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The Economics of International Tax Competition

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The Economics of International Tax Competition – is there a Case for Tax Harmonization?

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Abstract:

Proponents of tax harmonization – especially in politics – often employ welfare-economic arguments. Tax competition – they argue – leads to economic distortions which can be avoided when tax bases and tax rates are harmonized. And even more a competitive „race to the bottom“, which would erode the fiscal foundations of the modern welfare state, has to be prevented by tax harmonization. But how valid are these arguments? Is there really a clear-cut case in favor of tax harmonization based on economic theory? In this paper we review the basic economics of international tax competition and analyze some of the popular arguments in favor of tax harmonization critically.

1. Introduction

Proponents of tax harmonization – especially in politics – often employ welfare-economic arguments. Tax competition – it is said – leads to economic distortions which can be avoided when tax bases and tax rates are harmonized. And even more a competitive „race to the bottom“, which would erode the foundations of the modern welfare state, has to be prevented by tax harmonization.

But how valid are these arguments? Is there really a clear-cut case in favor of tax harmonization in economic theory?

In this paper we want to review the basic economics of international tax competition and analyze some popular arguments in favor of tax harmonization critically. We start with an evaluation of the dimensions of tax competition and define the scope of the paper (part 2). We identify international competition in taxes on capital income (like a tax on interest income) as currently most important dimension of tax competition and concentrate on a welfare-economic analysis. Part 3 applies the theory of optimal taxation and optimal government size to tax competition. In the fourth part of the paper we present, discuss and analyze several simple models of capital tax competition and tax harmonization. The fifth part presents some empirics on the effects of international tax competition while the last part summarizes the findings and broadens the perspective by public choice considerations.

We show that from a welfare-economic perspective the case is still largely undecided. Distortions occur under tax harmonization as well as under tax competition, and empirical work indicates that the distortions of tax harmonization

might well be larger. Public choice arguments on the other hand promote tax competition almost unanimously.

Based on these results we conclude that a comprehensive economic perspective, which takes public choice aspects into account, speaks in favor of tax competition and not of tax harmonization.

2. Scope of the paper - a welfare-economic perspective on tax competition in capital income taxation

Taxation affects economic decisions. Consumers for example try to reduce their value-added tax (VAT) burden by cross-border shopping and companies seek to minimize their tax payments by their location decisions. If we want to assess how changes in taxation affect the economy as a whole, we need an economic yardstick for efficiency.

In an international context this yardstick is usually threefold: we aim at an efficient international specialization of national economies and an efficient allocation of capital as well as labor across countries. As we focus on effects of the tax system on the economy and not on possible market failures we assume, that national economies in a world without taxes would achieve all three. From this starting point we can analyze possible distorting consequences of tax competition.

International differences in taxation can distort an efficiently functioning global economy especially via four channels (see figure 1):

- **Indirect taxation** - as e.g. in form of a value-added tax (VAT) - can affect international commodity trade and international specialization,
- **Corporate taxation** affects the location decisions of firms and therefore international specialization and international capital allocation,
- **Taxation of capital income** triggers capital movements and changes the international allocation of capital and finally
- **Labor income taxation** can cause labor migration and affect the international allocation of labor.

To discuss international tax competition in all these dimensions is clearly beyond the scope of this paper. Instead we want to focus on the most important dimension of tax competition. What do the empirics tell us about the importance of different dimensions of tax competition? Is labor migration an important phe-

International Tax Competition is driven by trade, location Decisions of firms and factor movements

Dimensions of international tax competition

Tax instruments	Economic reactions to differences in tax systems	Welfare economic goals
Indirect taxation (e.g. value-added tax)	Commodity trade	Efficient international specialization (yardstick: world without taxes)
Corporate taxation	Location decisions of firms	Efficient allocation of capital across countries (yardstick: world without taxes)
Taxation of capital/capital income	Capital movements	Efficient allocation of labor across countries (yardstick: world without taxes)
Labor income taxation (positive and negative)	Labor migration	

nomenon which is largely triggered by differences in labor income taxation? Do we have reason to expect strong effects of tax competition in commodity trade in Europe? And what about capital movements and location decisions of firms? Do they play an important role?

If we look at the empirics, we see that migration is - as demonstrated by data for some of the most important European countries - still very limited (see figure 2). Although immigration in Germany equals 1.08% of the population in 2001, net migration is only 0.34% as 0.74% of the population leave the country per year. The numbers look similar for other large European countries. The free movement of labor within the European Union has so far only had very limited effects on migration. And more detailed analyses of migration in Europe (see e.g. Tassinopoulos/Werner 1998 or United Nations Population division 2002) show, that tax policy is not so much a concern for emi- and immigration. Therefore we largely abstract from labor mobility and tax competition via labor income taxation in this paper.¹

¹ We abstract as well from migration triggered by differences in welfare benefits, which are at least partly financed by taxes. If migration of this kind becomes very prominent, basic results of our analysis might change. See e.g. Sinn (2003, Chapter 1).

Despite the free movement of labor, migration in Europe is comparatively limited
 Scope of the paper

Migration in selected European countries in 2001

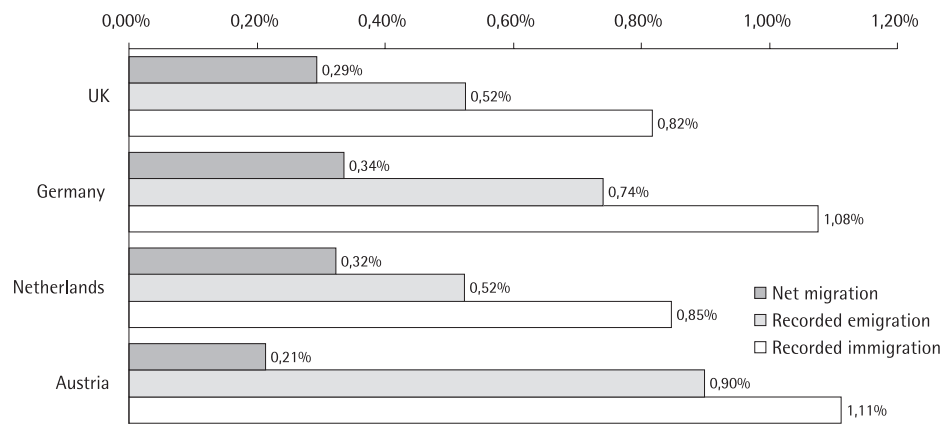


Figure 2

If we look at the commodity markets, the importance of international trade is growing strongly (see figure 3). In the EU 15 for example, the ratio of exports to GDP (or the ratio of imports to GDP respectively) has increased from around 25% of GDP in 1990 to more than 37% in 2004 (including intra-European trade).

Does tax competition have important effects on the development of trade especially in the EU? And is tax competition eventually partly responsible for the strongly increasing volume of trade? Most important in this context is value-added taxation (VAT). In VAT two basic international tax regimes are possible: The origin principle and the destination principle. While the first taxes all goods with the VAT rate valid in the country of production, the second levies the VAT rate valid in the country where the good is finally sold to the customer. In international markets the origin principle induces distortions based on tax differentials: Production of consumption goods will move to countries with low VAT rates. The destination principle on the other hand largely eliminates distortions by differences in VAT rates and limits distortions to private cross-border shopping.

The European Union has implemented a destination principle - which underlies GATT as well - and avoids thereby tax competition via indirect taxation. As we

Especially in Europe trade is strongly increasing
 Scope of the paper

Trade to GDP ratios 1990–2003 (at constant prices)

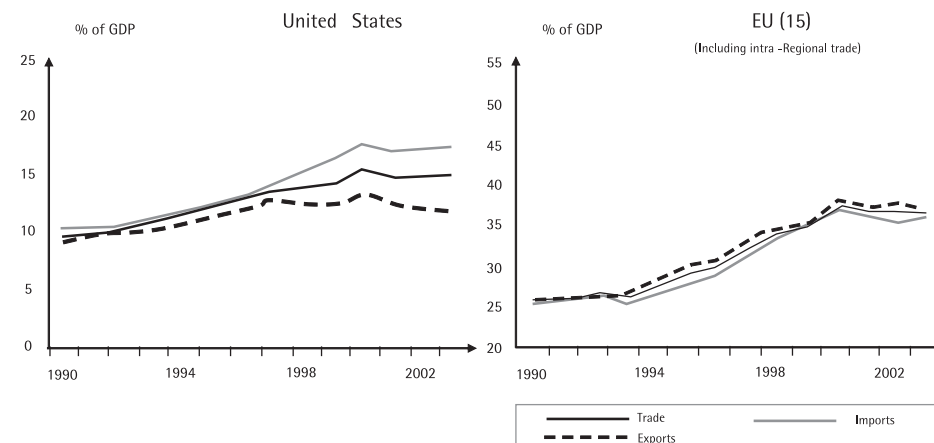


Figure 3

focus on Europe in this paper we are abstaining from a discussion of international tax competition in indirect taxation as well, although this is internationally not an unimportant dimension.²

International investment flows - as an indicator for capital mobility - increased in the last decade even stronger than trade (see figure 4). World foreign direct investment inflows have grown by more than 500% from 1990 to 1999 and world foreign portfolio investment flows increased almost sevenfold from 1990 to 2000. While capital is highly mobile, taxation of capital income is far from being harmonized. Tax bases and tax rates differ largely across countries as well as principles of taxations. Some countries have implemented a source-tax - taxing profits and interest where they are generated - while others try to raise the capital income tax based on a strict residence principle within income taxation. Capital flows can react far more easily than labor, than companies and than commodity trade to differences in taxation. Therefore we have to expect the strongest effects of tax competition with respect to the taxation of capital income (we will

² For a more detailed discussion see Sinn (1991).

International investment flows multiplied within the last decade

Scope of the paper

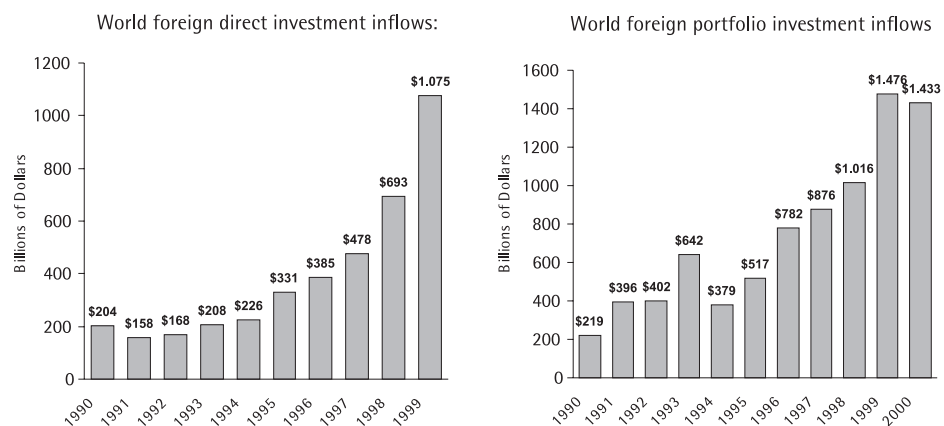


Figure 4

use the terms „capital tax/capital taxation“ respectively). This leads us to set our focus on capital taxation.

In the fourth dimension - the effects of corporate taxation on the location decisions of firms - we can unfortunately not dispose of international reliable data. But in the very simple models we will discuss in the third part of the paper, a shift in capital investment and a relocation of a production facility are substitutes. Therefore corporate location decisions are - although only implicitly - covered in the analysis of this paper.

Analytically we chose to start with a welfare-economic approach (see figure 5) and assume that economic policy is implemented by a benevolent social planner, maximizing the overall welfare of labor and capital owners in an economy.³

We chose this approach to evaluate the strength of the welfare-economic case against tax competition. A public choice approach is more realistic as it would

3 We abstract from land as production factor.

Welfare economics are important for the analysis of international tax competition but not sufficient

Scope of the paper

	Welfare economics	Political Economics/ Public choice
Focus of analysis	Effects of taxation on consumer and producer rents	Effects of taxation on consumer, producer and political rents
Assumptions	There is a benevolent Social -Planner deciding about economic policy	Economic policy is made by self -interested politicians
Criteria	Efficiency	Efficiency and individual liberty
Type of policy advice	Restricted to policy design	Combining policy and institutional design
	⇒ Provides the foundation for the economics of international tax competition	⇒ Adapts theoretical insights to „Real world institutions“ and „Real world politicians“

Figure 5

broaden the perspective by taking self-interested politicians into account, who do not necessarily always maximize social welfare. In the last part of the paper we will show how the inclusion of the arguments resulting from such a broader perspective can affect our general conclusion.

Of course there are many aspects, which are not covered in this analysis. For example taxation of capital income reduces the incentives to save and therefore our approach to take the global capital stock being constant falls short. Labor mobility - which we do not cover - might increase in the near future with important implications for the results derived here. We abstract from land as a production factor, focus on small countries unable to affect the global interest rate and look only at capital taxation and not at the interplay in between e.g. capital, labor and consumption taxes. And there are many more aspects, which are not integrated. On the other hand only this simplification allows us to demonstrate the economics of international tax competition. The limits of an analysis like this should always be kept in mind and stimulate further research, but the only alternative of a simplified analysis is just to „remain in the dark“.

3. The welfare economics of the state and international tax competition

In part II we have discussed an efficient international economic specialization and an efficient international allocation of capital and labor as welfare-economic yardsticks for the international economy. Now we broaden the perspective and integrate the state in the analysis. Why do we need a state? What is the optimal size of the state? How should the state be financed? And how is the optimal size of the state and the optimal way of financing the state affected by international tax competition?

To discuss these questions we start with the economic theory of the state and move from there to the theory of optimal government size and taxation. Here we will establish the welfare-economic yardstick to analyze international tax competition and tax harmonization, which we will then apply to simple models of capital income taxation.

3.1 The economic theory of the state

From the perspective of economic theory the justification of the state is based on public good provision. Public goods, which are non-rival and non-excludable (like the rule of law or e.g. defense), cannot be supplied by private markets. Especially non-excludability sets incentives to consume these goods without contributing to their financing (the so-called free-riding behavior). Only the state, which has the monopoly of coercion and can force its citizens to pay taxes, can secure provision of these public goods. As the provision of public goods – like for example the rule of law – are welfare-enhancing for the whole economy, the state has an economic „reason to be“.

Based on the „power to tax“ (Buchanan and Brennan 1980), which allows for public good provision, a second function of the state results: the ability to redistribute income. As the state has the monopoly of coercion he can decide on the distribution of the tax burden for public good provision and even implement a transfer scheme based on tax revenues. There are several arguments for a redistribution of income by the state. Some focus on the maximization of overall welfare, which results usually from decreasing marginal utility of income. Others see public income redistribution especially as an individual insurance against the risks of life (Buchanan and Tullock 1962). However economic theory is hardly able to derive an „optimal degree of income redistribution“ and is so far largely restricted to „procedural advice“. As economics has to contribute only comparatively little to

the determination of the optimal level of redistribution, we abstract from these questions in this paper on the economics of international tax competition.⁴

3.2 The theory of optimal government size and optimal taxation – Samuelson and Ramsey

Given that public good provision is the most important economic rationale for the state the question of the optimal size of the state and its financing directly arises. Within welfare economics especially two approaches deal with these questions, the first looks at the expenditure side and the second at the financing side.

With respect to the expenditure side the Samuelson condition – derived by Paul Samuelson in his article „The Pure Theory of Public Expenditures“ (Samuelson 1954) – determines the optimal level of public good provision: the sum of the marginal rates of substitution between the public and the private goods of all citizens has to equal the transformation rate between public and private goods in an economy. Or to say it easier: the optimal amount of public goods is reached if the sum of all citizens' marginal utilities of the public good equals the marginal costs of production of the public good. With respect to taxation the Samuelson condition assumes that the revenues of the public sector are financed by non-distorting taxes (e.g. head taxes).

The assumption of non-distorting head-taxes (everybody pays the same fixed amount of taxes independent of his income) is – in our world – largely unrealistic. In all modern economies taxation (e.g. of goods or production factors) changes relative prices. These price changes cause distortions whenever economic agents (consumers, households, workers, firms ...) adjust their behavior to the new relative prices. Compared to the world without taxes a welfare loss (called excess burden or dead-weight loss) results. The more elastic a tax base (that is the stronger agents react to changes in relative prices) the higher is the welfare loss.

As real-world tax systems are characterized by distorting taxes, the second approach, the so-called theory of optimal taxation seeks (taking the revenue needs of the state as given) to minimize the excess burden of taxation. This shall be achieved by setting tax rates according to the elasticity of different tax bases referring to the so-called Ramsey rule (Ramsey 1927). In its simplest form the

4 For a detailed discussion of the effects of tax competition on redistributive taxation see Gottschalk and Peters (2003).

Ramsey rule demands that the more elastic the tax base, the lower the tax rate should be.

So far we have no well-established theory in welfare economics, which integrates the revenue and the expenditure side of the theory of the state satisfactory and therefore we have to assess the impact of the two approaches on the theory of international tax competition separately.

3.3 Application of the theory of optimal government size and optimal taxation to international tax competition

While the optimal size of the public sector can in theory be determined by the Samuelson condition, this is hardly possible in practice. Information about marginal utilities of public goods is private and individuals have an incentive to act strategically and lie about their preferences. Those who are in favor of very large amounts of a public good for example have an incentive to overstate their preference for this good as they would profit from an additional unit of the good but would not have to bear the full costs. Therefore the Samuelson condition is so far of little help.

The Ramsey-rule on the other hand has clear implications for the optimal tax system and clear predictions for a world with international tax competition: If capital is more mobile than labor, it should be taxed less. And completely internationally mobile capital should not be taxed nationally at all.

However these prescriptions of the Ramsey-rule suffer from their exclusive focus on the financing side. Most importantly they neglect the fact that capital profits from publicly provided goods. As we will see in part 3 this can have important implications for the optimal capital tax under tax competition.

To avoid the problems of the Ramsey-rule welfare-economic theory therefore seeks to determine, whether capital taxation can under tax competition still cover the costs caused by capital itself (e.g. by using public infrastructure).⁵ If this is not the case we might find negative effects of tax competition on social welfare.

5 [0]see e.g. Sinn (2003, chapter 2).

3.4 Types of capital taxation – source- or residence based taxation

Capital taxation can take place by taxation of company profits and interest payments at the source and/or by taxation of residents' capital income.

Under the source principle tax competition has a direct effect on the international economy. All other things equal a reduction of capital taxes by one country leads to capital inflows, while an increase leads to capital outflows.

The residence principle on the other hand reduces the impact of tax competition. Independent of the capital investment location, the capital owner always has to pay taxes on his capital income in his country of residence. As long as residents are not mobile at all they cannot avoid paying a tax on capital income and even internationally differing tax rates would have no effect on the international capital allocation.⁶

As the residence principle allows the state – at least in theory – to extract taxes from capital income without creating distortions it is very popular and implemented in many countries like Germany or the US. But to think that the residence principle works as assumed in theory is not so realistic. First, even under immobility of the citizens, the residence principle works only if really all income from capital is reported and taxed. And this is not the case. Some studies estimated the ratio of private interest income that is not reported to be as high as 40% in some European countries.⁷ And second it is naive to assume that especially the residents with a very high income from capital investments are not mobile. Many popular examples show that especially in the high-income classes mobility has to be taken as given.

As mobility of owners of large capital endowments is very frequently observed and taxation of a large part of capital income is evaded it makes sense to focus on the effects of a capital taxation based on the source principle within the simple models of capital taxation, which will follow.⁸

6 We abstract here from the possible negative effects of capital income taxation on savings and the future capital stock.

7 See Genschel (2001, P. 15) for some evidence on tax evasion in residents' capital income taxation.

8 See for a further discussion of source- versus residence based taxation Vogel (1988).

4. Application of welfare-economic theory to capital income taxation⁹

4.1 Simple models of competition in international capital taxation

We start with the simplest case: a tax on capital income is levied in a small country in form of a source tax. We take the global interest rate as given (completely elastic supply of capital) as changes in one small country in the world economy will not affect the equilibrium of the global capital market. Production of our small economy is modeled by a very simple production function, where we assume the input of labor to be constant. Furthermore the marginal return to capital is decreasing: with an increasing capital stock K , the marginal return to capital is reduced.

We see the capital market in our small economy in figure 6. Companies will expand their demand for capital as long as the marginal productivity of capital (reflected by the demand curve of capital) equals the marginal costs of capital (the interest rate r). This leads the market to choose a capital stock of K^* . The rent of capital equals r times K^* and the rent to labor equals the triangle in between demand and supply of capital from 0 to K^* . At K^* the sum of the rents of the two production factors, labor and capital, are maximized.

Based on this very simple graph we can directly study the effects of the introduction of a tax on capital income (in this case interest income) on the economy and the rents to labor and capital (see figure 7).

A proportional tax on interest will just shift the national interest rate in our small economy upwards by the tax rate. This higher interest rate leads to a reduction of the capital stock from K^* to K_{new} as the demand of the companies for capital is smaller at the higher price for capital. Most interesting is the effect on factor rents. We see in the graph that the absolute rent to capital decreased to r times K_{new} . But the rent per unit capital stays constant and equals r . The tax revenue - of t times K_{new} - is completely shifted to labor rent which is reduced absolutely and per unit as labor supply is constant. And the excess burden, which results from the distorting effect of the capital tax reducing the capital stock in our country, is borne as well completely by the factor labor. In this most simple setting we would

⁹ An excellent, non-technical overview is given in Wilson (1999). A very comprehensive treatment can be found in Haufler (2001). Tanzi (1995) discusses especially the effects of increasing capital mobility on taxation.

A very simple two-factor model in a world of Completely mobile capital
Simple models of capital taxation

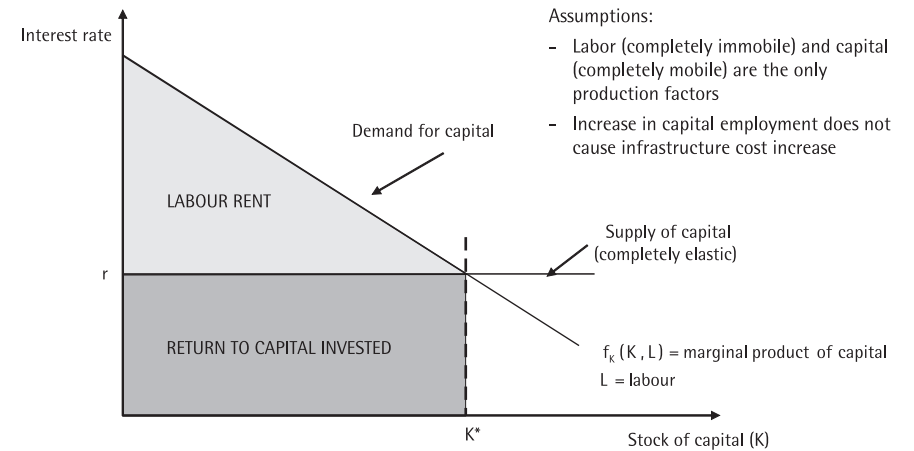


Figure 6

A source tax on capital income causes an excess burden, which reduces the return to labour

Simple models of capital taxation

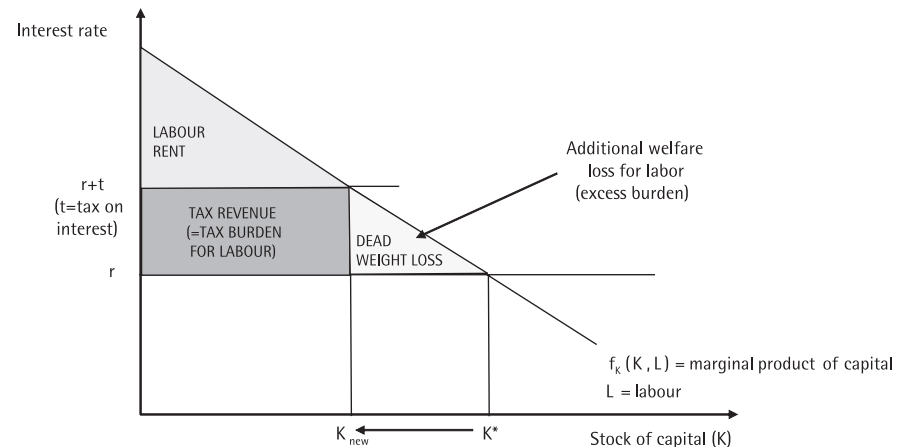


Figure 7

therefore have to conclude, that a small country, which is competing with other countries for mobile capital, should not tax capital income as the overall welfare and the welfare of the owners of the factor labor would be reduced.¹⁰

4.2 Tax competition models with capital profiting from publicly provided goods

One could argue that the model discussed in the previous section is overly simplified as capital investment profits directly from publicly provided goods. Companies rely on public infrastructure, can make use of the legal system and are protected by the police force. Do these effects change our basic results? And how can these effects be integrated in our simple model?

The first possibility would be that the goods, which are publicly provided, are pure public goods. In this case the marginal costs for using these public goods would be zero and consequently there should be no price for using these goods. And there would be no costs directly attributable to the employment of capital as everybody would be able to consume the non-rival public good. Therefore the provision of these goods would not directly justify a tax on capital.

But modern states do not only provide pure public goods but private goods or impure public goods as well. If a private good were publicly provided we would expect constant costs per unit capital employed. If we double the amount of capital employed, the costs for publicly providing a private good would double as well. In case of impure public goods – like most of the municipal infrastructure used by companies – we would assume positive economies of scale: if we double the amount of capital employed, the total costs for providing these goods would increase, but by less than 100%. In this case we would observe decreasing marginal costs for the publicly provided good (meaning that provision of the good gets cheaper per unit with an increasing amount of the good). We could choose municipal infrastructure as an example as it would not be a perfect public good because it is at least partly rival (because of possible congestion) and at least partly excludable (in case of roads for example by introduction of a toll system).

How would the existence of costs directly attributable to capital change our simple model?

¹⁰ For a more detailed discussion see MacDougall (1960).

First we analyze public provision of a private good, which is used by capital employed. This case is illustrated in figure 8. If we have constant costs per unit capital employed for a publicly provided good, then we observe that the capital stock K^* is no longer optimal. At K^* the total marginal costs of capital – resulting from the interest rate and the marginal costs for the publicly provided private good – would exceed the marginal revenue of capital. Resulting is an excess burden (dead weight loss), which reduces the rent to the factor labor. If now a tax on capital income equaling the marginal costs of the publicly provided good is introduced, the capital stock is reduced to K_{new} . In this new situation the costs for the publicly provided good are borne completely by capital and no longer by the factor labor. And the rent of the factor labor increases as the dead weight loss is no longer there. So we can conclude that the public provision of private goods would justify a tax on capital, which would be welfare-enhancing. In this case such a tax would not be affected by tax competition, as no country would have an incentive to reduce the tax rate below the level of marginal costs.

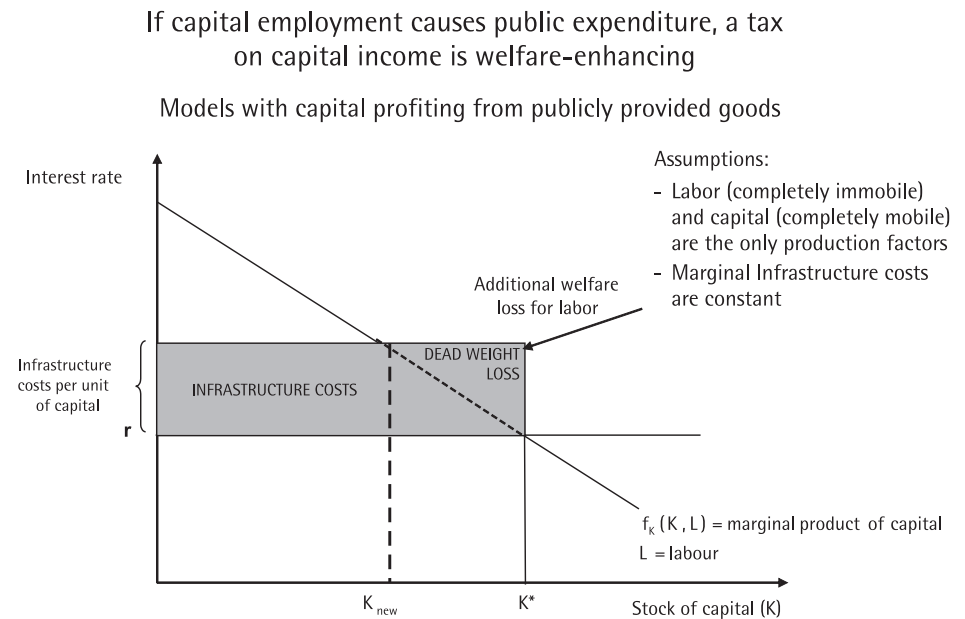


Figure 8

In case of impure public goods with decreasing economies of scale labour bears an additional burden

Models with capital profiting from publicly provided goods

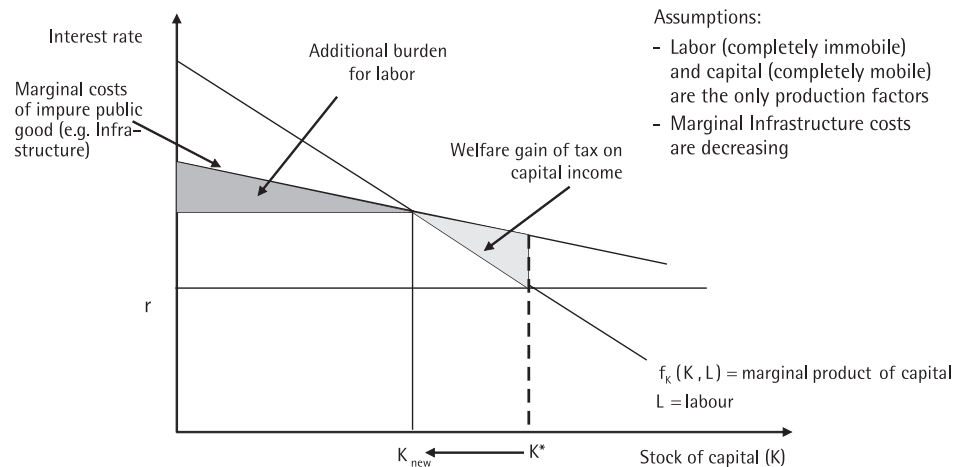


Figure 9

While cases of public provision of private goods should be relatively rare, the case of publicly provided goods with decreasing marginal costs should be very prevalent as these goods cannot be provided by companies in competitive markets: On a competitive market the price would equal marginal costs and as average costs would be above marginal costs all companies would make losses.¹¹ This second case is illustrated in figure 10. Here again total welfare is maximized where total marginal costs (rent and marginal costs for the publicly provided good) equal marginal return to capital.

As in the previous example we see that welfare-economic theory would speak in favor of a tax on capital income equaling the marginal costs of publicly provided infrastructure. An introduction of such a tax would lead to the point K_{new} . This tax would make capital pay at least partly for the publicly provided good

¹¹ For a more detailed discussion see Sinn (2003, p. 47 ff).

and result in an additional welfare gain for the factor labor (the light gray triangle). But – in contrast to the previous case – capital still does not bear the full infrastructure costs it causes. The dark-gray triangle represents the costs caused by capital which are not covered by the tax revenues of an optimal tax on capital income and therefore have to be borne by labor. How large this transfer from labor to capital is, depends on the cost structure. If we take into account that especially the richer classes can rely on capital income while the poorer classes dispose only of labor income, this transfer tends to redistribute from poor to rich. And if the transfer of labor to capital is large this might even make redistribution in form of a modern welfare state impossible as total tax revenues will no longer be sufficiently high.

From these examples we learn, that the public costs caused by capital employment are crucial for the welfare-economic evaluation of the consequences of international tax competition. If capital employment causes costs increasing with the amount of capital employed, a tax on capital is optimal. But in the most realistic case of positive economies of scale (decreasing marginal costs) even the optimal tax would not prevent a redistribution from poor to rich as the state will not be able to raise sufficient tax revenue which could cover the costs caused by capital. As we have argued in section 3.3 tax competition in capital income taxation can in this case have harmful effects.

4.3 Tax harmonization – a superior alternative?

The alternative to international tax competition is international tax harmonization. In the most extreme case tax bases and tax rates are completely equalized in two countries. What about the welfare-economic effects in this setting?

The literature of tax harmonization usually demonstrates the effects of tax harmonization in a two-country (country A and B) model and a given capital stock. To connect our analysis to the previous parts we assume that the employment of capital causes infrastructure costs, which are marginally decreasing (analogous to 3.6).

Although capital income taxation is completely harmonized countries still decide autonomously on public investment in goods attracting capital – like business infrastructure. When setting the optimal level of public investment each country takes only its own welfare into account. But in case of tax harmonization an external effect occurs: an increase in public investment in land A increases the capital stock in A but reduces – all other things equal – the capital stock in land B and vice versa. As this external effect is not internalized, countries with har-

monized tax systems overprovide public goods. Therefore tax harmonization does not provide us with a generally superior alternative to tax competition.¹²

4.4 Policy implications of welfare-economic theory

Tax competition – as we have demonstrated in section 4.2 – can have harmful consequences. In a realistic case of decreasing marginal costs of publicly provided goods used by capital, even optimal capital taxation fails to cover the costs caused by capital employed in an economy. As a consequence this can cause redistribution from the poor to the rich and create pressure on the welfare-state. How important these effects are will depend on the cost structure of publicly provided goods and the production function.

But the alternative – tax harmonization e.g. within Europe – does not necessarily perform better in welfare-economic analysis. As we discussed in 4.3 tax harmonization with national decisions on public good provision does not abolish competition completely but replaces tax competition just by expenditure competition. And this competition does not necessarily lead to an optimal level of public goods, but might well result in an overprovision of public goods.

In effect there is no clear policy advice from welfare economics: just based on welfare-economic theory we are unable to decide whether the possible distortions by tax competition or those by tax harmonization are more important. Some insights on this can be derived by recent game-theoretic studies trying to analyze whether the proposed negative effects of tax competition or tax harmonization are more important. One example is the study by Mendoza and Tesar (2003) which predicts for Europe higher welfare levels under tax competition.¹³

12 The effects of tax harmonization are discussed very controversially in the literature. While Sinn (2003, p. 52 ff) expects overprovision of public goods in case of expenditure competition other models like King, McAfee and Welling (1993) come to the conclusion that even under expenditure competition an optimal level of public good provision can be reached.

13 The economics of tax competition versus tax competition in Europe are discussed in more detail especially in Oates (2001), Cnossen (2003) Sinn (1991, 2002 and 2003) and Zodrow (2003).

5. What do the empirics say?

As we have shown in part 2 there is an indication that capital mobility has increased dramatically within the last years. Based on the general welfare-economic theory following the Ramsey-Rule (to decrease the tax rates and the tax burden when elasticity of a tax base is increasing) we should expect to see the tax burden of capital to decrease disproportional (compared to the tax burden of e.g. labor and consumption). The logic we applied in the models of capital taxation with infrastructure causing marginally decreasing costs leads to similar empirical predictions: while it might have been possible to tax capital income heavily under the absence of capital mobility, mobile capital will lead to a decrease in capital income taxation and an increase in labor income taxation, as capital taxation might not be able to cover the costs caused by capital employment.¹⁴

So we have relatively clear predictions of what we should see in international data on taxation. To test these predictions we can take a look at the development of tax burdens measured by effective tax rates (taking tax revenues and factor income from national accounts data) in the OECD (see figure 10). While capital mobility has increased heavily within 1965 to 1995 we do not see decreasing but increasing effective tax rates on capital – nearly as strong as the increase of labor taxation. Although one could argue that the proportional tax revenues of capital income are decreasing slower than the revenues of labor income and that the share of labor income taxes, this can hardly be seen as evidence for the welfare-economic predictions as the total burden of capital is increasing.

Although a quick look at effective tax rates obviously does not replace a thoroughly empirical analysis, we find similar results in other empirical studies: The effects of tax competition – predicted by welfare economic theory – like a „race to the bottom“ in capital taxation and consequently problems to finance the public infrastructure or large and increasing transfers from labor income to support expenses for capital infrastructure are not observable in recent data.¹⁵ So far there is little evidence for harmful effects of tax competition.

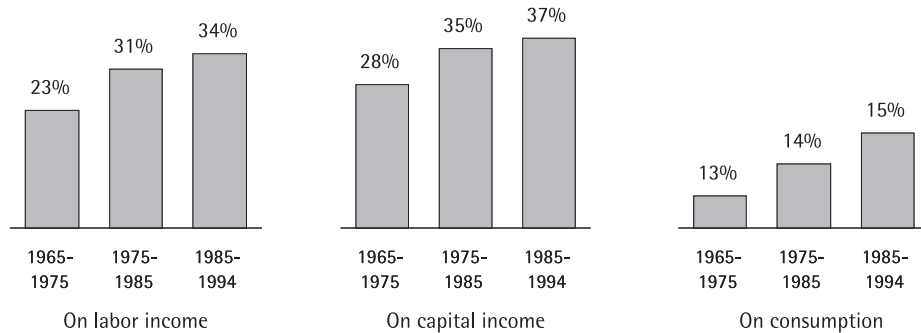
14 One could argue that the costs for infrastructure investments for capital employment have risen dramatically within the last decades and that therefore even a constant or an increasing tax burden on capital would still not contradict the theoretical prediction. However so far there have been no arguments presented way this should be the case not to speak of empirical studies.

15 See for example the discussion in Genschel (2001) or in Haufler (2001).

There is little evidence for negative effects of international tax competition

Some Empirics

Development of average effective tax rate in OECD countries:



Capital mobility has – at least till the mid-90ies – not decreased the tax burden of capital income substantially, nor is a „race to the bottom“ directly observable.

Figure 10

While welfare-economic models of tax competition had relatively clear empirical predictions, the effect of tax competition on the optimal size of the public sector is harder to measure. As we have argued before the theoretical yardstick for the optimal size of the public sector in a state – the Samuelson condition – is hardly applicable in practice. If we take GDP as an indicator for social welfare – which shall be maximized by the Samuelson condition as well – then one possible approach would be to analyze the effects of changes of the size of government on economic growth. Negative effects of an increasing public sector on economic growth can be seen as an indication that the public sector is already too large (compared to its optimal size), while positive effects would indicate that we are still in a situation where public goods are underprovided. A recent study by Vito Tanzi and Ludger Schuknecht (2003) analyses this relationship (see figure 11).

The results of this and other studies¹⁶ support the view, that the public sec-

16 See Alfonso et. al. (2005) P. 23 for an overview and further references.

Very general evidence speaks more in Favour of over than of underprovision of public goods in the OECD

Public choice considerations

Change in total spending 1960-2000 versus change in per capita growth (OECD COUNTRIES):

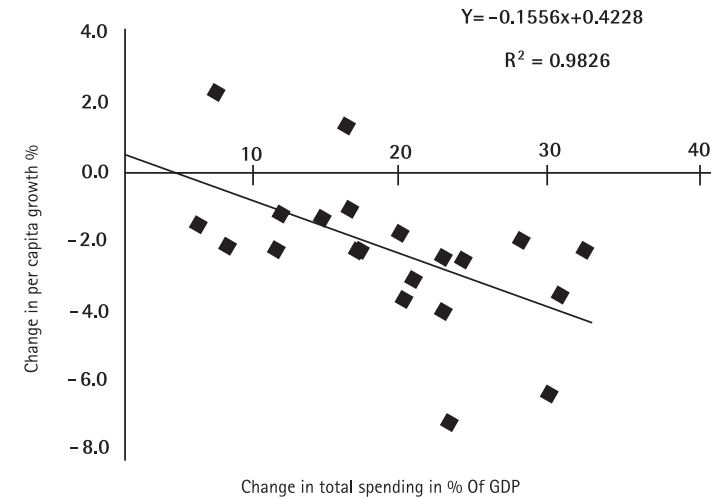


Figure 11

tor is already too large in most OECD countries: growth of the government sector has had negative effects on economic growth within 1960-2000. Taking this as given, the further overprovision of public goods, which would result from tax harmonization, currently seems to be more harmful than some pressure to reduce tax burdens by tax competition.

6. Public choice considerations and conclusion

Welfare economics do not show that tax harmonization is generally preferable to tax competition. Instead we learn that distortions have to be expected under tax competition (e.g. in form of some redistribution from poor to rich) as well as under tax harmonization (in form of overprovision of public goods like infrastructure). These results have been derived under the very optimistic assumption that policies are implemented by a benevolent social planner.

Western European democratic systems however are not governed by „benevolent social planners“ but allow self-interested politicians to extract various rents for themselves and give out favors to special interest groups causing economic inefficiencies.

Therefore we have to broaden our perspective to address the effects of tax competition realistically. If we integrate inefficiencies in the political system, the threat of capital to leave a country (which is made credible based on capital mobility and tax competition)

- restricts a „Leviathan-state“ in exploiting its citizens excessively (Buchanan and Brennan 1960),
- strengthens incentives to reduce inefficiencies in the public sector and to search for innovative approaches to make the state „serve its citizens better“ (adjust the tax and expenditure system better to local preferences) and
- reduces the ability of politicians to extract rents.¹⁷

Therefore public choice arguments promote tax competition almost unanimously, while negative effects have to be expected from tax harmonization.

A broader perspective - integrating public choice and welfare-economic considerations and results of applied empirical research - speaks therefore in our view clearly in favor of tax competition.

17 See for a discussion the monography of Feld (2000).

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