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Tax Competition

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Author Biography

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Corporation tax rates in OECD countries have been falling for the last three decades. This has widely been interpreted as the result of competition between governments to attract both real economic activity and taxable income. And such a view is supported by some government statements; notably the coalition government in the UK announced in 2010 its intention in to have the most competitive corporation tax in the G20, and proceeded to reduce the UK rate from 28% to 20% over the life of that parliament.

This paper presents research on the theory of competition, difficulties in using statistical techniques to understand the extent of competition, and the results of the empirical research. Broadly, empirical research supports two propositions. First, source-based corporation taxes tend to have lower rates when capital is more mobile, typically when economies are more open. Second, countries respond to changes in tax rates of their competitors, especially in statutory rates. There is also anecdotal evidence of competition over much more specific aspects of the tax system.

1. Theory

Basic Model

The standard theory of capital tax competition models a group of countries within which a fixed stock of capital can flow freely.[1] A source-based tax is levied in each country on the capital located there. Then in equilibrium capital would move between countries until the post-tax rate of return was the same in all countries. The tax in each country would raise the required pre-tax marginal rate of return on capital located there, but the owners of capital would earn the same world rate of return post-tax in all countries. Any returns to capital over and above this world rate of return reflect a benefit of locating capital in a particular location, and are therefore assumed to accrue to residents of that country. Residents in each country value their own private consumption, and also publicly-provided goods and services.

In this setting there is a trade-off for a small open economy in setting its optimal rate of capital taxation. Suppose residents would like to increase the provision of publicly-provided goods and services, and are willing to forego some private consumption to pay for this increase. An additional lump-sum tax levied directly on the citizens could achieve this efficiently. But an increase in the tax on capital located in the country would have two effects. For a given level of capital, it would raise revenue to pay for the public goods and services, as desired. However the increase in the tax

[1] The classic exposition of this model is by Zodrow and Mieszkowski (1986) and Wilson (1986). Note that this section draws on an excellent review of the theoretical literature by Keen and Konrad (2014).

rate would also induce capital to move out of the country to other countries, pushing up the domestic pre-tax rate of return, and reducing the pre-tax rate of return elsewhere, until the equilibrium is again reached. This would reduce the total income accruing to domestic residents in the country. In this setting, this is a cost of providing publicly-provided goods and services paid for by a source-based tax on capital. Given this cost, source-based taxes on capital will be lower, and public goods and services will be under-provided, relative to an efficient tax.

Introducing companies

Clearly, many features of this basic model are extreme. An obvious policy option in the context of this model would instead be to tax capital owned by residents. In a standard tax system, individuals are taxed on their worldwide capital income; if the same rate were applied to all income, and individuals are immobile, then such taxes would not affect the location of capital. If the amount invested is fixed, then intuitively such a tax would be efficient.[2]

However, this analysis does not readily apply in the case of taxing the profit of corporations. To consider corporations, we need to distinguish foreign portfolio investment by individual capital owners from foreign direct investment by multinational companies. Taxing multinational corporations on a residence basis (ie. where the parent is located) on their worldwide income is different to the extent that parent

[2] More formally, Keen and Wildasin (2004) analyse conditions under which this is true.

companies are more mobile, and hence likely to change their location in response to differences in taxation between countries.[3] Most OECD counties no longer aim to tax worldwide income in the form of foreign source dividends. The debate over inversions in USA is essentially over the extent to which the USA can continue to do so by preventing American multinationals moving abroad.[4] Even if existing corporations are prevented from moving, a residence-based tax on worldwide income would create a strong disincentive to registering a new company in the US.

But in most countries, corporations are taxed on a source basis, as in the basic model. The activities of multinational corporations are mobile; and there is plenty of empirical evidence that location decisions depend on source-based taxes.[5] So in this context the model does appear to be consistent with downward pressure on rates of source-based corporation tax.

Taxing economic rent

Another simplification of the basic model is that capital owners receive only the marginal rate of return on their investment. But in a world of multinationals with valuable intangible assets and brand names, it is more plausible to suppose that the corporations capture some economic rents. This has two implications for the model. First, the gains to domestic residents from attracting mobile capital are likely

[3] See Voget (2011) for evidence on this.

[4] Of course, the USA collects little revenue from worldwide income since the tax is only applied when profits are repatriated to the USA.

[5] See the companion ETPF Policy Paper by Voget (2015).

to be smaller. But such gains still would exist - a higher capital stock would induce more demand for local factors such as labour, and hence would benefit domestic residents to some extent (partly through higher wages, reflecting higher productivity of labour).

Second, allowing for corporations to earn economic rent, the nature of the tax effect is a little different. In the basic model capital flows between countries until the post-tax rate of return is equalised. But in a world in which companies may earn economic rent, a tax on economic rent can affect location decisions if two location options are mutually exclusive. In this case, the location decision should depend on which location offers the higher post-tax economic rent. In this case, the conclusions of the basic model still hold to the extent that a higher tax rate is likely to induce capital to move out of the country, though the mechanism through which this is expected to occur is different. The source-based nature of the tax therefore still implies a problem of competition, even in this setting.[6]

Introducing economic rent also introduces one other important consideration, though, which depends on the effective incidence of the tax. In the basic model, suppose the country we are analysing is so small that it cannot affect the world rate of return. Then owners of capital cannot bear the tax – they can shift the location of their capital, but still earn the same rate of return after tax. The tax must therefore be borne by domestic residents. By contrast, taxes

[6] See Devereux and Griffith (1998) for the first analysis of the roles of the marginal and average effective tax rates, and Devereux et al (2008) for an empirical analysis of competition in each type of effective rate.

on economic rent are normally incident on the owners of capital; this is because a pure tax on economic rent would not affect the marginal decisions made by the owners; hence prices and wages would be unaffected. This is important since at least part of a source-based tax on economic rent would be shifted to non-resident owners of capital. This introduces a trade-off for countries. On the one hand a source-based tax still induces capital to move away. On the other hand, the tax can increase domestic welfare by inducing a transfer from non-residents.[7] This trade-off mitigates the downward pressure on corporation tax, but would apply particularly to a tax levied only on economic rent.

Profit shifting and preferential regimes

Another factor not captured in the basic model is the possibility that a company may shift profit from a high tax country to a low tax country. This is clearly the subject of much policy debate at present. Introducing this into the basic framework introduces two offsetting effects.

First, for a given tax rate and given stock of capital, shifting profit to a lower tax country reduces tax revenue and hence reduces the supply of public goods and services. This tends to reduce the welfare of domestic residents through hampering the provision of public goods and services; and this is especially true to the extent that the tax is borne by non-residents. Second, though, if the profit shifting results

[7] See Auerbach and Devereux (2014) for an analysis of this in the context of taxes on economic rent.

in a lower effective tax rate, then the impact on the capital stock will be lower, and domestic welfare will be higher. This introduces a tension in thinking about profit shifting, which seems to be reflected in policy.

The possibility of profit shifting may induce downward pressure on statutory rates (in otherwise high tax countries) to limit the degree of outbound profit shifting. But governments can also try to prevent profit shifting by using anti-avoidance devices, such as thin capitalisation rules and controlled foreign company (CFC) rules. To the extent that such devices are successful in limiting the extent that companies can shift profit abroad, then there are again two offsetting effects: there should be less outbound profit shifting, but the resulting higher effective tax rates will induce more capital to move abroad. The former effect would reduce downward pressure on statutory rates; the latter effect would increase downward pressure on effective tax rates.

This tension is reflected in preferential regimes. In the simplest case, suppose that not all capital is equally mobile: in fact, suppose there are just two types of capital, mobile and immobile, and no profit shifting. Then there is a case based on economic efficiency for taxing the immobile capital at a higher rate than the mobile capital. This is because countries only need to compete over the mobile capital, and so downward pressure on effective tax rates only applies to the mobile capital.[9]

[8] As was first noted by Keen (2001).

[9] One may object on grounds of fairness, but that is not straightforward to analyse without identifying the effective incidence of the tax.

A variant of this idea would be to suppose that the companies with mobile capital are also more able to shift profit to low tax countries. Then it may not be necessary formally to have two different tax rates; weak anti-avoidance rules could perform the same function. Less mobile companies would pay the full tax rate, but the social costs of them doing so are smaller since they are less mobile. More mobile companies would be able to avoid the full tax rate by shifting their profit abroad – this reduces tax revenue, but reduces the distortion to the location of capital. Government rhetoric does not normally support weakening anti-avoidance rules, since this would appear to undermine the tax system; however, it is an open and empirical question whether governments have deliberately followed a strategy such that described here.

Giving a competitive advantage to domestic companies

A related issue that has not been addressed at length in the theoretical literature is the extent to which governments may also have aimed to create a competitive advantage for mobile domestic companies over their competitors. The idea is that if domestic companies are helped to avoid tax on income generated in other countries then there would be no cost to domestic revenues (though there would be a cost to revenues in other countries), yet domestic companies might be given a competitive advantage over their competitors in other countries that are not able to avoid taxes. One way in which it has been argued that such a process may take place is again through weakening anti-avoidance rules.[10] This would enable the domestic company to gain from making

[10] See Devereux and Vella (2014).

tax-deductible payments (of interest and royalties, for example) from affiliates in high tax countries to other affiliates in low tax countries. By judicious choice of intermediary affiliates and their locations the company may avoid tax on the receipt of that income. The benefits of any such strategy depend, of course, on the extent to which the domestic companies in question are really "domestic" in the sense that their owners reside domestically. Given international portfolio investment this may not necessarily be the case. Of course, governments may in any case be susceptible to lobbying by these companies; but this introduces questions of political economy which are beyond the scope of this survey.

Other issues

This discussion has barely scratched the surface of contributions to the theory of tax competition. Among other things, we have not discussed: the potential gains from cooperation; the dynamic nature of competition – it is not a one shot game, as described here, but rather an infinitely repeated game, with governments making moves in the game at different times; there are dynamics too in investment – once an investment is sunk the government has an incentive to raise the tax rate – a problem known as time consistency; the role of exchange of information; and how prevalent tax competition would be under alternative tax systems such as formula apportionment. These all add important considerations to the understanding the tax competition issue, and are relevant for governments in determining policy. Nevertheless we leave them to one side

in favour of examining the evidence for tax competition.[11,12]

2. **Evidence**

How could we tell if countries are actually engaged in tax competition with each other? And, if they are, how can we measure the size of the effect? To begin to answer these questions it is useful to try to identify testable hypotheses arising from the theory. This is not straightforward, since hypotheses differ between models. However, there are two predictions that have been particularly tested in the empirical literature:[13]

Proposition 1: Countries set a lower source-based tax rate on capital income if capital is more mobile.

Proposition 2: Tax rates are strategic complements – that is, a rise in the tax rate in country A would induce a rise in the tax rate in its competitor country B.

These two hypotheses form the basis of much of the empirical research on competition over source-based corporation tax.

Some issues in testing hypotheses

Before describing the results of this research, it is worth

[11] See Keen and Konrad (2014) for a full analysis of the theory of tax competition.
[12] This section draws on a longer and more detailed survey by Devereux and Loretz (2013).
[13] These are certainly not the only testable implications of various theoretical models.

noting some problems in testing them. As with most empirical tests in economics, the central issue is identifying cause and effect. For example, to test Proposition 1, we need to identify differences in capital mobility across countries and compare that with differences in tax rates. That would indicate the degree of correlation between the two but it would not identify causation. For example, if for historical reasons a group of countries had both low capital mobility and also high tax rates (due to the same, or different, underlying factors), then observing a correlation between high tax rates and low mobility may not then be strong evidence for Proposition 1. Indeed, observing the reverse may not be strong evidence against Proposition 1 – there may be many other factors involved in setting tax rates, such as the availability of other forms of taxation.

It helps if we observe changes over time – as countries becomes more open (implying greater mobility), do we also observe reductions in their tax rates? Even then, we should be wary about why a country has become more open; those reasons may also have a direct effect on how the government chooses its tax rate, irrespective of potentially greater competition. In principle, we need to control for other factors that influence mobility and tax rates.

Issues arise also as to the measure of openness used. Some studies use measures based on the size of international trade. But while that may reflect greater capital mobility, it also may reflect greater capital immobility – if companies need to export to, rather than produce in, the country in which they sell. And both trade and capital movements may

depend also on tax rates themselves. An alternative approach uses information on legal restrictions on capital mobility, changes in which are less likely to have been influenced by changes in tax rates.[14] Other broad measures of openness raise other issues. For example, using measures of the degree of economic integration between countries suffers from the problem that that increasing integration may at first increase mobility and then diminish it. The idea is that first opening up barriers between countries induces trade and capital flows. But eventually these flows may be translated into the development of agglomerations of economic activity. These agglomerations tend to reduce capital mobility in the sense that companies may find it more profitable to locate nearby other similar companies.

Complex issues also arise in attempting to test Proposition 2. The popular view that countries are competing with each other over source-based corporation tax is fuelled by reductions in corporation tax rates that have taken place gradually in most countries over the last 30 years. But how should we interpret this? If reductions in tax rates are indeed a result of competition, does this mean that we are in a new equilibrium in each period? Or that we are simply observing a slow movement to a new equilibrium? If the latter is true (as seems plausible), then tax rates in any period would not simply be the result of the degree of capital mobility in the same period, but of capital mobility several years earlier, combined with a long adjustment process perhaps due to the perceived costs of significant adjustments to the overall tax system.

[14] Such as those measured by Quinn (1997).

Further, each country can only set one tax rate in response to many potentially competing countries. This implicit aggregation of the competitive pressures from several other countries can in principle be dealt with by constructing a weighted average of tax rates in other countries. But that raises the question of the appropriate weighting mechanism. In principle that may depend on the nature of the competition – for example, whether it is over resource flows (as described above), or, for example, flow of information.[15] Some papers aim to test between different theories by comparing the results of different weighting schemes,[16] while others allow for different strategic reactions to EU member states and non-EU member states.[17] Devereux et al (2008) attempt to distinguish between different forms of competition by testing whether the degree of interaction depends on the degree of openness in the economy.

Results of empirical tests

It is necessary to be selective here in briefly summarizing the results of the empirical literature. I focus only on evidence of international tax competition in taxes on corporate profit, addressing directly Proposition 1 or 2.[18] Studies on this issue can be split according to whether they use measures of taxation based on legal tax rates, such as the statutory tax rate or forward-looking measures of effective tax rates, or

[15] See Brueckner (2003).
[16] See Redoano (2014).
[17] See Davies and Voget (2010).
[18] I therefore leave to one side evidence of sub-national competition, and also evidence of other forms of competition between national governments. This evidence is summarised in Devereux and Loretz (2013).

measures based on receipts of tax revenues, typically expressed as a proportion of GDP.[19]

A large group of studies presents econometric evidence of Proposition 1. They tend to measure mobility through indices of openness such as globalization or internationalisation, and attempt to identify whether a systematic relationship can be found with source-based tax rates. Many of the earlier papers come from political science, and use a variety of measures of tax rates based on tax revenues.[20] Broadly they find either a positive relationship or a very weak negative relationship. A possible explanation is that these studies rely on measures based on revenues, which in turn depend on the level of taxable income. Although statutory tax rates have fallen over the last 3 decades, revenues have generally not fallen as a percentage of GDP. One explanation is a rise in profit – the tax base. It is plausible that a rise in profit has been associated with an increase in openness, which could induce a positive relationship between openness and these measures of tax rates that is unrelated to tax competition.

More recent papers have used measures of the statutory tax rate or a forward-looking measure of the effective tax rate.[21,22,23] As noted above, the former is relevant for profit

[19] We do not discuss evidence that is purely descriptive, such as the early contribution of the Ruding Committee (1992), Devereux (1995), Desai (1999) and Devereux et al (2002).

[20] See, for example, Garrett (1995, 1998a, 2000), Quinn (1997), Basinger and Hallerberg (1998), Swank (1998), and Garrett and Mitchell (2001).

[21] See Grubert (2001), Swank and Steinmo (2002), Slemrod (2004), Bretschger and Hettich (2005), Hansson and Olofsdotter (2005), Winner (2005), Schwarz (2007), Loretz (2007), Basinger and Hallerberg (2004), Garretsen and Peeters (2007).

[22] Typically they use the Devereux and Griffith (1999, 2003) measure.

[23] As noted above, papers also differ in their use of measures of openness.

shifting, but it is also an important determinant of the latter, which is more relevant for real flows of capital. The effective tax rate takes into account changes in the tax base, but only to a limited extent. But these tax rates are not affected by changes in the level of profit or other economic variables.

Unlike the earlier studies, these studies have found a stronger, and negative, relationship between these measures of tax rates and measures of openness. Bretschger and Hettich (2005) explicitly compare the two approaches of using forward-looking and backward-looking rates.[24] The former are negatively related to openness; the latter are positively related to openness. Schwarz (2007) also finds a stronger negative relationship with forward-looking than with backward-looking measures. Slemrod (2004) finds that openness puts downward pressure on statutory rates, but not on tax revenues. Loretz (2007) investigates forward-looking cross-border effective tax rates, and also finds a negative relationship with openness.

The broad conclusion of this strand of literature is therefore that there appears to be a negative relationship between measures of openness and statutory or forward-looking measures of tax rates. But — perhaps because openness has the effect of raising profit — if anything, there is a positive relationship with measures of taxation based on tax revenues. Given the broad scope of this form of empirical approach, these papers have not been able to distinguish between alternative models of tax competition.

[24] They use the forward-looking rates developed by Genser, Hettich, and Schmidt (2000), but Bretschger (2010) provides similar results when using the Devereux and Griffith approach (1999, 2003).

There have been few direct empirical tests of Proposition 2 for national-level source-based corporation tax rates.[25] In an early contribution Altshuler and Goodspeed (2002) examined interactions in corporation tax revenues as a proportion of GDP in the OECD between 1968 and 1999, finding that after the US 1986 tax reform EU countries behaved as if the US was a Stackelberg leader in setting corporate taxes. However, the use of revenue-based measures to test for tax competition is again problematic for the reasons set out above.

A small number of papers investigate strategic competition using statutory or forward-looking effective tax rates. Devereux et al (2008) consider a model in which firms simultaneously allocate capital (which depends on the effective marginal tax rate) and profit (which depends on the statutory tax rate) between countries. Small open economies may not be able to influence the world rate of return and consequently we would not expect to observe strategic interaction in effective marginal tax rates. However, they may compete over the allocation of profit, and so there would be a positive reaction in statutory rates. Both propositions were confirmed in this paper. This paper also found that strategic reactions were stronger in countries that were more open, based on the indices developed by Quinn (1997).

Devereux, Lockwood, and Redoano (2008) used a uniform weighting matrix in their preferred specification. Other papers have seen the EU – and especially the role of more recent accession countries - as the driving force of tax

[25] There is a much larger literature at the sub-national level; see Devereux and Loretz (2013).

competition. Redoano (2007) and Cassette and Paty (2008) explicitly investigate this. Davies and Voget (2010) use a more elaborate design which shows a stronger reaction to other countries within the EU. By contrast, Overesch and Rincke (2011) use distance-based weights as well as a lagged tax rate to account for persistence in the tax rates setting. They find evidence of sluggish adjustment of tax rates; their long run estimate is similar to that of Devereux et al (2008). Finally, Heinemann, Overesch, and Rincke (2010) focus on tax rate cutting decisions and how these are determined by the tax rates in neighbouring countries. Although using a different approach, their results are consistent with the literature finding positive reaction functions.

Other evidence

This paper is primarily concerned with evidence of tax competition from statistical analysis of tax setting behaviour by national governments. However, to date such studies have been limited to rather broad measures of taxation. Yet there is anecdotal evidence – some of it from statements by governments themselves – that competition has become more subtle. Governments appear to compete over broad aspects of corporation tax such as the statutory rate. But they may also compete over specific measures such as CFC regimes, thin capitalisation regimes, and similar measures. Such anecdotal evidence is not subject to the same degree of rigor as statistical evidence, but may be instructive in its absence.

There are numerous examples of anecdotal evidence of such competition. For example, an agreement between the German and UK governments over the design of patent boxes was generally taken to be the result of what was

perceived to be the unfair design of the UK patent box regime.[26] Others have also pointed to the favourable UK Finance Company regime with the CFC rules, and the US check the box rules, both of which have been thought to favour domestic companies. And – following its declared aim in 2010 to have the most competitive corporation tax regime in the G20 - the UK government explicitly pointed to its favourable treatment of interest payments as being a source of competitive advantage.[27]

[26] See the Germany-UK Joint Statement at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/373135/GERMANY_UK_STATEMENT.pdf.
[27] See HM Treasury and HMRC (2010), p.14.

References

Altshuler, Rosanne, and Timothy J. Goodspeed, 2002. "Follow the Leader? Evidence on European and U.S. Tax Competition", Departmental working paper No. 200226, Rutgers University, Department of Economics.

Auerbach, Alan J. and Michael P. Devereux, 2013. "Consumption and cash-flow taxes in an international setting", Oxford University Centre for Business Taxation Working Paper 13/11.

Basinger, Scott J., and Mark Hallerberg, 2004. "Remodeling the Competition for Capital: How Domestic Politics Erases the Race to the Bottom", *American Political Science Review* 98 (2), 261–276.

Bretschger, Lucas, 2010. "Taxes, Mobile Capital, and Economic Dynamics in a Globalising World", *Journal of Macroeconomics* 32(3): 594-605.

Bretschger, Lucas, and Frank Hettich, 2005. "Globalization and International Tax Competition: Empirical Evidence based on Effective Tax Rates", *Journal of Economic Integration* 20 (3), 530–542.

Brueckner, Jan K., 2003. "Strategic Interaction among Governments: An Overview of Empirical Studies", *International Regional Science Review* 26 (2), 175–188.

Cassette, Aurélie, and Sonia Paty, 2008. "Tax Competition among Eastern and Western European countries: With Whom Do Countries Compete?", *Economic Systems* 32 (4), 307–325.

Davies, Ron B., and Johannes Voget, 2010. "Tax Competition in an Expanding European Union", GEE Papers 0033. Gabinete de Estratégia e Estudos, Ministério da Economia e da Inovação, Lisbon.

Desai, Mihir A., 1999. “Are We Racing to the Bottom? Evidence on the Dynamics of International Tax Competition”, in *Proceedings of the Ninety-First Annual Conference on Taxation*, 176–187, National Tax Association, Washington, DC.

Devereux, Michael P., 1995. “Tax Competition and the Impact on Capital Flows”, in Siebert, H. ed., *Locational Competition in the World Economy,* 169–196, Mohr, Tübingen.

Devereux, Michael P., and Rachel Griffith, 1998. “Taxes and the location of production: evidence from a panel of US multinationals”, *Journal of Public Economics* 68.3, 335-367.

Devereux, Michael P., and Rachel Griffith, 1999. “The Taxation of Discrete Investment Choices”, Institute for Fiscal Studies Working Paper Series W98/16.

Devereux, Michael P., and Rachel Griffith, 2003. “Evaluating Tax Policy for Location Decisions”, *International Tax and Public Finance* 10 (2), 107–126.

Devereux, Michael P., Rachel Griffith, and Alexander Klemm, 2002. “Corporate Income Tax Reforms and International Tax Competition”, *Economic Policy* 17 (35), 451–495.

Devereux, Michael P., Ben Lockwood, and Michela Redoano, 2008. “Do Countries Compete over Corporate Tax Rates?”, *Journal of Public Economics* 92 (5–6), 1210–1235.

Devereux, Michael P. and Simon Loretz, 2013. “What Do We Know about Corporate Tax Competition?”, *National Tax Journal*, 66 (3), 745-773.

Garretsen, Harry, and Jolanda Peeters, 2007. “Capital Mobility, Agglomeration and Corporate Tax Rates: Is the Race to the Bottom for real?”, *CESifo Economic Studies* 53 (2), 263–293.

Garrett, Geoffrey, 1995. “Capital Mobility, Trade, and the Domestic Politics of Economic Policy”, *International Organization* 49 (4), 657–687.

Garrett, Geoffrey, 1998. “Global Markets and National Politics: Collision Course or Virtuous Circle?”, *International Organization* 52 (4), 787–824.

Garrett, Geoffrey, 2000. “Capital Mobility, Exchange Rates and Fiscal Policy in the Global Economy”, *Review of International Political Economy* 7 (1), 153–170.

Garrett, Geoffrey, and Deborah Mitchell, 2001. “Globalization, Government Spending and Taxation in the OECD”, *European Journal of Political Research* 39 (2), 145–177.

Genser, Bernd, Frank Hettich, and Clemens Schmidt, 2000. “Measuring the effective tax burden - a comparative analysis for Germany, Austria and selected OECD member states”, German Research Council project report, Department of Economics, University of Constance, Germany.

Grubert, Harry, 2001. “Tax Planning by Companies and Tax Competition by Governments: Is there Evidence of Changes in Behaviour?”, in Hines, James R. Jr., (ed.), *International Taxation and Multinational Activity,* 113–142, University of Chicago Press, Chicago, IL and London, UK.

Hallerberg, Mark, and Scott J. Basinger, 1998. “Internationalization and Changes in Tax Policy in OECD Countries: The Importance of Domestic Veto Players”, *Comparative Political Studies* 31 (3), 321–353.

Heinemann, Friedrich, Michael Overesch, and Johannes Rincke, 2010. “Rate-cutting Tax Reforms and Corporate Tax Competition in Europe”, *Economics & Politics* 22 (3), 498–518.

HM Treasury & HMRC, 2010. “Corporate Tax Reform: Delivering a More Competitive System”, HMSO.

Keen, Michael J., 2001. “Preferential regimes can make tax competition less harmful”, *National Tax Journal* 54(4):757–762.

Keen, Michael and Kai Konrad, 2014. “The theory of international tax competition and coordination”, in Alan J. Auerbach, Ray Chetty, Martin Feldstein and Emmanuel Saez eds. *Handbook of Public Economics* 5, 257-328, North Holland.

Loretz, Simon, 2007. “Determinants of Bilateral Effective Tax Rates: Empirical Evidence from OECD Countries”, *Fiscal Studies* 28 (2), 227–249.

Overesch, Michael, and Johannes Rincke, 2011. “What Drives Corporate Tax Rates Down? A Reassessment of Globalization, Tax Competition and Dynamic Adjustment to Shocks”, *Scandinavian Journal of Economics* 113 (3), 579–602.

Quinn, Dennis, 1997. “The Correlates of Change in International Financial Regulation”, *American Political Science Review* 91 (3), 531–551.

Redoano, Michela, 2014. “Tax among European Countries: Does the EU Matter?”, *European Journal of Political Economy 34, 353–371.*

Ruding Committee, 1992. *Report of the Committee of Independent Experts on Company Taxation.* Office for Official Publications of the European Communities, Luxembourg.

Schwarz, Peter, 2007. “Does Capital Mobility Reduce the Corporate-labor Tax Ratio?”, *Public Choice* 130 (3–4), 363–380.

Slemrod, Joel, 2004. “Are Corporate Tax rates, or Countries, Converging?”, *Journal of Public Economics* 88 (6), 1169–1186.

Swank, Duane, 1998. “Funding the Welfare State: Globalization and the Taxation of Business in the Advanced Market Economies”, *Political Studies* 46 (4), 671–692.

Swank, Duane, and Sven Steinmo, 2002. “The New Political Economy of Taxation in Advanced Capitalist Democracies”, *American Journal of Political Science* 46 (3), 642–655.

Voget (2011) “Relocation of headquarters and international taxation”, *Journal of Public Economics* 95, 1067-81.

Voget (2015) “The effect of taxes on foreign direct investment: a survey of the empirical evidence”, ETPF Policy Paper 3.

Wilson, John D., 1986. “A Theory of Interregional Tax Competition”, *Journal of Urban Economics* 19 (3), 296–315.

Winner, Hannes, 2005. “Has Tax Competition emerged in OECD Countries? Evidence from Panel Data”, *International Tax and Public Finance* 12 (5), 667–687.

Zodrow, George R., and Peter Mieszkowski, 1986. “Pigou, Tiebout, Property Taxation and the Underprovision of Local Public Goods”, *Journal of Urban Economics* 19 (3), 356–370.

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