies. *World Politics* 55:193–228.

Bretscher, L. & Hettich, F. (2002). Globalization, capital mobility and tax competition: Theory and evidence for OECD countries. *European Journal of Political Economy* 18(4): 695–716.

Cameron, D. (1984). Social democracy, corporatism, labor quiescence and the representation of economic interests in advanced capitalist society. In J. Goldthorpe (ed.), *Order and conflict in contemporary capitalism*. Oxford: Oxford University Press.

Carey, D. & Tchilinguirian, H. (2000). Average effective rates on capital, labour and consumption (Economics Department, Working Paper 205). Paris: OECD.

Coe D.T. & Snower, D.J. (1997). Policy complementarities: The case for labor market reform. *IMF Staff Papers* 44(1): 1–35.

Cox, G.W. (1997). *Making votes count*. Cambridge: Cambridge University Press.
Cusack, T.R. (1997). Partisan politics and public finance. *Public Choice* 91(3–4): 375–395.
Cusack, T.R. & Fuchs, S. (2003). Parteien, Institutionen und Staatsausgaben. In H. Obinger, U. Wagschal & B. Kittel (eds), *Politische Ökonomie: Demokratie und wirtschaftliche Leistungsfähigkeit*. Leverkusen: Leske+Budrich.
Daveri, F. & Tabellini, G. (2000). Unemployment and taxes. *Economic Policy* 30: 49–89.
Disney, R. (2000). The impact of tax and welfare policies on employment and unemployment in OECD countries (IMF Working Papers 00/164). Washington, DC: IMF.
Duverger, M. (1954). *Political parties*. New York: Wiley.
Esping-Andersen, G. (1985). *Politics against markets*. Princeton, NJ: Princeton University Press.
Estevez-Abe, M., Iversen, T. & Soskice, D. (2001). Social protection and the formation of skills: A reinterpretation of the welfare state. In P. Hall & D. Soskice (eds), *Varieties of capitalism*. Oxford: Oxford University Press.
Eurostat (2000). *Structures of the taxation systems in the European Union, 1970–1997*. Luxembourg: Office for Official Publications of the European Communities.
Franzese, R.J. Jr. (2002). Electoral and partisan cycles in economic policies and outcomes. In N.W. Polsby (ed.), *Annual review of political science*, Vol. 5. Palo Alto, CA: Annual Reviews.
Ganghof, S. (2003). Parties, Power and Progressivity: On the Political Economy of Income Taxation in Open States. Doctoral dissertation, Max Planck Institute for the Study of Societies, Köln.
Garrett, G. (1998). *Partisan politics in the global economy*. Cambridge: Cambridge University Press.
Genschel, P. (2002). Globalization, tax competition and the welfare state. *Politics and Society* 30(2): 245–275.
Gourevitch, P. & Haves, M. (2002). The politics of choice among national production systems. *L´Année de la Régulation* 6: 241–270.
Hall, P.A. & Gingerich, D. (2001). Varieties of Capitalism and Institutional Complementarities in the Macroeconomy: An Empirical Analysis. Paper. Center for European Studies, Harvard University, Cambridge, MA.
Hall, P.A. & Soskice, D. (2001). Introduction. In P. A. Hall & D. Soskice (eds), *Varieties of capitalism*. Oxford: Oxford University Press.
Hibbs, D.A. Jr. (1977). Political parties and macroeconomic policy. *American Political Science Review* 71(4): 1467–1487.
Hibbs, D.A. Jr. (1987). *The political economy of industrial democracies*. Cambridge, MA: Harvard University Press.
Hibbs, D.A. Jr. (1992). Partisan theory after fifteen years. *European Journal of Political Economy* 8: 361–373.
Hicks, A. & Swank, D. (1984). Government redistribution in rich capitalist democracies. *Policy Studies Journal* 10: 264–287.
Huber, E., Ragin, C. & Stephens, J.D. (1993). Social democracy, Christian democracy, constitutional structure and the welfare state. *American Journal of Sociology* 99(3): 711–749.
Huber, E. & Stephens, J.D. (2001). *Development and crisis of the welfare state*. Chicago, IL: University of Chicago Press.
Imbeau, L.M., Petry, F. & Lamari, M. (2001). Left-right party ideology and government policies: A meta-analysis. *European Journal of Political Science* 40: 1–29.

Immergut, E.M. (1992). *Health politics and institutions in Western Europe*. Cambridge: Cambridge University Press.

Iversen, T. & Soskice, D. (2001). An assets theory of social policy preferences. *American Political Science Review* 95(4): 875–895.

Iversen, T. & Soskice, D. (2002). Electoral Systems and the Politics of Coalitions: Why Some Democracies Redistribute More than Others. Paper presented at the Annual Meeting of the American Political Science Association, Boston, MA.

Joumard, I. (2001). Tax systems in European Union countries (Economics Department, Working Paper 301). Paris: OECD.

Kenworthy, L. (2001). Wage-setting measures: A survey and assessment. *World Politics* 54: 57–98. Data set available online at: www.emory.edu/SOC/lkenworthy.

Lijphart, A. (1999). *Patterns of democracy: Government forms and performance in thirty-six countries*. New Haven, CT: Yale University Press.

Lindbeck, A. (1993). *Unemployment and macroeconomics*. Cambridge, MA: MIT Press.

Lindbeck, A. (1997). *The Swedish experiment*. Stockholm: SNS Förlag.

Lindert, P. (2003). Why the welfare state looks like a free lunch (NBER Working Paper 9869). Washington, DC: NBER.

Lucas, R.E. Jr. (1990). Supply-side economics: An analytical review. *Oxford Economic Papers* (New Series) 42(2): 293–316.

Martinez-Mongay, C. (2000). ECFIN's effective tax rates: Properties and comparisons with other tax indicators (Directorate for Economic and Financial Affairs, European Commission, Economic Paper 146). Brussels: European Commission.

Mendoza, E., Razin, A. & Tesar, L.L. (1994). Effective tax rates in macroeconomics: Cross-country estimates of tax rates on factor incomes and consumption. *Journal of Monetary Economics* 34(3): 297–323.

Nickell, S. (1997). Unemployment and labor market rigidities: Europe versus North America. *Journal of Economic Perspectives* 11(3): 55–74.

Nickell, S. & Layard, R. (1999). Labor market institutions and economic performance. In O. Ashenfelter & D. Card (eds), *Handbook of labor economics*, Vol. 3. Amsterdam: Elsevier.

Obinger, H. & Kittel, B. (2003). Parteien, Institutionen und Wohlfahrtstaat. In H. Obinger, U. Wagschal & B. Kittel (eds), *Politische Ökonomie: Demokratie und wirtschaftliche Leistungsfähigkeit*. Leverkusen: Leske+Budrich.

OECD (various years). *National accounts of OECD countries: Detailed tables,* Vol. II. Paris: OECD.

OECD (various years). *Labour force statistics*. Paris: OECD.

OECD (various years). *Revenue statistics*. Paris: OECD.

OECD (1999). *Employment outlook*. Paris: OECD.

Okun, A.M. (1975). *Equality and efficiency: The big trade-off*. Washington, DC: Brookings Institution.

Przeworski, A. & Wallerstein, M. (1988). 'Structural Dependence of the State on Capital.' *American Political Science Review* 82: 11–30.

Regini, M. (1984). The conditions for political exchange: How concertation emerged and collapsed in Britain and Italy. In J. Goldthorpe (ed.), *Order and conflict in contemporary capitalism*. Oxford: Oxford University Press.

Schmidt, M.G. (1996). When parties matter: A review of the possibilities and limits of partisan influence on public policy. *European Journal of Political Research* 30: 155–183.

Schmidt, M.G. (2000). *Demokratietheorien*, 3rd edn. Leverkusen: Leske+Budrich.

Schmidt, M.G. (2002). The impact of political parties, constitutional structures and veto players on public policy. In H. Keman (ed.), *Comparative democratic politics*. London: Sage.

Steinmo, S. (1993). *Taxation and democracy*. New Haven, CT: Yale University Press.

Swank, D. (1998). Funding the welfare state: Globalization and the taxation of business in advanced market economies. *Political Studies* 46: 671–692.

Swank, D. (1992). 'Politics and the Structural Dependence of the State in Democratic Capitalist Nations.' *American Political Science Review* 86: 38–54.

Swank, D. & Steinmo, S. (2002). The new political economy of taxation in advanced capitalist democracies. *American Journal of Political Science* 46: 642–655.

Swenson, P. & Pontusson, J. (2000). The Swedish employer offensive against centralized bargaining. In T. Iversen, J. Pontusson & D. Soskice (eds), *Unions, employers and central banks*. Cambridge: Cambridge University Press.

Tsebelis, G. (1995). Decision making in political systems: Veto players in presidentialism, parliamentarism, multicameralism and multipartyism. *British Journal of Political Science* 25: 289–326.

Volkerink, B. & DeHaan, J. (2001). *Tax ratios: A critical survey* (OECD Tax Policy Studies 5). Paris: OECD.

Wallerstein, M., Golden, M. & Lange, P. (1997). Unions, employers associations and wage-setting institutions in Northern and Central Europe, 1950–1992. *Industrial and Labor Relations Review* 50(3): 379–401.

Wallerstein, M. & Golden, M. (2000). Postwar wage setting in the Nordic countries. In T. Iversen, J. Pontusson & D. Soskice (eds), *Unions, employers and central banks*. Cambridge: Cambridge University Press.

Wallerstein, M. & Moene, K.O. (2003). 'Earnings Inequality and Welfare Spending: A Disaggregated Analysis.' *World Politics* 55: 485–517.

Address for correspondence: Thomas R. Cusack, Senior Research Fellow, Wissenschaftszentrum Berlin für Sozialforschung, Reichpietschufer 50, D-10785 Berlin, Germany
Tel.: +49 30 25491 563; Fax: +49 30 25491 480; E-mail: tom@wz-berlin.de