# 3 / The Impact of Globalisation and Global Economic Crises on Welfare State Policies in Developed Western Democracies: The Interplay between Institutions, Globalisation and Economic Shocks

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## 1. Introduction

After focusing on reactions to globalisation and economic shocks at the individual level, this chapter examines institutional and policy responses at the macro level. Politicians are often faced with trade-offs and having to make difficult choices balancing domestic demands from voters and international pressures that have continued to increase in the era of globalisation. Market integration enhances gains from trade and overall welfare, but also exerts downward pressures on regulatory and fiscal matters, in addition to generating distributional conflicts. Governments that want to maintain popular support need to develop strategies that are capable of balancing these forces. These strategies are not uniform and there is no catch-all or optimal solution for all societies, nor are the domestic and international constraints faced by different countries the same. Indeed, as the analysis below demonstrates, governments usually pursue different strategies and implement a myriad combination of policies that are optimal with respect to electoral success, given a country's institutional and historical context, voter preferences and international pressures – but not necessarily from an economic efficiency or overall welfare point of view.

This chapter links individual preferences and voting behaviour to how incumbent politicians decide upon economic and immigration policies given the domestic and international pressures and trade-offs they face. By successfully linking micro and macro dimensions of the political process that is affected by international integration, it is then possible to formulate recommendations for policymakers more generally.

Many observers contend that the globalisation of markets leads to downward pressures on regulatory standards. In particular, they argue that governments are expected to reduce social and environmental standards to attract an inflow of capital and to improve the competitiveness of domestic corporations on global markets. Some also make the point that global integration and connectedness of corporations, banks and markets can lead to global economic crises. In order to understand how global market integration affects policymakers around the

world, it is important to understand a) what governments seek to achieve; b) how governments respond to domestic constraints; and c) how international and domestic influences come together to determine policy choices.

## 2. Globalisation and migration policies

Since the early 1980s concerns about immigration have made their mark on the public agendas of industrialised countries in the West. As discussed in the previous chapter, globalisation, the stronger integration of labour markets through, for example, the deepening and widening of the EU, and fears about international terrorism have all had a major impact on public opinion in many Western democracies, leading to a shift against "further" immigration and the unprecedented electoral success of extreme-right parties in the post-war period.

Because of – or perhaps notwithstanding – these developments, recent estimates of migration flows (Goldin and Reinert, 2006), supported by empirical research (Freeman, 2006), suggest that during the last couple of decades there has been a wave of globalisation with many facets, but less so when it comes to labour or, more generally, natural persons. Facchini and Mayda (2008) argue that restrictive migration policies implemented by destination countries are responsible for the lack of globalisation regarding labour. They investigate how attitudes translate into policy outcomes, considering two alternative frameworks: the median-voter and the interest-group model. On the one hand, the very low percentages of voters favouring immigration are, in light of the existing restrictive policies, consistent with the median-voter framework. On the other hand, given the extent of opposition to immigration that appears in public opinion, it is somewhat surprising in a median-voter framework that immigration takes place at all. They find that interest-group dynamics have the potential to shed light on this puzzle.

As discussed in the previous chapter, immigration became one of the most important policy issues in many Western democracies over the past decade, and governments need to address these concerns to stop voters from switching their support to extreme right-wing parties. In addition, the onset of the global economic crisis of 2008 dramatically altered the context for international migration. Governments thus face a political and economic dilemma. On the one hand, job uncertainty spurred by globalisation and economic crises as well as anxieties caused by international terrorism put pressure on policymakers to limit the inflow of cheap labour, and in particular of those immigrants who are perceived as culturally different. On the other hand, trade openness, specialisation and the integration of labour markets offer economic gains, and many Western economies have a need for highly skilled labour that cannot be met by native citizens. In recent years politicians appear to have given in more to the fears of voters and popular pressures by promising to clamp down on immigration.

In the UK politicians of both major parties are at the very least paying lip service to the anti-immigrant sentiments of the British public. The prime minister, David Cameron, reacted to the possible Greek exit from the eurozone, for example, by signalling that "Britain could crack down on immigration from countries like Greece if the eurozone crisis escalates further" (*Independent*, July 3rd 2012). He said that contingency plans were in place and added that he would do "whatever it takes" to protect the UK. The Labour Party, meanwhile, has

also tried to position itself closer to what is now the mainstream political view on immigration (*Financial Times*, June 24th 2012). These statements by major political parties which aim to address the public's concerns regarding immigration are not isolated examples and can be heard in most Western democracies. It is important, therefore, to understand whether such arguments and, indeed, empirical evidence are in line with statements by those politicians claiming to be "cracking down" on immigration.

In this context, a review article by Tilly (2011) addresses four related questions about migration from poor to rich countries. First, what has been the impact of the global recession on patterns of international migration? Second, to what extent do recession-induced changes in migration offer evidence in the debate about competing explanations of migration? Third, has the recession heightened the marginalisation of migrants? Fourth, to what extent have nations responded to the recession by regulating migration in new ways? His findings include reduced migration flows in the recession, evidence for both economic and social explanations, few signs in unemployment rates for the further marginalisation of migrants, and only limited attempts to further restrict migration.

Even though major events such as today's global economic crisis seem to have only a temporary impact on migration flows and very little effect on actual immigration laws, globalisation and market integration in general seem to affect policy decisions more severely. A good example is the dispute within the EU about granting free movement of labour to new member states during the eastward enlargement (Schneider, 2006, 2007; Pluemper and Schneider, 2007). Public anxiety about large inflows of labour and redistributional conflicts prompted countries such as Germany and Austria to restrict labour immigration from new member states, albeit not permanently.

Lipsmeyer and Zhu (2011) analyse EU immigration policies from a different perspective, arguing that at a time of mounting concern about how traditional welfare states will react to globalisation, there has been increasing interest in clarifying how global economic forces affect welfare policies in industrialised states. Building on theories from political economy and comparative institutional literature, they analyse the influence of an important aspect of globalisation – the flow of immigration. Their findings highlight how immigration, in conjunction with domestic political institutions, affects unemployment provisions, while labour market integrative forces remain in the background. The story of immigration and unemployment compensation in the EU is less about the opening of borders and the market forces of integration, and more about domestic political pressures.

These domestic political pressures raise electoral concerns for incumbent governments and lead to inefficiently high barriers to labour mobility (Jain et al., 2009). They examine the role of cultural factors in driving the politics, size and nature of migration policy (temporary versus permanent) and show that there is a broad political failure that results in inefficiently high barriers restricting the importation of temporary foreign workers, while also admitting an inefficiently large number of permanent migrants. Prompted by anti-immigrant sentiments, governments act to restrict the influx of temporary workers and thus lose out in terms of overall welfare gains. For instance, Walmsley and Winters (2005) estimate that a 3% increase in labour migration would result in half the gains that would be generated by complete trade liberalisation. Moreover, Pritchett (2006) claims that the removal of all barriers to migration would result in doubling global GDP.

The point is that migration could solve the problems of an ageing population, high pension payments and labour shortages in Western industrialised democracies. However, concerns about cultural identity and fears of job losses generate anti-immigrant feelings, which lead to restrictive immigration laws that limit economic growth. Strikingly, Jain et al. (2009) also demonstrate that countries which are poor at cultural assimilation are better positioned to take advantage of temporary foreign worker programmes than more culturally diverse and tolerant countries. Furthermore, relaxing restrictions on the mobility of migrant workers across employers has the potential to raise host country economic output even though it increases migrant wages and lowers individual firms' profits.

In addition to economic concerns, the threat of international terrorism in recent times has affected public opinion with respect to immigration in Western democracies. Recent work by Epifanio (2011) identifies the legislative response to international terrorism in 20 liberal Western democracies from 2001 to 2008. She distinguishes 30 regulations governments have implemented with the intention of reducing the risk of a terrorist attack. Her data cover legislation dealing with, inter alia, the rights of the authorities – such as the police and secret service – to intercept, collect and store communications for anti-terrorist purposes, changes in the pre-charge detention of terror suspects, and modifications of immigration regimes. These regulations differ with respect to their target: citizens, suspects and immigrants.

While all liberal Western democracies have reinforced their counter-terrorist legislation, the scope of their regulatory response to terrorism has differed greatly. Countries such as the UK and the United States have implemented a full battery of regulatory responses, while Scandinavian countries, Canada and Switzerland, for example, have been reluctant to go as far in infringing the civil rights of their citizens – suspects and immigrants alike.

The high-profile nature of terrorist attacks, such as those on September 11th 2001, heightened public anxieties in most Western democracies, which also affected the willingness of political leaders as well as voters to trade civil liberties for anti-terrorist security. In the words of the former UK home secretary, John Reid, governments and civilians in Western democracies were confronted with "the most sustained period of severe threat since the end of the Second World War" (Epifanio, 2011).

And governments reacted accordingly: most countries implemented immediate anti-terrorist security reforms, eventually leaving the security laws of no liberal democracy unchanged. Governments adjusted relevant legislation for security purposes in an unprecedented manner, both in terms of speed and scope. The number of restrictive counter-terrorist regulations rose from an average of 3.8 prior to September 11th 2001 to 16.6 in 2008 in the 20 liberal democracies studied. In Spain, for example, the number of regulations almost doubled from 12 to 23, in Germany they quadrupled from 4 to 16, and in the UK they jumped from 3 to 28. The global nature of the terrorist attacks prompted a large number of countries (including the UK) to address directly issues related to immigration. These regulations included the withdrawal of entry and residence permits for danger to public order, rather than a serious breach; the revocation of citizenship from naturalised citizens deemed a threat to public order; and the immediate deportation of any alien who commits acts that are believed to be anti-Western, unpatriotic, and against democratic rights (Epifanio, 2011; Epifanio et al., 2012).

A number of measures taken by Western democracies to address terrorism, especially those relating to immigration, deportation and citizenship, amounted to a loss in market integration, namely a reduction in the number of immigrants to Western industrialised democracies. It is probably too early to gauge the real effect of these anti-terrorist regulations on actual immigration flows, but it is already clear that there has been an impact, leading to an additional loss in overall economic performance.

## 3. Globalisation and tax competition

Taxation provides the bloodstream for governments. Without tax revenues, the supply of public goods and the redistribution of income would not be possible. Yet, the steep increase in capital mobility and the almost complete integration of financial and product markets has reduced governments' discretion in collecting taxes. While international market integration did not entirely wipe out policymakers' autonomy and ability to produce public goods and redistribute income – contrary to some early globalisation doom theories – claims that all governments adjusted the national tax systems to the changing rules of the global economy are certainly not an exaggeration.

Nevertheless, actual adjustments fell short of the predictions in the early literature on tax competition. Most of these early models suggested that governments would find it impossible to redistribute income from capital owners to workers and to maintain the high level of social security and income redistribution developed in the 1960s and 1970s and reformed in the 1980s. Virtually all first-generation models of tax competition claimed that tax rates on capital income under perfect capital mobility would converge to zero. These predictions have turned out to be wrong. No "race to the bottom" in capital tax rates has occurred, and there are few signs that it will occur in the foreseeable future. Actual tax rates in most OECD countries remain high, and the tax systems continue to vary greatly between different jurisdictions.

The aim here is to provide an answer to both puzzles: the persistently high tax rates on mobile capital and the large variations in domestic tax systems. In effect, governments face a political trilemma, in which they cannot maintain the politically optimal level of public good provision, reduce capital taxes to competitive levels and implement a political support-maximising mix of tax rates on capital and labour simultaneously (Pluemper et al., 2009; Troeger, 2012).

In particular, while legal restrictions on capital flows have been eliminated by virtually all OECD countries, de facto capital mobility falls short of being perfect. Limits to full capital mobility result at least partially[1] from ownership structures: the higher the concentration of capital, the higher the de facto mobility of capital and the lower the equilibrium tax rate. Second, the demand for the provision of public goods further limits governments' choices of the capital tax rate. If revenue from the taxation of mobile factors declines, politicians cannot necessarily cut back spending without losing political support. Increases in revenue from immobile factors, such as labour or consumption, need to match losses in collected taxes from capital in order to maintain a satisfactory level of public good provision. Accordingly,

1 See Pluemper and Troeger (2012) for other factors that influence de facto capital mobility, e.g. the need for many service providers to be located in the market where they sell their products.

policymakers do not face a simple optimisation problem when deciding on capital taxation. Rather, they have to choose a tax system which allows them to supply an appropriate level of public goods.

Third, policymakers face a trade-off resulting from the redistributive conflict between capital owners and workers. This conflict does not resemble a mere zero-sum game because lower levels of capital taxation are likely to improve aggregate welfare, but the decision on capital taxation also cannot be analysed in isolation from the distributive effects of reducing taxes on mobile factors.

This political logic of tax competition generates important testable predictions. First, governments in countries with low de facto mobility of capital will maintain a relatively high level of capital taxation, a high level of public good provision, and a low difference between tax rates on mobile and immobile factors. Second, governments facing a low demand for public good provision will reduce the tax rate on capital without necessarily changing the gap between taxes on capital and wage income. Finally, governments in countries in which voters' concerns about tax symmetry are weakly developed will lower capital taxation. At the same time, they will push taxes on immobile factors upwards in order to maintain a high level of public good provision. Importantly, these three political considerations work simultaneously and are also influenced by the intensity of international competition for mobile capital. Therefore, the lower the capital tax rates in other countries, the more severely governments feel the pressure from the three trade-offs in tax competition.

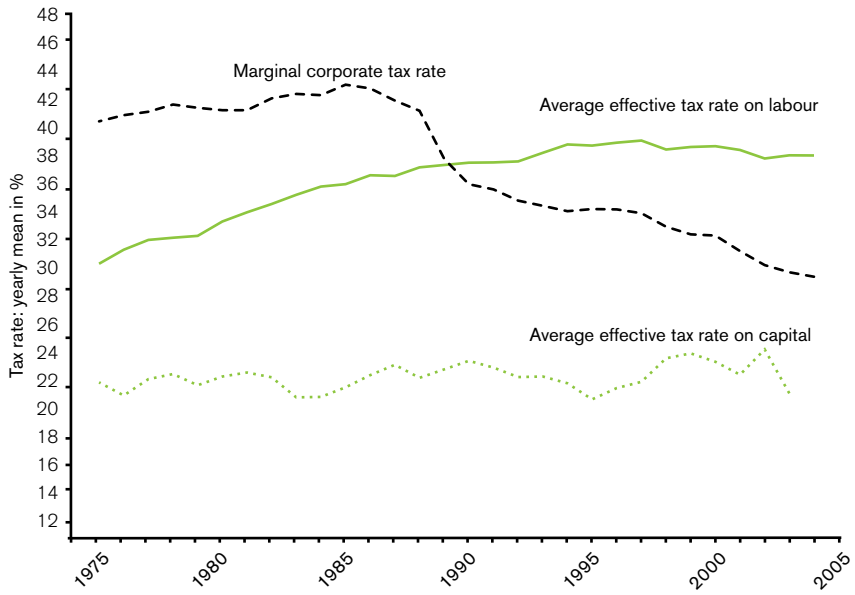
This argument can be generalised quite simply. Policymakers face several domestic and international trade-offs. In deciding on tax policy they can only attain two of the following three policy goals: maintaining a solid capital base despite international tax competition, generating sufficiently high tax revenue, and avoiding social injustice. Since governments face a trilemmatic situation and cannot achieve all policy aims simultaneously, they choose a combination of tax rates on mobile and immobile tax bases and public good provision that serves to maximise their political support within these constraints.

The degree of budget rigidities and the strength of societal equity needs are country-specific, while the severity of tax competition pressures depends on the de facto ability of capital owners to move capital through jurisdictions. Based on these parameters, a convergence of capital tax rates and national tax systems cannot be expected. Instead, the theory predicts persistently high tax rates on mobile sources and a considerable variation between domestic tax mixes.

### *3.1 Literature and arguments in tax competition*

When consumers or production factors are mobile, tax systems in different jurisdictions are not independent of one another. A lower tax rate in one country provides an incentive to locate business activities in this jurisdiction. Of course, if one country is better off by lowering tax rates, one should expect other countries to follow suit. By undercutting its neighbours' tax rates, a country not only attracts additional business activities, but at the same time also triggers a downward spiral of tax rates. As soon as this downward spiral reaches its equilibrium, all domestic tax rates on mobile business activities equal zero. As an unintended side effect, government revenues in all countries decline sharply and public good provision has to be cut back. This, in a nutshell, is the logic

**Figure 1: Annual mean tax rates in 23 OECD countries, 1975-2004**




of first-generation models on tax competition.[2] More specifically, these models assume perfectly mobile capital, a single tax base (mobile capital) and a single tax instrument, and typically two equally sized countries. If these conditions are met, tax rates on capital will converge to zero.

On closer examination, the assumptions underlying first-generation models are far from realistic and, therefore, it should not be too surprising that the predictions of these early models fell short of their objective. While tax rates on mobile capital in the OECD have moderately declined over the last three decades, the current tax rates remain significantly higher than 0% (see Swank and Steinmo, 2002; Ganghof, 2004; Genschel, 2002; Basinger and Hallerberg, 2004, among others).

Figure 1 displays the mean top rate on retained profits of corporations and the mean effective labour and capital tax rates (own calculations based on the formula suggested by Volkerink and De Haan (2001) for 23 OECD countries between 1975 and 2004. While top corporate tax rates were successively reduced from the mid-1980s onwards, effective labour tax rates grew steadily. However, effective rates on capital did not decrease significantly. They remained relatively stable over time and have actually increased a little since the early 1970s. From this follows that governments implemented a strategy of "tax-cut-cum-base-broadening" in order to maintain public revenue (Swank and Steinmo, 2002; Steinmo, 1994; Ganghof, 2000a and 2000b; Hicks and Swank, 1992; Keen and Marchand, 1997).

More recently, scholars have dedicated themselves to explaining non-zero capital taxation and to dealing with the unrealistic predictions of the first-generation models by increasing their complexity. A stream of economic literature has relaxed the assumption of symmetric countries competing for mobile capital

2 Zodrow and Mieszkowski (1986) demonstrate in their early model the basic mechanism of tax base competition in the simplest possible way. This model has become the benchmark analysis for much of the later work. For different accounts of first-generation models see also Wilson (1986), Hoyt (1991), Bucovetsky and Wilson (1991), Chamley (1986) and Lucas (1990). Razin and Sadka (1991) show that tax competition between two infinitely small countries leads to a zero tax rate on capital. They demonstrate that this outcome is even constraint-efficient, because a coordinated tax policy would still lead to a zero tax rate on mobile capital. For a more detailed and nuanced discussion see Devereux et al. (2002, 2008).

in order to explain persisting variances in capital tax rates. Asymmetric account of tax competition eliminates possible terms of trade effects, and a conflict of interest between the competing jurisdictions cannot arise. As a result, scholars have studied the effect of differences in country size on capital tax competition (Bucovetsky, 1991; Wilson, 1991; Peralta and van Ypersele, 2005).

Within the asymmetric tax competition model, a small country faces a more elastic tax base and undercuts the tax level of a large country in equilibrium. The predictions of asymmetric tax competition find ample empirical support. All else being equal, larger countries tend to impose higher tax rates on mobile capital than smaller countries (Bucovetsky, 1991; Wilson, 1991; Kanbur and Keen, 1993). Still, convergence remains far from perfect even after controlling for country size (Pluemper and Schulze, 1999).

Political scientists have made numerous attempts to explain non-zero tax rates on mobile factors by arguing that political, institutional and economic restrictions prevent governments from implementing the welfare optimum of very low or even zero capital tax rates. These models predict non-zero tax rates on mobile assets and a pattern of tax rates which highly co-varies with the pattern of economic (Swank, 2006; Swank and Steinmo, 2002; Rodrik 1997a, 1997b, 1998; Garrett 1998a, 1998c, among others) and political (Ganghof 2004; Genschel 2002) or institutional (Hays, 2003; Basinger and Hallerberg, 2004; Swank and Steinmo, 2002; Swank, 2006) constraints on the government.

These political costs are either modelled as the number of veto players able to block reforms (Basinger and Hallerberg, 2004; Genschel, 2002)[3] or by constituency costs, which different parties face because of their differing voter clienteles (Garrett 1995, 1998b; Garrett and Mitchell, 2001; Basinger and Hallerberg, 2004)[4]. The varieties-of-capitalism literature combines the partisan politics argument with other features of the political system, such as the strength of labour unions and corporatist decision-making (Kitschelt et al., 1999; Hall and Soskice, 2001).

Even though the discussion of more recent approaches to tax competition is still sketchy and by no means exhaustive, the main difference with earlier models is the inclusion of domestic and economic constraints which limit policymakers in their ability to implement very low tax rates on capital. These models thus achieve more realistic predictions about the level of capital taxation by increasing their complexity and introducing additional factors to basic tax competition models. Yet, they generally fail to challenge the main underlying assumptions. For example, if the assumption of perfect capital mobility is eased, equilibrium tax rates will diverge from zero. In addition to the de facto mobility of capital, governments consider the entire tax system, rather than a single tax rate when they maximise revenues, aggregate welfare or political support. This also holds true if the unrealistic assumption of homogeneous countries is abandoned.[5] Countries are not equal, and even though simplifying assumptions is always necessary, the impact of this seemingly innocent assumption on the model's predictions is too significant to be ignored. Furthermore, if the assumption about

3 For a more detailed discussion of the impact of veto players on policymaking, see Tsebelis (1995, 1999, 2002).

4 For a more detailed discussion of the partisan argument, see Hibbs (1977, 1992), and in combination with globalisation and the welfare state, see Allan and Scruggs (2004); Amable et al. (2006); Cusack (1997); Alesina (1989, 1991); Boix (1998, 2000); Franzese (2002a, 2002b); Iversen (2001); Garrett and Lange (1991).

5 The literature on asymmetric tax competition provides a first hint (Bucovetsky, 1991; Wilson, 1991; Kanbur and Keen, 1993). However, country size is not the only attribute that can and should be varied.

the behaviour of policymakers is changed from welfare maximisation to the more realistic assumption of vote maximisation, politicians might not only be unable to implement zero tax rates on capital, but may even be unwilling to do so because of their desire to stay in office.

The absence of legal capital controls does not lead to perfect capital mobility. De facto mobility as compared to legal restrictions to capital transactions depicts the actual costs capital owners incur when shifting capital to other locations. These transaction costs result from two different sources. First, relocating production sites and plants entails relatively high costs, since it involves not only the physical relocation, but also a large amount of administrative and bureaucratic effort: firing and hiring employees, building connections with local infrastructure, transportation, packaging, cooperating with the local bureaucracy and administration, etc. Second, in addition to these physical transaction costs, capital owners have to gather information about tax rates, tax credit structures and exemption rules in other countries in order to decide where to move their capital.

The ownership structure of domestic capital determines the costs of moving capital through jurisdictions. The higher the concentration of capital, the lower the transaction costs of shifting profits to low-tax countries, because owners of capital can benefit from economies of scale. The costs of moving capital to another location decrease with the degree of concentration, since the costs of information-gathering remain stable and do not accelerate with an additional unit of capital to be shifted to a low-tax country. If capital is rather equally distributed throughout society, then the costs for capital owners to engage in tax arbitrage increases. In extreme cases, where capital is perfectly concentrated, transaction costs approach zero per unit of capital. The ownership structure of domestic capital therefore translates into de facto capital mobility.[6]

On a related issue, Becker et al. (2012) analyse competition for mobile capital among German municipalities. The within-country context allows keeping constant many hard-to-measure institutional differences which usually plague cross-country studies. Becker et al. show that lower business taxes do indeed attract multinational firms to locate there, but the average municipality would have to lower its business tax rate by so much just to attract one multinational firm that it would lose almost all of its tax revenue from domestic firms. This confirms the argument that tax competition, simply to attract multinationals, does not pay off in general. And there are other factors, such as the attractiveness of a location (amenities) that matter at least as much.

If competition for mobile capital restricts a government's ability to gather revenue from mobile bases, it is inclined to shift parts of the tax burden towards more immobile bases, such as labour income and consumption, in order to maintain public income and public good provision. Hence, budgetary concerns, in combination with tax competition pressures, can lead to a shift of the tax burden from capital to labour (Sinn, 2003; Rodrik, 1997a, 1997b; Schulze and Ursprung, 1999; Steinmo, 1996).

Looking at this strategy from a purely welfare-maximising perspective, it is more efficient if wage earners bear the higher tax burden as the net (after tax) labour income remains higher with complementary capital – capital that would

6 Moreover, large enterprises normally have huge administrative departments which allow for the easy gathering and processing of information. For a more thorough discussion of de facto capital mobility as a result of capital concentration and ownership structure, see Troeger (2012).

not be attracted or kept without lowering capital tax rates. From a single voter's point of view, however, this shift in the burden implies problematic distributional consequences, since capital receives a net subsidy at the expense of immobile taxpayers. Consequently, shifting the tax burden towards wage income creates political costs (Genschel, 2002; Ganghof, 2004).

The median voter in most (even capital-rich) countries is a wage earner, rather than a capital owner, and perceives this shift in the burden as unjust and unfair. It is not in the interest of workers to subsidise capital, even though the factor productivity of labour would still be higher. The notion of inequality and unfairness leads the majority of the electorate to withdraw political support in case the government attempts to shift large parts of the tax burden towards the immobile factor. Thus, the strength of demand for societal equality prevents a large gap from developing between the tax rates imposed on mobile and immobile taxpayers.

How strongly demands for equality and tax symmetry are rooted in society largely depends on the political culture of a country. Long-lasting political practices shape voters' expectations regarding the equity and symmetry of the tax system and thus influence the utility function of governments. For example, the varied development of welfare states may have formed different preferences when it comes to risk compensation and income redistribution. Social-democratic welfare states have institutionalised income redistribution from rich to poor via taxation much more extensively than liberal market democracies, prompting the electorate in continental and Scandinavian welfare states to demand higher tax symmetry than voters in free-market economies. There are thus large differences in the demand for tax justice and equality across societies. Indeed, while one can observe increasing inequality in market income, redistribution activities by governments and the distribution of disposable income vary greatly across OECD countries (Beramendi and Cusack, 2004).

Furthermore, as previously noted, governments face a political trilemma when choosing domestic tax rates in which they cannot simultaneously reach the three policy goals of "providing a satisfactory amount of public goods", "maintaining a solid capital tax base by reducing tax rates on capital income" and "adhering to societal demands for tax equality". As a result, it is necessary to analyse the decision-making trade-offs politicians face when trying to meet these political goals.

The general political logic of domestic taxation leads to clear predictions. These result from the differences in, and the simultaneous influence of, the strength of domestic budget rigidities, tax symmetry considerations and the ownership structure of the domestic capital base. The following hypotheses can thus be derived:

- Capital tax rates set in other countries exert a positive effect on capital tax rates in the domestic economy (tax competition effect). In addition, there is a positive tax competition effect on the domestic labour tax rate.
- Foreign attractiveness and the willingness and ability of domestic capital to move increase the tax competition effect. Therefore, policymakers adapt their domestic tax policies so that they are more closely aligned with those of countries that are successful in attracting mobile tax bases.
- Societal demands for tax symmetry counterbalance the tax competition effect. The stronger the equality needs of the electorate, ceteris paribus, the higher domestic capital tax rates; the lower domestic labour tax rates, the smaller the gap between capital and labour tax rates.

- Budget rigidities counteract the downward pressure of international tax competition. Higher government spending induces both domestic capital and labour tax rates to rise and has a slight increasing effect on the tax ratio.[7]
- A higher domestic share of highly mobile capital increases de facto capital mobility and thus exerts a downward pressure on the domestic capital tax rate, which widens the gap between capital and labour taxation.

### *3.2. Empirical investigation*

Levels of domestic tax rates on capital and labour are the result of the strategic interaction between governments and the domestic trade-offs politicians face when making decisions. Quantitative analysis accounts for strategic interaction between governments, but allows policymakers to weight tax rates set in other jurisdictions differently. The implications of this argument are tested here with yearly data for 23 OECD countries over a 30-year period (1975-2004).[8] The statistical approach models the strategic nature of the tax competition game by employing a spatial panel data approach, where spatial lags of the dependent variable are instrumented by domestic factors designed to control for possible endogeneity bias (Franzese and Hays, 2007).

The spatial lag variable is not treated merely as a nuisance, because there is an interest in the substantial effects of foreign capital taxation. These substantial weights also allow the testing of the hypothesis that governments learn from countries that are successful in attracting foreign capital. The learning aspect can be formalised by suggesting that policymakers learn from countries that prove to be successful in attracting mobile capital.

Even though a variety of domestic factors are included in order to explain tax decisions, the probability remains relatively high that other cultural or institutional variables – unique to each country but still immeasurable – influence policy outcomes and are correlated with other right-hand side variables. In order to control for country-specific effects, country dummies are included in the explanatory side of the statistical model.

Since the aim is to explain the effects of international tax competition and domestic factors on both capital taxation and the tax system simultaneously, effective labour tax rates and effective capital tax rates are analysed, as was proposed by Mendoza et al. (1994) and further developed by Volkerink and De Haan (2001), and the ratio of labour to capital taxes to account for tax system effects. Figure 1 traces the development of the average effective tax rates of labour and capital over time and shows that while effective capital taxation has remained fairly stable in the last three decades, labour taxation has, on average, increased, and thus the gap has widened between labour and capital tax rates.

Closer inspection of the distribution across countries reveals large variations with respect to both corporate and labour taxation. Marginal corporate tax rates

7 In a dynamic three-country model, Pluemper et al. (2009) are even able to conclude that a combination of both budget constraints and fairness norms reduces the severity of tax competition (if all governments are constrained) or the ability of countries to compete (if some governments are constrained).

8 This sample is significantly larger than samples used in earlier analyses of domestic taxation. Most studies include 12 to 14 OECD countries, depending on the endogenous variables used (see Hays, 2003; Swank and Steinmo, 2002; Basinger and Hallerberg, 2004). The 23 countries are Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Japan, Luxembourg, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, the United Kingdom, and the United States.

significantly decreased between 1980 and 2004 for 23 key OECD[9] (approximately 14%) countries, but on average they remained close to 30%. In 1975 these tax rates varied between 8% in Portugal and 51% in Germany, and by 1990 they ranged from 9.8% in Switzerland and 50% in Germany, while Portugal even increased its marginal tax rate on corporate income during this period. By 2004 top corporate tax rates ranged from 8.5% in Switzerland to 36% in Canada, highlighting an overall downward trend, although persistent variations across countries continued. Effective labour tax rates, on the other hand, rose from 17% in Iceland and 47% in Sweden to 19% and 55%, respectively, between 1975 and 2004, underscoring a general upward trend, but again, with strong variations evident across countries.[10]

Two variables are proposed for the operationalisation of de facto capital mobility. First, the stock of foreign direct investment (FDI) in a country – as opposed to actual flows – seems to be a good approximation of the share of highly mobile capital in an economy (UNCTAD).[11] Second, in order to test the robustness of the relationship, the percentage share of multinationals in national turnover (from the OECD Globalisation database) is included.[12] Societal demands for tax symmetry and their strength are measured by survey data from the International Social Surveys Programme (ISSP). More specifically, the country means (medians) are used, as are standard deviations of the answers to the question whether "it is the responsibility of the government to reduce the differences in income between people with high incomes and those with low incomes".[13] This question was asked both in the Role of Government Surveys I, II and III, which took place in 1985, 1990 and 1996, and the Social Inequality Surveys I, II, and III in 1987, 1992 and 1999, and directly addresses societal demand for equality. The distribution of answers across countries supports general expectations, with very high demand for redistribution in countries such as Portugal (mean response = 1.5) and very low demand for equality in liberal market economies such as the United States (mean response = 3.3). Finally, government consumption expenditure as a percentage share of GDP serves as a proxy for budget rigidities (OECD, 2006). The higher the share of government expenditure, the less flexibility governments have with respect to reducing either tax rates on capital or labour.

In addition to the main explanatory variables, a number of economic, political and institutional control variables are included that have been found to be theoretically interesting or to exert a statistically significant impact on domestic taxation. Added to the mix are the one-year lagged domestic unemployment rate, the one-year lagged annual growth rate of GDP to account for economic size and wealth effects, and the population share of elderly people, measured in terms of World Development Indicators (WDI; World Bank, 2006). Controls are also included for trade openness (overall trade as a percentage of GDP) and overall legal restrictions to capital mobility (Quinn, 1997). In addition, the

9 These countries are Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Japan, Luxembourg, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom, and United States.

10 All numbers are based on OECD *National Account Statistics*.

11 United Nations Conference on Trade and Development (2006): Foreign Direct Investment Database.

12 The estimation results for multinational turnover are not shown here but support the relationship between de facto capital mobility and tax rates on capital.

13 The response categories are 1 – strongly agree; 2 – agree; 3 – neither agree nor disagree; 4 – disagree; 5 – strongly disagree, so that a lower value indicates a higher demand for redistribution.

partisanship of government to the right-hand side of the model (Keefer, 2005) is added, as is a control for executive branch constraints to policymaking (Henisz, 2005) and a trend variable to capture dynamic effects.

A proper estimation of the two-stage least squares instrumental variable model requires adequate instruments uncorrelated with the error term, but highly correlated with the endogenous variables – the differently weighted spatial lags of the capital tax rate. Following standard tax competition reasoning, mainly economic variables known to influence capital taxation as instruments are used here. Since the endogenous right-hand side variable is the FDI-weighted spatial lag of capital taxation, spatial lags of all instruments with according weights are constructed. More specifically, the following are employed: the spatial lags of the "Quinn-measure" (Quinn, 1997) for capital mobility, the pre-tax Gini coefficients (LIS, UTIP), GDP per capita, government consumption as a percentage of GDP, trade openness and total population (all WDI) as instruments.

Table 1 displays the estimation results for capital taxation, labour taxation and the tax ratio. In large part, the empirical findings support the main theoretical expectations. In particular, the higher the demand for redistribution (lower value of the ISSP measure), the higher the tax rate on capital; the lower the labour tax

**Table 1: Empirical results for average effective capital, labour tax rates and the tax ratio**

| Dependent Variable:<br>RHS Variables: | Model 1:<br>Capital | Model 2:<br>Capital | Model 3:<br>Labour | Model 4:<br>Labour | Model 5:<br>Tax ratio<br>labour/capital | Model 6:<br>Tax ratio<br>labour/capital |
|---|---|---|---|---|---|---|
| Spatial lag – FDI weighted | 0.011**<br>(0.005) | 0.013***<br>(0.005) | 0.007**<br>(0.003) | -0.002<br>(0.003) | -0.001<br>(0.000) | -0.001**<br>(0.000) |
| ISSP: Redistribution (mean) | -16.498***<br>(4.622) | -19.675***<br>(4.636) | 1.622<br>(2.536) | 2.024<br>(2.335) | 1.374***<br>(0.400) | 1.471***<br>(0.407) |
| ISSP: Redistribution (SD) | 7.424*<br>(3.892) | 10.654***<br>(4.076) | -1.595<br>(2.065) | 0.340<br>(1.975) | -0.144<br>(0.323) | -0.285<br>(0.345) |
| FDI stock (t-1) | -0.011***<br>(0.003) | -0.009**<br>(0.004) | 0.003*<br>(0.002) | -0.001<br>(0.002) | 0.001*<br>(0.000) | 0.001<br>(0.000) |
| Share of elderly people | 1.429***<br>(0.398) | 2.100***<br>(0.514) | 0.575***<br>(0.177) | -0.217<br>(0.201) | -0.163***<br>(0.034) | -0.232***<br>(0.046) |
| Budget rigidities (t-1) | 1.425***<br>(0.288) | 1.347***<br>(0.304) | 0.596***<br>(0.154) | 0.770***<br>(0.148) | -0.121***<br>(0.025) | -0.108***<br>(0.028) |
| Unemployment (t-1) | -0.795***<br>(0.138) | -0.696***<br>(0.153) | 0.368***<br>(0.076) | 0.144*<br>(0.077) | 0.087***<br>(0.011) | 0.075***<br>(0.013) |
| GDP growth (t-1) | 0.588***<br>(0.160) | 0.527***<br>(0.160) | 0.108<br>(0.085) | 0.037<br>(0.078) | -0.057***<br>(0.014) | -0.059***<br>(0.014) |
| Trend | | -0.316<br>(0.235) | | -0.202*<br>(0.117) | | 0.018<br>(0.022) |
| Trade openness (t-1) | | 0.015<br>(0.054) | | 0.099***<br>(0.026) | | 0.003<br>(0.005) |
| Capital restrictions (world) | | 2.041<br>(3.715) | | 6.831***<br>(1.847) | | -0.057<br>(0.342) |
| Partisanship of government | | -0.364<br>(0.347) | | -0.134<br>(0.174) | | 0.000<br>(0.029) |
| Constraints to executive branch | | 5.274**<br>(2.288) | | 1.333<br>(1.150) | | 0.014<br>(0.201) |
| Intercept | 38.667***<br>(12.022) | 1.639<br>(20.510) | 2.484<br>(6.506) | -22.734**<br>(10.274) | 0.394<br>(1.050) | 0.462<br>(1.888) |
| Adj. $R^2$ | 0.759 | 0.765 | 0.895 | 0.914 | 0.730 | 0.733 |
| N (obs) | 452 | 449 | 478 | 475 | 380 | 377 |
| F | 37.382*** | 31.650*** | 98.969*** | 101.180*** | 29.289*** | 24.181*** |
| Anderson test: relevance of instr. | 2528.613*** | 2732.262*** | 2687.08*** | 2895.56*** | 2148.94*** | 2302.48*** |
| DWH-test endogeneity of SL: $\chi^2$ | 5.469** | 0.082 | 53.355*** | 9.257*** | 0.850 | 0.053 |

**Notes:** ***p≤0.01, **p≤0.05, *p≤0.1
**Source:** Troeger (2012).

rate (though not statistically significantly), the smaller the tax gap. Yet, the larger the dispersion of answers among respondents, the more leeway the government enjoys and the lower the tax rate on capital. Policymakers can engage more strongly in tax competition, since the demand for income redistribution varies greatly for different parts of the electorate. The dispersion, however, does not have an impact on the labour tax rate or the tax ratio. Overall, if demands for tax symmetry are stronger in a society and voters require a higher level of equality, governments have to factor this societal need into their policymaking by increasing redistribution, and they do so by not reducing tax rates on capital.

Since international tax competition exerts downward pressure on capital taxation in particular, the demand for more equality and higher tax symmetry counterbalances this effect by putting upward pressure on capital tax rates. In line with the theoretical model, it seems that societal tax symmetry demands counterbalancing tax competition forces. Governments facing stronger equity norms rooted in society are less able to engage in international tax competition because, in the main, they are unable to shift the tax burden from capital owners to workers.

The impact of highly mobile capital dominating the domestic economy reveals an equally clear picture. FDI stock exerts a negative and significant effect on capital taxation and increases the tax gap. Governments have to be concerned not only with attracting mobile capital from abroad to enlarge the domestic tax base, but they must also try to prevent capital from leaving their jurisdictions to find better conditions elsewhere. Effective capital rates are reduced if the share of highly mobile capital in the domestic economy goes up and the average de facto mobility thus increases. Nevertheless, this does not result in a shift of the tax burden to the immobile factor, as suggested by the insignificant estimate for the share of highly mobile capital in the domestic economy. Still, incumbents do not match a sharp decline in capital taxation with cutting back tax rates on the immobile factor accordingly. Policymakers allow for growing tax asymmetry if highly mobile capital dominates the domestic economy.

If public spending is high, governments need to levy tax revenue to avoid public deficits. Government spending might remain at high levels owing to stickiness of the budget or severe pressure on social security funds. The need to gather revenue prevents governments from implementing tax-reducing reforms in order to comply with international pressures and maintain higher tax rates on capital as compared with countries with lower budget rigidities. Rigid public spending, which is sticky and cannot easily be cut back, reduces the ability of policymakers to engage in international tax competition. Higher government spending aggravates budget rigidities and increases upward pressures on taxation. Labour tax rates rise if budget rigidities increase, while the coefficient turns out positive and is highly significant.

Governments are less likely to engage in tax competition when facing higher budgetary constraints. Societal tax symmetry expectations prevent policymakers from shifting most of the tax burden to the immobile factor. Accordingly, the gap between the two tax instruments decreases significantly with the size of government spending. Yet, tax symmetry would be expected to decline with public spending. As workers' mobility falls short of capital mobility and wage earners' response to higher taxation is less elastic, budget rigidities should impact labour taxation more sharply, and labour has to bear most of the burden. Empirically, tax rates on wage income are observed to be higher throughout.

The latitude for further pushing up labour taxes is relatively small, even though budget constraints are severe. Capital taxes, therefore, rise relatively more with public spending, which leads to greater tax symmetry.

The effect of the spatial capital lag on effective capital tax rates clearly supports the theoretical predictions. If the foreign effective capital rates are weighted by FDI inflows, the coefficient turns out to be highly significant and positive. This finding lends strong support to the idea that policymakers learn from successful players and adapt their own capital tax rates to those in jurisdictions where governments are able to attract mobile capital. Policymakers also keep domestic tax rates more in line with those of successful countries to prevent capital from moving there. Domestic firms might use the ability of other countries to attract capital as a decision-making device for their own location choices.

With respect to tax rates on labour, it is clear that capital tax rates abroad have a significant positive impact on effective labour tax rates. Still, in theory, one would expect that policymakers use labour tax rates to compensate for losses from capital taxation if tax competition is severe and governments are able to engage in international competition for mobile capital. A degree of support for the prediction that incumbents set higher taxes on labour to counterbalance competition-induced cuts in capital taxation can be found in the fact that the spatial capital tax lag increases the tax ratio between labour and capital taxation. This finding suggests that labour tax rates exceed tax rates on mobile factors throughout. If tax competition is severe, governments seem to be forced to cut capital tax rates, although they do not equally reduce tax rates on wage income in order to counterbalance the revenue loss caused by lower capital taxation.

Turning to the interpretation of the control variables, one can conclude that higher unemployment rates decrease capital taxation in all models and the coefficient for unemployment turns out to be significant for effective capital tax rates. This rather sustains the argument that unemployment creates an incentive for governments to engage in tax competition in order to benefit from the employment effects of additional capital. Economic growth seems to increase effective rates, but only the impact on effective capital taxation turns out to be significant, indicating that faster-growing economies do not have to engage in wasteful tax competition. With the domestic economy doing well, mobile capital needs higher incentives in terms of tax differences to leave the country. The share of elderly people significantly pushes the effective rate on capital upwards, supporting the compensation hypothesis. Globalisation boosts the demand for the public compensation of external risks and puts pressure on a country's social security system. As a result, governments need to collect more tax revenue to finance increased demand for public goods.

Surprisingly, the overall levels of legal restrictions on capital account transactions – as well as trade openness – have no significant impact on decisions related to capital taxation. The same holds true for the time-trend variable and the partisanship of the government. Only institutional constraints on the executive branch seem to have an important positive effect on capital tax rates. This finding supports the views of the veto-player literature, which holds that governments faced with greater constraints are less able to engage in international competition for mobile capital (Basinger and Hallerberg, 2004).

Regarding labour income taxation, higher unemployment results in a significant rise in tax rates on wage income. If a larger share of the domestic

workforce remains jobless, the immobile base that can be taxed diminishes and policymakers raise the tax rate on this factor to compensate for the loss in revenue. Combined with reduced tax rates on the mobile factor – in order to attract capital that might boost employment – this leads to lower tax equity, and the gap between labour and capital taxation becomes larger.[14] The positive relationship between unemployment and tax rates on wage income lends support to empirical evidence in the literature on tax competition (e.g. Swank and Steinmo, 2002).

As expected, labour taxation rises significantly in line with the share of elderly people, given higher pressures on pension systems. However, when demands for public compensation grow, the latitude for decreasing capital taxes in response to competitive forces appears to be lower. This results in a significant decline of tax asymmetry when the share of elderly people increases. Finally, labour taxation does not seem to be contingent on economic growth, since the estimates mostly turn out to be insignificant. In effect, Table 1 highlights that effective capital taxation reacts positively to GDP growth, resulting in an important reduction of inequality between the two tax instruments.

Institutional constraints on the executive branch and partisanship of the government seem to have no major effect on either the tax rate on wage income or the ratio between labour and capital taxes. Yet, overall capital mobility leads governments to raise tax rates on wage income, which sustains the argument that stronger competitive forces caused by international financial liberalisation lead policymakers to shift the tax burden from capital to labour. The impact of trade liberalisation completes this picture, since higher economic openness leads to an increase in tax rates on immobile production factors. Apparently, it is not the actual strategic interaction between countries – measured as spatial capital tax lags – but the potential for competitive pressures that leads to a shift of the tax burden from mobile to immobile factors. Governments then use these changes in international financial markets to rationalise and justify higher tax rates on wage income.

### *3.3. Implications of the empirical findings*

Since the markets for goods and services, skilled labour and capital are no longer predominantly *domestic* but increasingly *international*, the challenges facing politicians have arguably become more difficult. Parties competing for votes in order to win elections now need to understand how to address the interests of voters without losing sight of their countries' international economic "competitiveness".

Taxation is typically seen by politicians as the answer to myriad problems: taxes can be a way of ensuring a fair and just division of income, reducing poverty not only at home but in countries around the globe, helping to save the global environment, increasing the incentive to have children and so on. At the same time, taxation is also the instrument relied on by politicians to create an economic environment which generates business opportunities, fosters economic growth and makes the country attractive to international investors.

Governments cannot simultaneously achieve all the political goals required to ensure the continued backing of their constituents. Politics is all about finding

14 However, this might not be the correct interpretation of the empirical findings. Even though unemployment in the regression analysis is one period lagged and endogeneity tests do not reject the Null of exogeneity, the path of causality remains unclear. Higher labour taxation could increase unemployment . Daveri and Tabellini (2000) find that the link between high labour taxes and high unemployment is particularly strong in continental Europe.

compromises – not so much between the government and the opposition, or between the agenda-setters and the veto players, but rather between policy goals, which at first glance all look equally important.

Governments face a number of trade-offs when they try to offer an attractive location for international investors while also maintaining tax fairness and producing a sufficient amount of public goods. With tax policies being influenced by several factors, policymakers need to respond flexibly to domestic demands and international constraints to achieve their policy goals and stay in office. The increase in capital mobility undoubtedly has reduced the government's ability to collect revenue from mobile sources but, at the same time, the pressure from voters has not been relaxed. Voters still vote with their wallets just as much as capital "votes" with its feet.

In this context, globalisation and market integration have caused governments to adjust their national tax systems. Early doom theories predicting that governments would lose all policy autonomy have not come to pass, simply because these models ignored the domestic constraints governments face. However, the authorities can neither maximise their support based solely on domestic considerations, nor can they focus solely on making the country attractive to global investors. Although this may be a simple truth, it is one that is more often ignored than accepted in the rapidly growing literature on tax competition.

More substantively, this chapter makes three contributions to this literature. The argument that policymakers face a trilemmatic choice when setting domestic taxes is perhaps the most obvious contribution. Governments cannot simultaneously reach the three policy goals of providing a satisfactory amount of public goods, reducing tax rates on the mobile factor to globally competitive levels and, at the same time, implementing a mix of tax rates on capital and labour that maximises political support by adhering to societal demands for equality.

The second contribution consists of modifying the assumption of perfectly integrated capital markets. Reducing legal restrictions on capital transactions does not necessarily imply full capital mobility. De facto capital mobility depends instead on the willingness and ability of capital owners to move capital through jurisdictions. As previously noted, transaction costs are influenced by the ownership structure and concentration of capital. Actual capital mobility, therefore, falls short of being perfect and varies greatly across countries. Both the notion of the trilemma and that of de facto capital mobility contribute to solving the puzzle of non-zero capital taxation and, more specifically, the model developed here generates several hypotheses which strongly support the empirical evidence gathered through a rigorous statistical analysis.

## 4. Globalisation, economic crisis and fiscal and redistributional responses

Two decades ago the influence of tax competition on income redistribution and income inequality ranked high on the research agenda. Many social scientists believed that capital mobility in effect undermined governments' ability to tax capital, and consequently that tax revenues would erode and governments in social welfare states would find themselves unable to maintain high levels of welfare transfers. Eventually, they argued, rising income inequality would cause severe social unrest (Rodrik, 1997a, 1997b; Scharpf, 1991), thereby undermining the foundations of the open liberal market economy. Ever since they formulated these dire predictions, interest in the social consequences of globalisation has eroded. Even the most casual look at the empirical evidence suggests that governments still tax corporations, welfare states persist, and levels of income inequality – though rising in some countries – have not reached levels that could undermine the very foundations of social and political stability.

The failed prediction of the "end of the welfare state" does not mean that tax competition cannot influence income inequality at a more moderate level. If this relationship holds empirically, it is important to understand why. Is it because of partisan preferences (Garrett, 1995; Hays, 2009) or the lack of political autonomy (Basinger and Hallerberg, 2004) that governments are prevented from cutting deep into the dense net of social transfers? Or are there other explanations for the resilience of the welfare state?

Globalisation theory identifies two causal mechanisms linking an increase in income inequality to tax competition. The first is widely known as the efficiency hypothesis (Garrett, 1995, 1998a; Schulze and Ursprung, 1999); the second can be dubbed the "tax system hypothesis". The efficiency hypothesis claims that governments reduce inefficient spending to maintain domestic competitiveness and that, since government spending reduces inequality, expenditure cuts increase inequality. The tax system hypothesis predicts a shift from capital to labour taxation. As capital owners are relatively rich and workers relatively poor, this shift directly increases income inequality (Ganghof and Genschel, 2008; Goesling, 2001).

However, these arguments are largely at odds with recent developments in tax competition literature, which explain why tax competition does not result in the predicted "race to the bottom". The majority of these theories argue that political constraints such as veto players, unions (and coordinated wage bargaining) and the political preferences of governments prevent governments from lowering capital tax rates (Basinger and Hallerberg, 2004; Hays, 2003, 2009; Swank, 2002, 2004, 2006). In fact, once theories of tax competition overcome the simple functionalistic logic of early models of tax competition, the race-to-the-bottom prediction promptly vanishes. Indeed, politically informed models of tax competition predict a moderate convergence of tax policies to moderately lower levels of effective capital tax rates across open economies, as well as a shift from capital to labour taxation (Garrett, 1998a, 1998b; Rodrik, 1997a, 1997b, 1998; Genschel, 2002; Ganghof, 2004; Swank, 2006; Swank and Steinmo, 2002; Steinmo, 1994; Pluemper et al., 2009) – predictions which are much more in line with the empirical evidence than the early models.

Given that tax competition has little influence on revenues, the strong effect on social security transfers that the efficiency hypothesis predicts is difficult to explain. In effect, the empirical verdict on this hypothesis is mixed at best:

while proponents of the efficiency hypothesis typically find some backing (Garrett, 1998a; Rodrik, 1997a, 1997b, 1998; Swank, 2002), others show that the relation between tax competition and fiscal policies is insignificant and not sufficiently robust (Iversen and Cusack, 2000; Pluemper et al., 2005). Clearly, if the empirical literature is correct and tax competition has little influence on tax revenues, major fiscal policy adjustments are unlikely to occur.

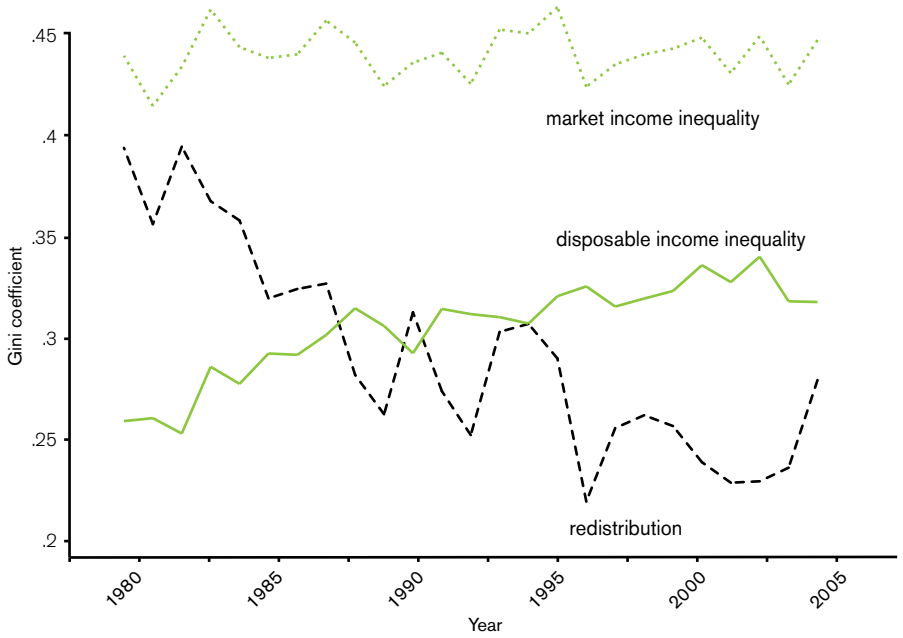
The comparative welfare state literature explains welfare policies as a combination of economic incentives for redistribution and institutional factors that shape governments' responses to these incentives (Galasso and Profeta, 2002). Incentives for redistribution stem from overall efficiency gains of redistribution (Samuelson, 1958), inter-temporal redistributive gains for the majority of voters as middle-aged citizens coalesce with old voters (Browning, 1975), or altruism (Hansson and Stuart, 1989). These incentives are shaped by partisan preferences (Allan and Scruggs, 2004; Bräuninger, 2005), veto players (Tsebelis and Chang, 2004; Ha, 2008), and interest groups (Hicks and Swank, 1992). Interestingly, all these standard arguments of social welfare policies assume that incentives and political preference aggregation mechanisms operate in isolation from the world economy. Neither the incentives of governments nor the political aggregation mechanism are influenced by the fact that capital and labour are both mobile and that corporations in welfare states need to be able to compete with corporations that do not pay a wage premium for welfare transfers. This, however, was exactly the argument of the globalisation literature which claimed that capital mobility and trade competition exerted a strong negative effect (Rodrik, 1997a, 1997b, 1998; Rudra, 2002; Rudra and Haggard, 2001; Swank, 2002; Scharpf 1991) or a positive effect (Cameron, 1978; Esping-Anderson, 1996; Garrett, 1998c; Hicks and Swank, 1992; Huber and Stephens, 2001) on welfare transfers, depending on whether scholars looked predominantly at the pressure from global competition or the demand for social security.

The efficiency versus compensation controversy lost steam at the turn of the century, although it does not appear to have produced a clear winner. Interestingly, the debate led to the conclusion that the downward pressure on capital taxes and social welfare contributions was far weaker than the proponents of efficiency hypotheses had assumed, while the effects of global competition on labour markets in developed countries remained far smaller than the proponents of the compensation hypothesis had claimed.

In sum, then, not much has changed. The welfare state has survived, partly because political institutions have turned out to be more resilient, but also because the welfare state offers significant advantages to corporations and is not perceived merely as an expense. It has also survived because globalisation is not a new force that turns the world upside down. Indeed, the doom theories of the early models have been undermined by history; although the welfare state may once have been in better shape, it will certainly outlast globalisation.

In this light, one might be tempted to turn back to the earlier research that perceived welfare policies as independent of the global economy, but such a conclusion would be wrong (Pluemper and Troeger, 2012). The point is that the limited empirical support enjoyed by theories of tax competition in explaining changes in welfare policies was ultimately generated by oversimplifying models that did not sufficiently distinguish between different politics of redistribution and completely overlooked the fact that tax competition is beneficial to some countries and harmful to others. Doom theorists argue that globalisation and tax

**Figure 2: Gini coefficient and relative redistribution for the US, UK, Ireland**




**Source:** Mahler and Jesuit (2006, Fiscal Redistribution Data Set).

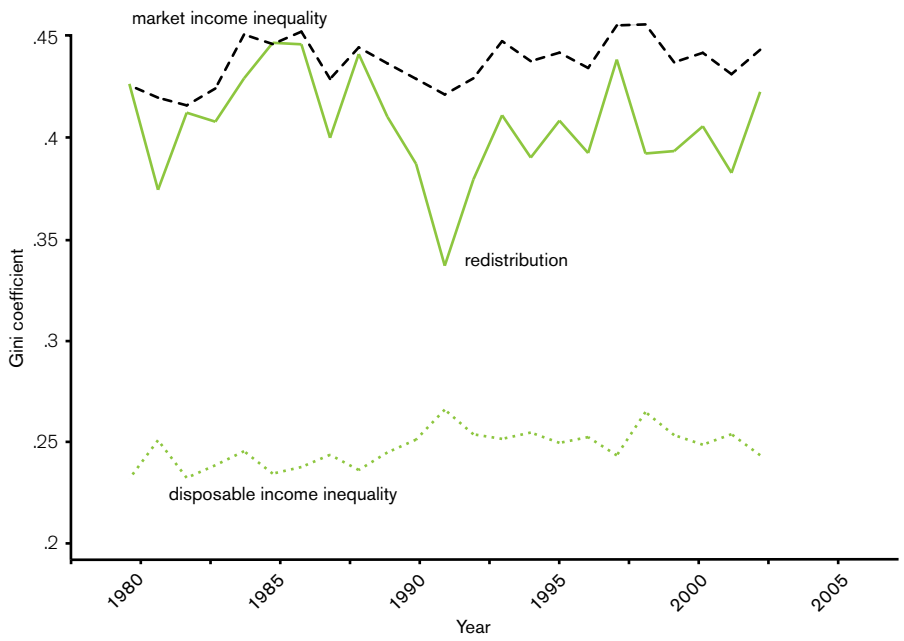
competition reduce the policy autonomy of all governments alike. They do not. If Luxembourg wins on the tax competition front because it has the structural advantage of being small, then it can direct more resources to its welfare state. In contrast, if Germany and France lose in this competition because of their size, then they will either have to adjust tax policies, or fiscal policies, or both.

Indeed, governments have chosen very different adjustment strategies with respect to tax competition, and countries have experienced different trends in income redistribution and income inequality. First, not all governments have kept effective capital tax rates stable; some have reduced these taxes, while other countries, notably Italy, have increased theirs. And second, not all countries have experienced stable levels of income inequality. In fact, income inequality has risen in liberal market economies, but remained relatively stable in coordinated market economies. Both variations cannot be explained easily by approaches that seek solely to account retroactively for the survival of the welfare state. Figures 2 and 3 depict the development of market income inequality, redistribution and inequality of disposable (post-tax and social transfer) income and reveal a clear pattern.

While the development of market inequality remains a) stable over time and b) comparable for liberal market economies (Figure 2) and continental welfare states (Figure 3), the implemented redistribution policies and resulting post-tax income inequality are quite different. Redistribution in liberal market economies, whether via the tax system or through social transfers, decreased substantially over the period identified with "globalisation", resulting in higher post-tax-transfers income inequality. By comparison, continental welfare states adjusted their tax systems to the new global pressures, but kept redistribution at a high level throughout the same period and maintained a relatively higher level of equality.

More specifically, the research shows that governments in countries that distribute income predominantly via social transfers and government spending are more likely to adjust the tax system, while governments in countries that

**Figure 3: Gini coefficient and relative redistribution for continental welfare states (Germany, Greece, Spain, France, Portugal, Italy)**




**Source:** Mahler and Jesuit (2006, Fiscal Redistribution Data Set).

primarily use the tax system to redistribute income are more likely to reduce social transfers and government expenditure. While the former adjustment strategy worked best for continental welfare states, the latter was used by Scandinavian welfare states. The social consequence of tax competition remained small in both groups. In contrast, liberal market economies such as the United States and the United Kingdom predominantly redistributed income via the tax system, but these countries could not cut social transfers and government spending to the same extent as Scandinavian countries. As a result, tax competition had the greatest effect on income inequality in liberal market economies, which is in sharp contrast to the predictions of early globalisation theory, which forecast it would have the greatest impact on European welfare states.

How governments respond to tax competition with imperfectly mobile capital depends on how they redistribute income. Without oversimplifying the complexity of the real world, one can assume that governments can choose any combination of two ways to redistribute income: via the tax system or via social security transfers. While most countries choose a combination of both options, European welfare states tend to redistribute predominantly via social security transfers, while Anglo-Saxon and Scandinavian countries rely more on the tax system. Furthermore, the overall level of redistribution in Anglo-Saxon countries is lower than in the welfare states of continental Europe and Scandinavia. Anglo-Saxon countries thus enjoy a greater degree of flexibility.

For this reason, governments in continental welfare states are more likely to lose political support when they cut social security transfers. In turn, they have stronger incentives to avoid making these cuts and are therefore more likely to rely on tax reforms and deficits to adjust to tax competition. In contrast, liberal market economies and Scandinavian welfare states are less inclined to predominantly use tax reforms. This does not imply that continental welfare

states *exclusively* use tax reforms and other countries rely *solely* on fiscal reforms to adjust to tax competition. On the contrary: all governments use a combination of tax reforms, fiscal reforms and deficits to respond to tax competition. However, continental welfare states, by comparison, rely more on tax policy adjustment and thus increases in labour and capital taxes. Therefore, it is the initial level of social security transfers that determines the political response to tax competition. The result is that small countries with low initial debt levels are the winners of tax competition, while governments in large countries with high initial levels of debt are most likely to have to respond by increasing capital and labour tax rates.

Tax competition leads to modest adjustments in the tax system because governments can choose an adjustment strategy that minimises the social consequences. Most countries that use the welfare state to redistribute income shift the tax burden towards higher taxes on labour (and other more immobile tax sources). Increasingly, however, capital taxation becomes a relatively irrelevant source of revenue. Since even governments in countries that are the losers in tax competition have three options to keep government spending and social transfers stable – higher capital tax rates, higher labour tax rates and higher deficits – tax competition does not lead to significant fiscal policy adjustments in the vast majority of OECD countries.

Given that tax competition is not as severe as the race-to-the-bottom models suggest and that governments have nuanced their adjustment strategies, tax competition has a more profound impact on taxation than on spending. For this very reason, the social consequences of tax competition differ hugely. Countries with an initially high level of social security transfers do not experience much change in income inequality simply because economic pressures on changing fiscal policies remain muted.

Governments in welfare states face much less pressure on tax revenues than early globalisation theories predicted, so the survival of the welfare state comes as no surprise. The optimal adjustment strategy for governments in social welfare states was to raise capital and labour tax rates, moderately increase deficit spending and keep government expenditure and social transfers stable. In effect, the impact on redistribution and inequality remained modest. Large, liberal economies chose a combination of cutting their already weak social security systems and coping with higher deficits. At the same time, they shifted taxation to labour, which eventually caused a moderate increase in inequality and a further decline in redistribution. New Zealand, and to a lesser extent the United Kingdom and the United States, are examples of countries adopting very different strategies. Since initial debt was lower in the United States and the United Kingdom than in New Zealand, tax increases and spending cuts were more moderate, but in New Zealand the government had to increase labour taxes and reduce social transfers to prevent a severe financial crisis caused by rising debts, and as a result income inequality rose significantly.

Welfare states responded according to their initial situation: if debt was already high when tax competition kicked in, the increase in labour taxation was significant. In cases when debt was initially low, the increase in labour taxation was moderate. In Scandinavia, where government consumption was significantly higher than in any other country, the authorities had a strong incentive to increase effective capital and labour tax rates. With capital mobility, governments were likely to opt for increases in effective labour tax rates, but owing to initially very

high spending levels, a stabilisation of tax revenues proved to be difficult. Hence these countries were likely to bring spending more in line with expenditure in continental European countries.

Whether policy adjustments exert an influence on income inequality depends on how countries redistribute income. In Anglo-Saxon and Scandinavian countries, redistribution depends on the tax system. Unless these countries profited from significant capital inflows, tax competition had, at the very least, a modest influence on income inequality. In contribution-based social welfare states, the redistribution of income depended much more on government spending and social transfers. Since the pressure on fiscal policies remained weak, governments found it comparatively easy to defend the welfare state without having to accept the need to increase income inequality.

### *4.1 Empirical investigation*

Available information makes it possible to analyse time-series cross-sectional data which cover 23 OECD countries for a 26-year period from 1980-2005 (owing to random missing data points only 537 out of 572 possible observations are analysed). The tax competition effect is tested by including the distance (inversed) weighted spatial lag of effective capital tax rates to the right-hand side of the capital tax equation. Also tested are the effect of country size (measured by the natural logarithm of GDP), initial levels of social security transfers and debt ratio (in 1975, well before tax competition began), as well as the size of the non-tradable sector (measured as value added of the services industry). A control for union density and left-leaning government portfolio is included. An interaction effect between the domestic capital tax rate and union density is also added as a control variable.

In the second stage, the effect of the difference between country i's effective capital tax rate and the weighted mean of j's (instrumentalised) capital tax rates on fiscal policy (debt ratio and social security transfers) is estimated. Countries could abstain from cutting social security transfers if they allowed for higher capital tax rates than other countries. Governments also needed to maintain higher tax rates if initial debt rates were high and needed to be reduced. Again, the impact of initial levels of social security transfers and debt are examined. Also included is a control for trade openness (exports + imports/GDP), which is also capturing country size,[15] membership of Economic and Monetary Union (EMU), partisanship of the government, union density and the electoral system. Equally analysed is how pressures on the social welfare state, such as unemployment and the share of people aged over 65, affect fiscal strategies.

In the third and final stage, estimates are made of the joint effect of tax and fiscal policies (especially changes in social security transfers, as compared with initial levels in 1975) on income redistribution and income inequality. Also tested is the impact of actual fiscal adjustment strategies (changes in the debt ratio as compared to initial levels), as well as the electoral system, unemployment and the share of elderly people. Unit fixed effects[16] are not accounted for since the initial conditions for all countries as well as an EMU dummy, which are time invariant and capture most of the initial variation, are included.

15 We do not add the log of GDP to the right-hand side of the second stage since it is highly collinear to the trade measure and would thus decrease efficiency. In addition, using different specifications in the various equations of the simultaneous equation model allows better identification of effects because of overidentification.

16 See Pluemper et al. (2005) as well as Pluemper and Troeger (2007, 2011) for a discussion of the pros and cons of fixed effects.

With one exception, the specification of the empirical model is standard, and so are the data sources used. The exception is the distinction between countries that predominantly redistribute income via the tax system and countries that mainly redistribute income via social security transfers. These categories are briefly described here, but it should be noted that continuous variables in the data analysis are used. In 1980 the first group consists of Australia, Canada, Japan, the United States, the United Kingdom and Luxembourg, while the second group is made up of the welfare states of continental Europe and Scandinavia. Switzerland and Portugal do not redistribute much welfare, either via transfers or via the tax systems.

The effect of globalisation and market integration on taxation, social security transfers and redistribution cannot be examined independently. When estimating these effects, one is faced with different kinds of co-determination, simultaneity and endogeneity. Governments decide simultaneously about revenue and expenditure and therefore about tax rates, transfers and public good provision. Yet, taxation is not only contingent on domestic factors, but also on the decisions of policymakers in other countries. To solve these problems and avoid biased estimation results, a simultaneous equation approach is employed, which allows tackling the problem of endogeneity in policy decisions. An instrumental variable approach is used to overcome the endogeneity of the spatial capital tax lag and to account for the multi-stage nature where redistribution and income

**Table 2: First stage: tax competition**

| Variables | Average effective capital tax rate | Average effective labour tax rate |
|---|---|---|
| Spatial capital tax lag weighted by inverse distance (prediction) | 270.536***<br>(49.373) | |
| Effective capital tax rate | | -1.202***<br>(0.147) |
| Total GDP in current US$, natural logarithm | 3.923***<br>(0.414) | 1.482***<br>(0.322) |
| Social security transfers as % of GDP in 1975 | -0.894***<br>(0.131) | 0.609***<br>(0.071) |
| Debt ratio in 1975 | (0.131)<br>0.020 | (0.071)<br>0.010 |
| Value added of service sector as % of GDP | 0.283***<br>(0.094) | 0.720***<br>(0.058) |
| Union density (OECD) | 0.049*<br>(0.026) | -0.232***<br>(0.068) |
| Left-leaning cabinet portfolio as % of all cabinet seats | | -0.020 |
| IA effect between capital tax rate and left | | 0.001**<br>(0.001) |
| IA effect between capital tax rate and union density | | 0.019*** |
| Legal capital mobility (Quinn, 1997) | 0.437<br>(0.795) | |
| Constant | -91.392***<br>(10.535) | -33.757***<br>(7.290) |
| Observations | 537 | 537 |
| R-squared | 0.30 | 0.54 |
| DWH Chi_sqr Test: Endogeneity of instrumented RHS variables | 1.339 | 1.092 |
| Prob > Chi_sqr | 0.247 | 0.296 |
| Anderson IV Relevance: LR Statistic | 1596.00 | 11.67 |
| Prob > Chi_sqr | 0.000 | 0.000 |

**Notes:** Standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1, grey shaded cells indicate endogenous, instrumented right-hand-side variables.

inequality depend on decisions about taxation and social spending. Therefore, six simultaneous equations for effective capital taxation, effective labour tax rates, the debt ratio, social security transfers, relative redistribution and inequality of disposable income are estimated.

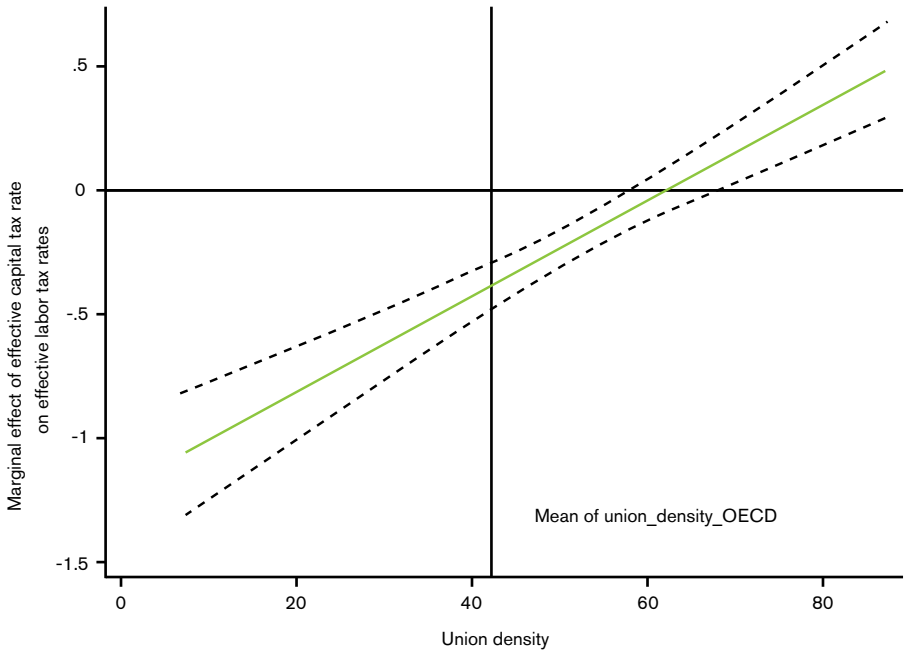
Presented here are the results of a single instrumental variable simultaneous equation model in three levels: the first stage estimates tax policies, where the effective capital taxation of country i depends, *inter alia*, on a distance-weighted average of capital taxation in other countries, whereas labour taxation is partially determined by domestic decisions on capital tax rates. This captures the notion that tax competition has a tax system effect, namely, that governments shift at least parts of the tax burden on capital towards labour, which is less mobile and therefore reacts less elastically to taxation.

Table 2 presents the estimation results of the first stage, where the effect of tax competition on effective domestic capital and labour tax rates is analysed. The main finding is that a country's effective capital tax rate decreases if other countries, especially closer ones, reduce their capital tax rate (tax competition effect). When effective capital tax rates decline, labour taxation goes up (tax system effect).

However, the shift in the burden remains moderate if union density is high. Figure 4 displays the interaction effect between domestic effective capital tax rates and union density. Strong unions clearly weaken the shift in the burden from capital to labour taxation. The influence of left-wing governments, meanwhile, appears less strong: left-leaning governments do not shift the burden much more than conservative governments.

Estimates here also support the view that tax rates, especially on labour, remain relatively high in countries in which the initial fiscal conditions were not particularly favourable to tax competition. However, in countries with high initial levels of social security transfers, a government's ability to reduce aggressively capital taxes in order to attract foreign capital depends on its ability to shift

**Figure 4: Interaction effect between capital tax rates and union density on labour tax rates**




**Note:** Dashed lines give 95% confidence intervals.

### Table 3: Second stage: fiscal policy

| Variables | Debt ratio | Social security transfers |
|---|---|---|
| Difference between domestic capital tax rate and mean of capital tax rate in other countries | -0.263***<br>(0.062) | 0.018<br>(0.012) |
| Difference between domestic labour tax rate and mean of labour tax rate in other countries | 1.218***<br>(0.147) | 0.355***<br>(0.029) |
| Social security transfers as % of GDP in 1975 | -2.407***<br>(0.221) | 0.082*<br>(0.044) |
| Debt ratio in 1975 | 0.747***<br>(0.021) | -0.024***<br>(0.004) |
| Union density (OECD) | -0.514***<br>(0.061) | -0.097***<br>(0.012) |
| Left-leaning cabinet portfolio as a % of all cabinet seats | -0.077***<br>(0.015) | -0.016***<br>(0.003) |
| EMU membership | -9.662***<br>(1.711) | 0.263<br>(0.342) |
| Majoritarian system (DPI) | -7.365***<br>(2.036) | -3.598***<br>(0.405) |
| Unemployment rate (WDI) | 1.940***<br>(0.166) | 0.120***<br>(0.033) |
| Share of population above 65 | 3.102***<br>(0.295) | 0.222***<br>(0.059) |
| Trade ((imp+exp)/gdp) | 0.035<br>(0.027) | 0.007<br>(0.005) |
| Constant | 28.786***<br>(7.835) | 16.084***<br>(1.561) |
| Observations | 537 | 537 |
| R-squared | 0.80 | 0.63 |
| DWH Chi_sqr Test: Endogeneity of instrumented RHS variables | 29.88 | 4.461 |
| Prob > Chi_sqr | 0.000 | 0.107 |
| Anderson IV Relevance: LR Statistic | 121.3 | 121.3 |
| Prob > Chi_sqr | 0.000 | 0.000 |

**Notes:** Standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1, grey shaded cells indicate endogenous, instrumented right-hand-side variables.

the tax burden towards labour, especially high salaries (initial conditions effect). Similarly, and regardless of the initial fiscal conditions, large countries (measured by GDP) find it difficult to compete fully with small countries for internationally mobile capital. Large countries, ceteris paribus, implement higher tax rates on capital than smaller countries, since the tax rate effect outweighs the tax base effect of possible capital inflows (country size effect).

The de facto capital mobility by the size of the non-tradable service sector is operationalised. The larger the non-tradable sector, the less the average de facto mobility of capital, and the easier it is for governments to implement higher tax rates. Indeed, the empirical results support this notion – the larger the value added of the service sector, the higher average effective capital tax rates remain. Once control for actual capital mobility is added by including the size of the service sector, the Quinn measure for *de jure* capital mobility turns out to be insignificant.

At the second level (Table 3), namely fiscal policy adjustments, one can generally observe substantively weaker effects. In other words, the effect of tax competition on fiscal policies remains modest. One finds that governments use higher labour taxes to maintain high levels of social security transfers. However, while governments use capital taxation to stabilise government spending, one observes a positive, but not significant, contribution of capital taxation to social security transfers and an increase in the importance of labour taxation for social

### Table 4: Third stage: relative redistribution and disposable income inequality

| Variables | Effective redistribution | Disposable income inequality |
|---|---|---|
| Difference between domestic capital tax rate and mean of capital tax rate in other countries | -0.003***<br>(0.000) | 0.001***<br>(0.000) |
| Difference between domestic labour tax rate and mean of labour tax rate in other countries | 0.006***<br>(0.001) | -0.002***<br>(0.000) |
| Majoritarian system (DPI) | -0.011<br>(0.008) | 0.005<br>(0.004) |
| Unemployment rate (WDI) | -0.002**<br>(0.001) | 0.001*<br>(0.000) |
| Share of population above 65 | -0.007***<br>(0.002) | 0.003***<br>(0.001) |
| Market income inequality (Gini) | 0.778***<br>(0.120) | 0.299***<br>(0.052) |
| Change in social security transfers compared with 1975 | 0.006***<br>(0.001) | -0.002***<br>(0.000) |
| Change in debt ratio compared with 1975 | -0.000<br>(0.000) | 0.000<br>(0.000) |
| IA effect between mean difference in capital taxation and change in social security transfers† | 0.014<br>(0.009) | -0.006<br>(0.004) |
| IA effect between mean difference in labour taxation and change in social security transfers† | -0.033***<br>(0.011) | 0.014***<br>(0.005) |
| Constant | 0.157***<br>(0.052) | 0.090***<br>(0.023) |
| Observations | 537 | 537 |
| R-squared | 0.37 | 0.34 |
| DWH Chi_sqr Test: Endogeneity of instrumented RHS variables | 22.47 | 23.73 |
| Prob > Chi_sqr | 0.000 | 0.000 |
| Anderson IV Relevance: LR Statistic | 375.2 | 375.2 |
| Prob > Chi_sqr | 0.000 | 0.000 |

**Notes:** Standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1, grey-shaded cells indicate endogenous, instrumented right-hand-side variables. † Coefficients and standard errors shown times 100 for better readability.

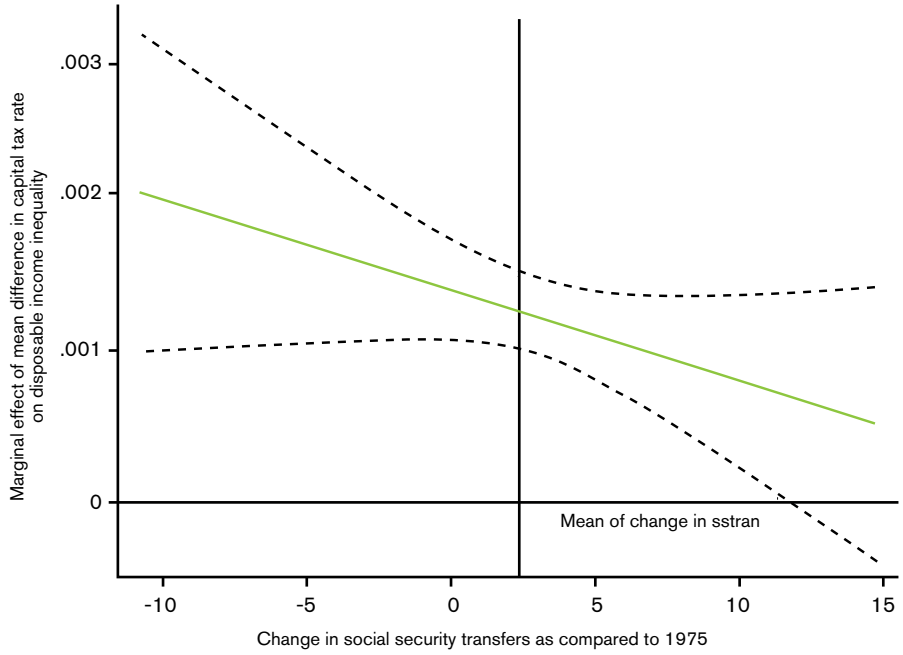
security transfers.[17] In addition, governments need to maintain higher capital taxes in order to reduce initially high debt ratios. Country size affects fiscal policy mostly indirectly through taxation, while the trade volume (which also captures a size effect) does not exert a significant impact on its own.

Finally, at the third level (Table 4), the results suggest that tax competition exerts a small, but not negligible, effect on income redistribution and income inequality, although governments used relatively high tax rates to keep the fiscal policy adjustments moderate. However, this effect is contingent on initial levels of social security and welfare spending.

As Figure 5 illustrates, countries which redistribute income mostly via social transfers will use higher tax rates on capital to redistribute from capital owners to wage earners, which thus reduces income inequality or at least does not allow disposable income inequality to rise. As a result, when social welfare states implement relatively high capital and labour tax rates, fiscal policy adjustments will be

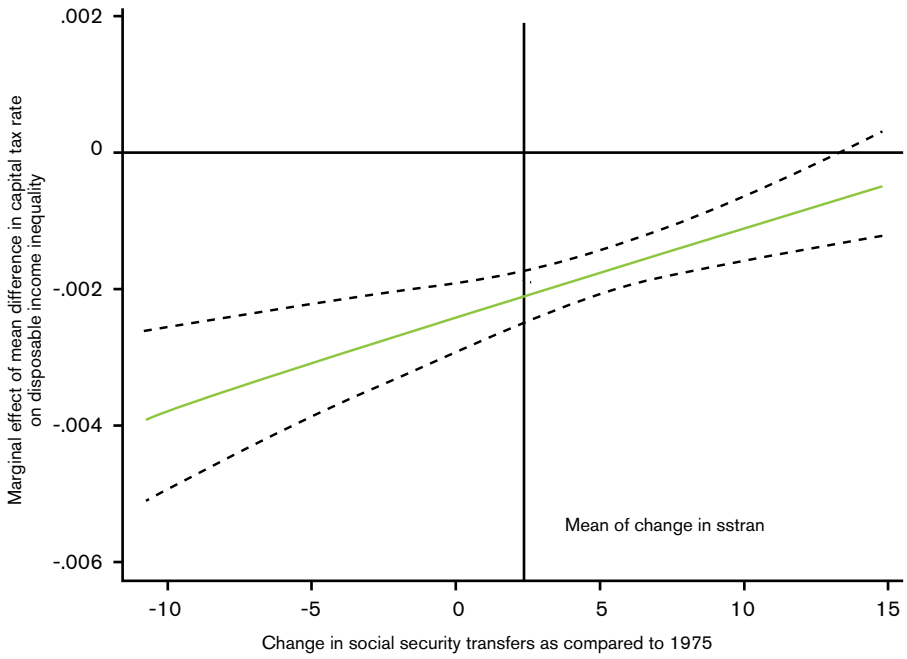
17 We find mostly expected results for our controls. First, countries with majoritarian electoral systems have both lower social security and lower debt levels, which is consistent with previous results (Persson and Tabellini, 1999). Second, although we cannot solve the "old" discussion between the compensation and the efficiency hypotheses, we find more support for the former: openness to trade has a positive but not significant effect on social security transfers and public debt (*compensation hypothesis*). Third, higher unemployment rates and a larger dependency ratio increase debt and social security spending equally. Fourth, EMU membership reduces a country's debt ratio.

**Figure 5: Interaction effect between mean difference in capital tax rates and change in social security transfers on disposable income inequality**




**Note:** Dashed lines give 95% confidence intervals.

**Figure 6: Interaction effect between mean difference in labour tax rates and change in social security transfers on disposable income inequality**




**Note:** Dashed lines give 95% confidence intervals.

modest and the effect of tax competition on redistribution and inequality quite small. The same cannot be said for countries that predominantly redistribute via a progressive tax system. Even if these countries keep relatively high capital and labour taxes, income redistribution declines and inequality increases (Figures 5 and 6). Social security transfers thus offer a better way to prevent an increase in income inequality. This finding, of course, runs counter to the doom theories of tax competition, which predicted that governments had to abandon the welfare state to prevent capital flight.

Most of the empirical findings – even cautiously interpreted – support the theoretical arguments presented here. Indeed, one finds a non-negligible and significant tax competition effect in addition to a strong tax system impact, a shift from capital to labour taxes, which is dampened by political institutions such as strong trade unions. Moreover, one finds support for asymmetric tax competition, a significant country size effect. Small countries implement lower tax rates on both capital and labour. They are able to do so because the tax base effect of inflowing capital outweighs the tax rate impact of lowering the capital tax rate. Yet, tax rates are not completely determined by competition since capital is not fully mobile: the results show that where de facto capital mobility is low – the size of the non-tradable sector large – tax rates on capital remain comparatively higher.

In countries with uncompetitive, high tax rates, tax revenues are used to lower high debt and maintain social security spending. Governments in large welfare states do not reduce the initially high social security transfers but manage to keep social welfare spending at a comparatively high level. However, large public debt forces governments to reduce social security transfers at least slightly. Finally, the effect of tax rates on redistribution and inequality is conditioned on changes in welfare state spending: countries predominantly redistributing via progressive taxes experience an increase in inequality because of the tax competition effect, while countries which redistribute mainly via social spending reduce disposable income inequality, or at least keep it stable.

### *4.2 Summary and implications of the empirical findings*

When confronted with tax competition, governments in different countries choose different policy adjustment strategies. Surprisingly, none of the empirical tests of tax competition, globalisation theories or existing tests to explain the survival of the welfare state take into account the fact that global competition does not affect all countries in the same way.

Tax competition affects countries that redistribute via the tax system differently from countries that redistribute via social security transfers. Indeed, contrary to the predictions of early globalisation theories of welfare state retrenchment, the findings here suggest that liberal market economies using the tax system to redistribute income have found it more difficult to adjust to tax competition. Most welfare states have merely shifted revenues from taxing capital onto labour and maintained high levels of social security transfers.

Therefore, tax competition influences tax and fiscal policies, but not in the simple, homogeneous fashion predicted by earlier models. Instead, the absence of perfect capital mobility leads to "separating equilibria", as some governments have compensated for capital outflows by maintaining high capital and even higher labour tax rates. An increase in debt and cuts in social security transfers are used as alternatives to increasing capital and labour tax rates.

These initial conditions and the choice of policy adjustment strategies ultimately explain why income inequality has risen more in liberal market economies than in continental welfare states. While the latter were able to maintain a high level of social security transfers, the former had to cut down on tax-based redistribution and increase social security transfers. Not all governments in liberal market economies were able or willing to do so. As a result, income inequality increased most in liberal economies whose governments did not increase social security transfers or did so very slightly: the United States and the United Kingdom.

**BOX 1: Tax competition and income inequality**

***1. The myth of a "race to the bottom" in capital taxation***

Many observers – politicians and economist alike – expect that tax competition imposes strong constraints on a government's ability to tax mobile capital bases and eventually this competitive pressure will erode revenues from taxing capital since tax rates will converge to zero. The intellectual origins of this dire prediction are rooted in early models of tax competition. These demonstrate that, given capital mobility equilibrium, capital tax rates converge to zero. Drawing on these models, Fritz Scharpf (1997), a German law professor, argues that "capital is free to move to locations offering the highest rate of return […]. As a consequence, the capacity of national governments […] to tax and to regulate domestic capital and business firms is now limited by the fear of capital flight and the relocation of production. Hence all national governments […] are now forced to compete against each other in order to attract, or retain, mobile capital and firms."

Today, there is little doubt this view has been proved wrong by history. Data overwhelmingly demonstrates that:

- governments continue to tax capital;
- today's effective capital tax rates are not very different from those in the mid-1980s; and
- when it comes to effective tax rates, countries differ as much (or perhaps even more so) today as they did 25 years ago. Indeed, there is no evidence of convergence.

***2. Why is the race-to-the-bottom scenario wrong?***

In recent times social scientists have advanced three theories that all explain why the race-to-the-bottom scenario is wrong. The first explanation relies on international exchange-rate adjustment mechanisms. If a country implements high capital tax rates relative to all other countries, it will not lose its competitiveness. Instead, this country will have a comparative advantage in the production of goods and services that are relatively inelastic to high capital tax rates. Labour-intensive production immediately springs to mind, but that is only part of the story. In fact, as California has proved in the case of the United States, it also holds true for many high-tech industries, whereas traditional low-tax states like Delaware would only attract "old industries" such as petrochemicals, car manufacturing, apparel, meat processing and so on. Would one rather have the industrial base of California or of Delaware?

The second explanation – arguably the least convincing one – stresses that in order to maximise political support, governments have to provide public goods, redistribute income and invest in an effective administration. All of this is costly. To finance such expenditures, governments depend on taxing all activities that bring in revenues, including business and therefore capital. Although revenue from capital taxation accounts on average for only 10% of a government's total revenue in most OECD countries, no government ever implemented spending cuts of around 10% and won the next election. Therefore, if governments want to create optimal conditions for corporations, they have to find another source of revenue. At the same time, this other revenue does not tend to harm pivotal voters. Finding rich natural resources helps (for example, Norway), but for most other countries such a source of revenue is not an option. What is available – labour and consumption taxes – will not help a government if it hopes to win the next election.

The third explanation modifies the assumption that all race-to-the-bottom arguments more or less make implicitly, namely that capital is perfectly mobile. In fact, it is not. Many corporations (especially the services industry) need to be close to their customers, others require a certain combination of skills that are only available in established industrial clusters. Therefore, a single company cannot simply leave the area in which its industries prosper because it may not find the correct combination of skills in other countries. Indeed, only a small number of the capital bases of most OECD countries are actually mobile.

This argument has important consequences for the predictions of the tax competition model. First, with imperfectly mobile capital, the zero capital tax rate equilibrium disappears. No country will implement zero tax rates; rather, all countries maintain a positive capital tax rate. Second, governments will choose different optimal combinations of capital and labour tax rates. The optimal combination is largely determined by country size: very small countries implement low capital and low labour tax rates. They manage to widen their tax base by importing capital from other countries. A second group of countries will slightly reduce capital tax rates and increase labour tax rates to compensate for revenue losses. A third group will maintain, or even increase, capital tax rates and increase labour taxes. These countries will export capital to the first and potentially to the second group.

***3. Why do governments choose what sometimes appears to be a less attractive adjustment strategy?***

The competitiveness of countries in tax competition usually trumps the adjustment strategy. More competitive countries choose more attractive strategies, while less competitive countries have to try hard to generate sufficient revenues, and thus need to increase both capital and labour taxation. Five factors are decisive: country size; the mobility of capital (the share of immobile capital to total capital); the level of debt when tax competition was triggered in the mid-1980s; institutional and legal constraints on the government; and societal norms that influence the maximal gap between capital and labour taxation.

Country size exerts the dominant influence on a country's ability to compete for mobile capital basis because small countries can increase revenues by reducing capital tax rates if they attract sufficient inflows of foreign capital, while larger countries are unlikely to attract enough capital to make this a viable strategy. In countries with a small domestic capital base, tax revenues decline less (in absolute terms) than for countries with a large base. It is easier, therefore, to attract enough foreign capital (in absolute terms), so that the decline in revenues from reducing the tax rates is offset by the tax that foreign companies pay. In technical terms: for small countries the tax base effect dominates the tax rate effect on revenues; for large countries the tax rate effect dominates the tax base effect.

The second most important effect is the mobility of the domestic capital base. Governments in countries that have a predominantly immobile capital base can maintain high tax rates without losing much capital to foreign countries. This is true of countries with a highly specialised and skilled labour force (Germany, Switzerland, etc.) and of countries in which services and agriculture dominate (Italy).

Fiscal factors provide another important influence on tax policies. Most importantly, governments in countries with high levels of indebtedness will find it difficult to reduce capital tax rates unless they are very small. For larger indebted countries, tax revenues from taxing capital are typically indispensable. Mounting public debt in Belgium, for example, has prevented it from choosing a strategy similar to Ireland's. While the Irish government could reduce capital tax rates, allow an increase in debt for a limited period of time and eventually attract foreign capital, the Belgian government had to make sure it was still capable of servicing its debt. This prevented the country from competing for mobile tax bases.

These three factors arguably have a greater impact on countries' adjustment strategies to tax competition than the favourite explanation of most political scientists: institutional constraints. This is not to claim that such constraints do not matter. For example, in the late 1980s, in particular, governments in countries with proportional electoral systems found it difficult to cope with the tax reforms in Anglo-Saxon countries. Indeed, coalition governments often seem less capable than single-party governments of responding quickly to a changing environment. Whether the former generally find it more difficult to compete for mobile tax bases than single-party governments because they have to consider more – and potentially competing – interests in the coalition or because they have to be responsive to a broader set of voters remains an open question. It is worth noting, however, that political scientists find that the greater the number of actors that are required to change the status quo, the fewer reforms are likely to be introduced.

***4. What are the social consequences of tax competition?***

These depend on the type of country and the adjustment strategy. Small countries with initially low levels of public debt and few institutional constraints on the government are the winners of tax competition. These countries reduce capital tax rates and

attract strong capital inflows. The increased capital base allows the governments in these countries to reduce public debt, invest in a welfare state and public goods and, eventually, to reduce labour tax rates as well. Luxemburg is a prime example. Ireland pursued the same strategy with some immediate success, but the collapse of the Irish banking system and its subsequent bail-out prevented the government from directing more resources to welfare spending.

Ironically, large welfare states generally cope well with tax competition, primarily because it is possible to finance the modern welfare state with labour taxes. Nowadays, no redistribution from capital to labour is required to finance welfare transfers. This would have been different if tax competition had occurred 30 years earlier. But in the late 1980s welfare states already depended on redistributing welfare across the middle class, and from the middle class to the unemployed.

In Anglo-Saxon countries – the countries that Fritz Scharpf expected to become the winners of tax competition – the situation is more complex. Anglo-Saxon countries do not redistribute income through welfare spending. They traditionally reduce income inequality by combining relatively high capital tax rates with relatively low income taxes. With tax competition, these countries reduce capital tax rates. The convergence of capital tax rates to the lower level of income taxes largely reduces the redistributive component of the Anglo-Saxon tax model. Consequently, income inequality in Anglo-Saxon countries has risen sharply. Elsewhere, it has for the most part remained stable.

***5. Conclusion***

Tax competition has had a minor impact on the majority of OECD countries. No doubt, tax competition has produced some winners – Luxembourg, Ireland and capital owners in Anglo-Saxon countries – and some losers – mostly large continental European welfare states such as France and Spain – but at the systemic level the consequences have been minor. Indeed, welfare states have remained welfare states, and Anglo-Saxon countries have remained Anglo-Saxon countries, and both have continued to be very different from one another.

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## 5. Policy conclusions

- Governments in Western democracies need to strike a balance when it comes to the regulation of immigration. On the one hand, they need to address the concerns its citizens may have with respect to the job uncertainty caused by economic integration. On the other hand, governments have to recognise that inefficiently high barriers to the inflow of labour will negatively affect future growth and economic performance because they also restrict the inflow of highly skilled foreign-born talent. In effect, adopting policies that acquiesce to public anxieties for short-term electoral purposes can have detrimental economic effects in the long term. In the UK context, more restrictive immigration regulations in response to the economic crisis and international terrorism have meant that rules for non-EU students have been tightened. To the extent that some students would typically stay in the country after their studies and become young high-income tax payers, one unintended consequence of this policy is that the UK will lose out because highly skilled immigrants are net contributors to the social welfare (and pension) system.
- An in-depth analysis of globalisation and welfare state policies shows that strong unions and corporatist wage bargaining do not just make labour markets inflexible. Coupled with wage moderation and a strong vocational education system, they can in fact provide a desirable environment for skill-intensive industries.
- Tax competition does not have the same effect on all countries. Indeed, it creates winners and losers. The competitiveness of a country (size, mobility

of capital, initial fiscal conditions) determines countries' fiscal adjustment strategies. Cutting capital taxes, therefore, will not have the desired effect for many countries (especially large ones) of capital influx. And even if governments succeed in attracting FDI by lowering taxes for corporations, the additional revenue will not offset the loss in income caused by the tax cut. Since revenues from capital taxes, on average, only amount to 10% of total tax, not much can be gained from cutting capital tax rates. Governments that want to win elections need to consider the trade-off between a small gain in capital tax revenue and a 10% reduction in government spending (if they do not want to, or are unable to, increase deficit spending and government debt). A 10% spending cut will have large electoral repercussions. Policymakers need to focus on other measures to attract corporate investment, such as the provision of highly skilled labour and improved infrastructure.

- Large countries with strong welfare systems are very unlikely to win corporate and capital tax competitions. In general, governments in these countries should not try to attract mobile capital by merely reducing corporate and capital tax rates but should invest in other pull factors, such as infrastructure and vocational and higher education, to increase the pool of skilled labour.
- Globalisation and market integration can have important social implications. While the welfare state in general is affected to a lesser degree than predicted by the early doom theories, countries that traditionally redistribute via the tax system (including the UK) tend to experience larger post-tax income inequality. This needs to be addressed by policymakers in order to avoid social unrest and dissatisfaction with market integration, and it is key if the economy is to benefit not only from trade openness and market integration, but also from an influx of highly skilled foreign labour. Different strategies seem to be viable to solve the problem of greater income inequality: politicians can target redistribution efforts towards the losers of market integration, while investment in education and the development of skills can allow larger sections of the workforce to benefit from premiums generated by specialisation.

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