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# TAX COMPETITION: HOW GREAT IS THE CHALLENGE?**

*Hardly any week passes by in 'Old Europe' without a discussion about tax reforms as a reaction to the flat tax challenge of new member countries of the European Union (EU). By many observers this is interpreted as an expression of the race to the bottom that supposedly results from fierce tax competition in Europe and around the globe. Instead of looking at descriptive figures of corporate income taxes, an answer to the question how big the challenge of tax competition actually is requires to, first, find out what impact tax competition could have on the allocation of scarce resources and how it could affect income redistribution by the state. Second, empirical evidence should be provided on the existence and the actual economic impact of tax competition. Both topics are addressed in this paper by seeking to answer the following questions: How does tax competition work? What is the impact of tax competition on the efficiency of public goods' provision and on the effectiveness of income redistribution? Is there any influence of tax competition on regional convergence and economic growth? And finally: Does tax competition, in analogy to competition in private markets, serve as a discovery procedure in the public sector such that better public policies are more quickly detected and diffused?*

*Keywords: Tax competition, tax harmonization, efficiency, income redistribution, competition as a discovery procedure*

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## 1. Introduction

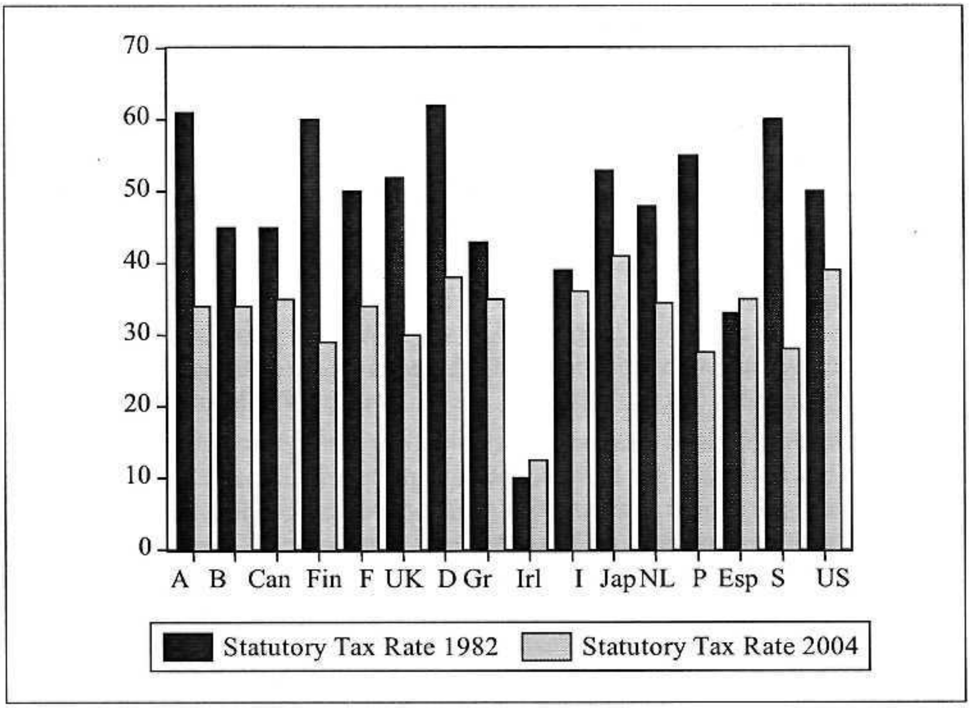
Hardly any week passes by in ‘Old Europe’ without a discussion about tax reforms as a reaction to the flat tax challenge of some new member countries of the European Union (EU). From the Baltic countries via Slovakia to Romania, the flat tax movement has gained momentum among East European states. Meanwhile nine of them have introduced flat rate taxes on personal income ranging from 12 to 33 percent. The Economist even speaks about the Flat Tax Revolution (April 16th – 22nd 2005) and deems the flat-tax idea to be worth taking seriously by “maturer neighbors to the west and across the Atlantic” (p. 9). These maturer European neighbors react. The majority of the Scientific Council to the German Ministery of Finance suggests to introduce a flat rate income tax in Germany (Wissenschaftlicher Beirat beim Bundesministerium der Finanzen 2004), while Switzerland is tacitly exploring the possibilities for a flat rate income tax. In the opposing camp of tax reformers, the Nordic countries, Austria, the Netherlands, but also the German Council of Economic Advisors fight for dual income taxation with a lower proportional tax rate on capital and corporate income combined with progressive labor income taxes (SVR 2004).

However, these recent developments fuel the fears of tax competition as a ‚race to the bottom‘ in capital taxation. It is argued that the increased capital mobility in a globalized world provides incentives for states to reduce tax rates in order to attract businesses. Keeping other things equal, firms choose their location in countries with lower corporate income tax rates. The strategic reduction of tax rates of one country induces another country, perhaps the one in which a firm already has branches, to follow suit such that a ruinous competition between states presumably results. Consequently, public services are said to be provided inefficiently and capital owners are accused of not paying their ‚fair‘ share of taxes. Income redistribution may not be financed to the same extent as before and welfare states are under pressure. This assessment of the recent developments has lead Germany and France to propose that EU structural funds should be contingent on minimum tax rates on corporate and capital income.

At first sight, descriptive empirical evidence seemingly supports the race to the bottom thesis. For example, OECD tax ratios indicate that the share of corporate income taxes has declined over time. Changes in tax ratios may however result from changes in tax rates, in the definition of tax bases, in the number of taxpayers and in GDP. These macroeconomic tax ratios do thus not provide reliable evidence on tax burdens of firms because they reflect the interaction of tax policy, location choice and general business development instead of tax policy alone. A look at statutory corporate income tax rates in selected OECD countries (Figure 1) reveals however that at least this component of tax ratios has declined markedly in recent decades. On average, a fall from 47.9 percent in 1982 to 32.7 percent in 2004 results. For some countries, like Austria (A), Finland (Fin) and Sweden (S) but also Germany (D), the reduction is even more important. Only Ireland (Irl) and Spain (E) have slightly increased their statutory corporate tax rates during these decades, the former only under pressure from the EU. Moreover, the new EU members have statutory corporate income tax rates of only about 20 percent on average, ranging from a tax rate of zero for retained earnings in Estonia (26 percent for distributed profits) and 15 percent in Lithuania and Latvia, over 19 percent in the Slovak Republic and in Poland, to 28 percent in the Czech Republic. The decline in tax rates seems to go on in the future. Austria has reduced its statutory corporate income tax rates from 34 to 25 percent in 2005, the Netherlands will decrease the rates from 34.5 to 29 percent in 2007, Finland from 29 to 26 percent in 2007, and the Czech Republic from 28 to 24 percent in 2006. (BMF 2005). It looks like tax competition has indeed intensified in recent days.

*Figure 1*

STATUTORY CORPORATE INCOME TAX RATES IN PERCENT,
16 OECD COUNTRIES, 1982 AND 2004

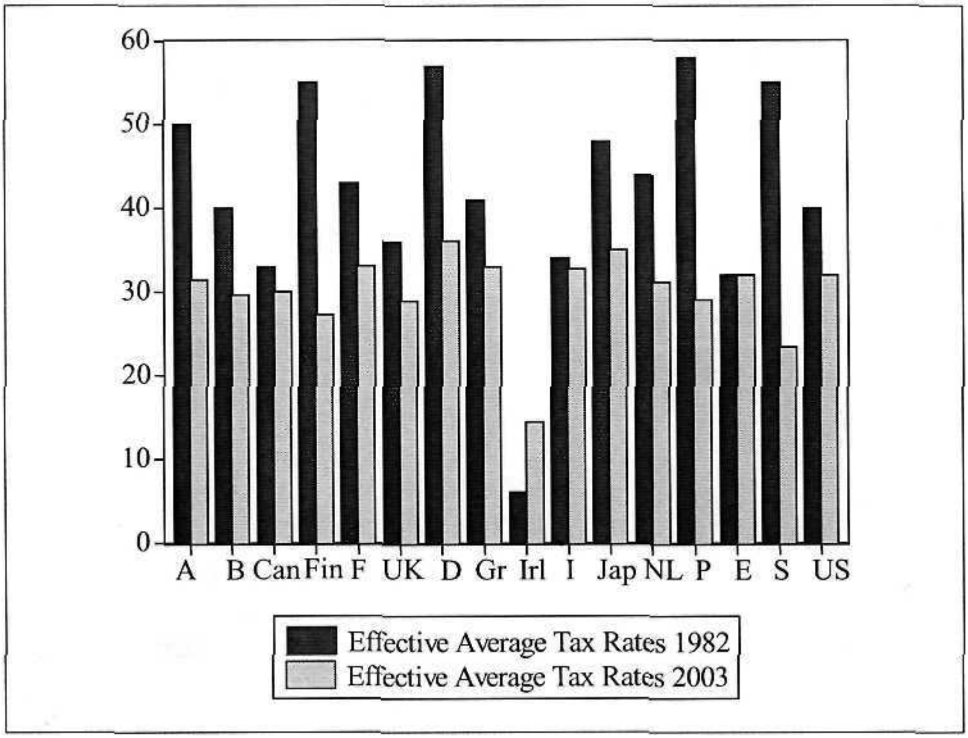



Source: Devereux, Griffith and Klemm (2002) and BMF (2005)

Investment by firms is however not only influenced by statutory tax rates. Firms also consider any kind of tax deductions and relieves. The actual tax burden levied on new investment projects is measured by effective tax rates which are calculated on the basis of tax rate and tax base differentials. If a plant has already been established, firms take marginal investment decisions and consider marginal effective tax rates. Location choice is influenced by average effective tax rates. Average effective corporate tax rates of selected OECD countries are shown in Figure 2. They fell even more strongly from 42 percent in 1982 to 30.0 percent in 2003 on average. Again Finland, Sweden, Austria and Germany, but also Portugal (P) are the countries with strongest reductions in effective tax burdens. Similar to statutory rates, effective average corporate income tax rates of the new EU member states are even lower than those of the old members in 2004. Aside Estonia, Lithuania has the lowest tax burden of 13.11 percent, followed by Hungary with 13.95 percent, Latvia 14.29 percent, the Slovak Republic 16.82 percent, the Czech Republic 17.05 percent and Poland 17.46 percent (Jacobs et al. 2003). Statutory tax rates are still important for international taxation. They influence in which countries firms locate their profits via transfer pricing. In addition, statutory rates serve as signals for foreign firms which do not sufficiently know the details of another country's tax code. But effective average tax rates finally attract business capital looking for a new location. Thus, the two figures perfectly reflect the concerns of policymakers in the OECD.

*Figure 2*

EFFECTIVE AVERAGE CORPORATE TAX RATES IN PERCENT, 16 OECD COUNTRIES, 1982 AND 2003




Source: Devereux, Griffith and Klemm (2002), Sachverständigenrat (2004, S. 527) and ZEW (2005)

This descriptive evidence is taken by governments of EU welfare states as supporting the fears of a race to the bottom. It provides the basis for finance ministers and the Commission to develop far-reaching proposals for tax harmonization in Europe. Neither the descriptive evidence from Figures 1 and 2 nor the anecdotal evidence provided by multinationals suffices however to support such claims for tax harmonization. An answer to the question how big the challenge of tax competition actually is requires instead to, first, find out what impact tax competition could have on the allocation of scarce resources and how it could affect income redistribution by the state. Second, empirical evidence should be provided on the existence and the actual economic impact of tax competition. The questions that need to be asked are: How does tax competition work? What is the impact of tax competition on the efficiency of public goods‘ provision and on the effectiveness of income redistribution? Is there any influence of tax competition on regional convergence and economic growth? And finally: Does tax competition, in analogy to competition in private markets, serve as a discovery procedure in the public sector such that better public policies are more quickly detected and diffused?

In this paper, these issues are discussed by starting with the potential influence of tax competition on the efficiency of the public sector, the effectiveness of income redistribution and economic growth (Section 2). The hypotheses that follow from this theoretical discussion are confronted with the results from econometric studies that provide more systematic empirical results than the above-mentioned descriptive evidence. In Section 3, the empirical evidence on the existence of tax competition is surveyed, while an overview on empirical tests of the effects of tax competition is presented in Section 4. Finally, a summary and some policy implications follow in Section 5.

## 2. Theoretical Arguments on Fiscal Competition[1]

### *2.1. The Basics*

Although the political discussion is mainly about tax competition, it must be recognized at the outset of the analysis that the state is also offering public services in exchange for the taxes that citizens pay and hence provides a bundle of goods and services for certain tax prices. In the following, the broader concept of fiscal competition is therefore considered. This switch in the terminology allows to avoid many mis-understandings that often come up in the political and scientific debates. Given that clarification, the analysis of fiscal competition can naturally start from drawing an analogy between competition in private markets and competition between states. Since A. Smith (1776), economists perceive competition as the driving force for efficient market outcomes. The invisible hand leads private actors to follow individual preferences. In a dynamic perspective, competition serves as a discovery procedure and induces useful innovation and technological change. Competition is thus necessary for a growing economy. Tiebout (1956) argues that competition between jurisdictions works in a similar fashion. In a global world, different countries offer different tax rates and different levels of public services to

[1] This section draws on Feld (2005).

mobile factors of production. Mobile production factors can choose their location or residence in a country whose public sector supply best fits their preferences and interests. Individuals and firms vote by feet and thereby reveal their preferences for public goods. This leads to an efficient provision of public services under certain conditions.

In addition, decentralized provision and financing of public services allows to use decentralized information to the largest possible extent. The closer a government is to the people, the better it is informed about their wishes and demands. Locally dispersed knowledge about public problem solutions can thus be used efficiently (Kerber 1998). Finally, the frustration of citizens about public policy solutions is minimized, the more decentralized public goods' provision is. Finding median preferences across the national populace necessarily involves less differentiation among individuals. Decentralization allows to differentiate public goods and services such that those who want to have more or a better quality of public goods can move to the jurisdiction with higher levels of publicly provided goods. Citizens are willing to pay higher prices for that offer and could thus be charged higher tax prices. Similarly those who want to have less can move to jurisdictions with lower levels of public services. The migration process leads to more homogeneous jurisdictions and to lower frustration costs.

Oates (1972, p. 30) consequently proposes his *decentralization theorem* according to which a decentralized provision and financing of public goods at the lowest possible level is efficient in a world of high mobility of production factors and people with different preferences. However, the decentralization theorem only holds if the *correspondence principle* (Oates 1972) or the *principle of fiscal equivalence* (Olson 1969) is respected. Both principles similarly require that the jurisdiction that decides upon the level of public services should comprise the consumers of that good and those that bear the costs as taxpayers. Only in this case, the sum of marginal willingness to pay for public goods corresponds to the marginal tax price. Whenever the principle of fiscal equivalence is violated, decentralized provision and financing of public goods may lead to inefficiencies. This could be the case if externalities or economies of scale in consumption exist. Moreover, equity issues may pose problems for a competitive provision and financing of public services.

### 2.2. Potential Distortions

Externalities from fiscal competition might result in the form of regional or fiscal externalities. Regional externalities are comprised of positive or negative benefit spillovers as well as cost spillovers. Positive benefit spillovers come up for example if Dutch tourists use the German highway system, but do not contribute according to their marginal willingness to pay. Congestion externalities will arise. Negative benefit spillovers may exist in the case of cross-border pollution. Cost spillovers exist in the case of tax exporting, for example if multinational corporations whose shares are internationally distributed are taxed in a particular country. Because the shareholders of a multinational company cannot participate to the same extent in the political process as those of a national corporation, a government has incentives to raise corporate income taxes to inefficiently high levels above the willingness to pay of the shareholders of multinationals. The costs of public services are externalized because a part of the tax burden is paid by residents from other jurisdictions providing incentives for inefficiently high levels of public services or for excessive taxation (Huizinga and Nielsen 1997, Fuest and Huber 2002).

Fiscal externalities work in the opposite direction of tax exporting. They may arise from strategic tax competition for mobile capital. Italy is for example in tax competition with Croatia. If Croatia drops the corporate income tax rate, it attracts Italian firms. This relocation reduces the tax burden of the Croatian residents because provision costs can be distributed among more taxpayers. However, the relocation increases the tax burden of Italian residents because less taxpayers have to finance that given amount of Italian public services. If both countries do not consider the changes in tax burdens in each country when deciding about the level of public services, fiscal externalities arise (Zodrow and Mieszkowski 1986, Wilson 1986). This argument does not hold to the same extent if public infrastructure is becoming an additional parameter for relocation decisions. Infrastructure is then adjusted in the fiscal competition game such that fiscal externalities might finally vanish (Keen and Marchand 1997, Borck 2004, Wildasin 2004). Moreover, cost or benefit spillovers on the one hand and fiscal externalities on the other hand might compensate for each other such that public goods can be efficiently provided (Bjorvatn and Schjelderup 2002, Sørensen 2000, 2004, Noiset 2003). It has also been broadly discussed to what extent the distortions from fiscal competition are more severe under asymmetry conditions, e.g. if relatively small countries compete with relatively large countries. No clear-cut results have emerged however (Bucovetsky 1991, Arnold 2001, Eggert and Kolmar 2001, Stöwhase 2004, Marceau and Mongrain 2004).

An inefficient provision of public services might only result if economies of scale (non-rivalness) in consumption exist, i.e. when the government provides public goods in the Samuelsonian sense (Sinn 2003). Fiscal competition then enforces the benefit principle of taxation such that mobile production factors can only be charged the marginal costs of their use of public goods. Mobile taxpayers do however not contribute to cover the high inframarginal (fixed) costs of public infrastructure. If this is not to lead to an inefficiently low level of public services, the fixed costs must be covered by immobile taxpayers. This can lead to an undesired income distribution.

### *2.3. Redistribution Problems*

With respect to personal income redistribution, fiscal competition poses more important problems. Continue the Italy-Croatia example: Italy presumably has a higher progressivity of income taxes and pays higher levels of social transfers than Croatia. Income redistribution is hence more pronounced in Italy than in Croatia. This provides incentives for Croatian social welfare recipients to move to Italy because they can expect higher transfer payments. High income earners from Italy – ceteris paribus – follow the incentive to emigrate to Croatia. These migration incentives impede the decentralized income redistribution at the national levels (Stigler 1957, Sinn 2003).

There do not exist many theoretical arguments against this reasoning. It is frequently argued that high income and wealthy people have incentives to voluntarily contribute to the social welfare state in order to obtain social peace (Buchanan 1975). The voluntary income redistribution is the higher the more decentralized the organization of income redistribution is, because recipients are known to or can be more easily identified by contributors (Pauly 1973). Many observers question however whether the funds obtained from voluntary contributions to income redistribution suffice to secure a minimum income of the poor. Tax competition thus supposedly leads to a more unequal distribution of income.

A variant of such arguments aims at explaining the impact of fiscal competition on the structure of public spending (Wildasin 2004) or of public revenue (Huber and Runkel 2004). If fiscal competition reduces the ability of governments to redistribute income in an economy, then the fiscal instruments most prominently used for income redistribution should become less important in the government budget. With respect to public spending, this means a shift from social transfers to infrastructural spending from which firms supposedly benefit more heavily. In the case of revenue, it could be expected that the government more strongly relies on fees and user charges than on broad-based taxes while the choice of tax structure mainly depends on the elasticity of the tax base. Borck (2003) argues however that much depends on the location of the median voter in the income distribution such that positive capital tax rates can prevail under tax competition.

### *2.4. Regional Convergence*

In the political discussion, a frequently heard argument focuses on regional instead of personal income positions. It is contended that fiscal competition results in a situation of poor regions becoming poorer and rich regions becoming richer. The more ‘good’ taxpayers reside in a region, the lower the tax burden needs to be to finance a 'necessary' amount of infrastructure. Poor regions however need to increase the tax burden to finance such a 'necessary' amount of infrastructure. Fiscal competition then perpetuates income differentials and exacerbates the convergence problems of the periphery. Such permanent differences in growth performances will however also prevail if agglomeration economies in central regions exist. The competition between interregionally active firms induces a concentration of industrial activities in economic centers because of an interaction between economies of scale in production, agglomeration economies and diseconomies, and transport costs. Economic activity is more concentrated in the center while the periphery has below average economic activity.

Ludema and Wooton (2000), Kind, Knarvik and Schjelderup (2000), Brakman, Garretsen and Van Marrewijk (2002) and Baldwin and Krugman (2004) analyze the impact of tax competition on the economic development of central and peripheral regions under the conditions normally emphasized by the theory of economic geography. Agglomeration economies in the centers allow them to a certain extent to levy relatively higher taxes than the periphery without inducing firms to relocate to the low tax periphery. Agglomeration economies partially compensate for the tax advantages in the periphery. The latter therefore has no alternative to a tax policy that compensates location disadvantages. Even a strong decrease of tax rates is necessary to compensate for agglomeration advantages of the center. For example, Ireland has followed this policy in the EU during the last decade and has been very successful. Tax harmonization would then be harmful because it would exacerbate the resource differences between center and periphery and easily lead to demands for higher fiscal equalization.

### *2.5. Alternatives to Tax Competition*

These arguments deliberately accept the premise that tax competition describes a clear-cut behavior in the international fiscal competition game. This is however only a fiction. If tax rates are not available as policy instruments to attract mobile firms, alternative instruments will be used. The state may attempt to attract firms by offering subsidies or tax holidays. Governments bid for firms. Subsidy competition results if tax competition is precluded. Such subsidy competition follows however a different rationale. Capital already invested in a certain location can be more easily taxed than new investment of multinationals. When considering investment in a country, multinational enterprises anticipate that they will face problems in repatriating location specific investment after it has been undertaken such that a ‚hold-up' problem results. Firms will also recognize that a danger of excessive taxation results from that hold-up and will abstain from investing in a country leading to adverse effects on economic growth. Firms thus aim at obtaining credible commitments from the governments of potential locations that their location specific rents are not taxed in a confiscatory way. Governments use the opportunity to commit themselves in order to induce firms to invest in their jurisdiction. They hence offer subsidies or tax holidays to compensate firms for the potential loss from the expected hold-up (Doyle and van Wijnbergen 1994, Bond and Samuelson 1986, Black and Hoyt 1989). Haufler and Wooton (2004) show that tax and subsidy coordination is not necessarily leading to welfare improvements in such a political environment although it can. In contrast, Janeba (2000, 2002) argues that tax competition solves the problem of providing credible commitments more efficiently than tax holidays or subsidies. Governments don't need to provide subsidies as credible commitments because tax competition reduces corporate income taxes to a reasonable level.

Another alternative to tax and to subsidy competition is a competition in tax enforcement as the most inefficient kind of fiscal competition for firms (Stöwhase and Traxler 2004). For example, some German states offer a lax tax enforcement to firms in order to attract them to their jurisdiction because they do not have the possibility of changing tax rates in the largely harmonized German tax system and are additionally restricted by European law to offer subsidies to firms. The lax tax enforcement invites tax evasion and tax fraud which is the most detrimental way of avoiding taxation because it undermines tax morale.

### *2.6. Political Economy Issues*

These arguments shed some light on the actual behavior of governments. The state does not always do what it ought to. Political actors follow their own self-interest and seek to get rents from the political process. If a government of a member country attempts at securing private rents by increasing taxes, taxpayers can avoid excessive taxation by migrating to countries with lower tax burdens. The government cannot increase the tax burden of the mobile factor above the level of migration costs (Brennan and Buchanan 1980). It therefore has to take the interests of the mobile factors into account. Wilson (2005) shows that the competition for mobile capital between self-interested governments leads to a strengthening of the positive relation between tax revenue and the public input. Tax harmonization would be counter-productive because it would facilitate Leviathan governments to exploit tax bases.

In addition, fiscal competition enables citizens to comparatively evaluate the performances of representatives and thereby reduce the information asymmetries in political markets (‚yardstick competition‘). For example, German voters can compare the performance of the German federal government to that of the French government. If France has a relatively high level or quality of public services under otherwise same conditions, but offers them at lower tax prices than Germany, German voters have incentives to punish the German government at the next election day. The German government will anticipate this threat in its decision to increase tax rates. Fiscal competition does hence not only work through the migration mechanism, but also improves citizens' ability to exert voice in the political process (Besley and Case 1995, Bordignon, Cerniglia and Revelli 2003, Salmon 2003, Reulier 2004). The government is forced to provide public services at relatively lower costs and at the level desired by citizens.

### *2.7. Political Innovation and Economic Growth*

Yardstick competition may also be a mechanism to lead to a dispersion of knowledge in politics. It is well-known from private markets that competition induces product, process and organizational innovation. Competition between governments may as well lead to political innovations. Governments can decentrally experiment with new solutions for economic problems. Better solutions succeed in a process of imitation, copycatting and adaptation by other jurisdictions. Competition between jurisdictions thus becomes a discovery procedure which contributes to the progress in the public sector. In this context Oates (1999) speaks of 'laboratory federalism' and points out that the reform of welfare in the U.S. in 1996 followed these considerations (see Inman and Rubinfeld 1997).

The higher innovative capacity of fiscal competition as a possible explanation for economic growth of countries is however contested. In a competitive system, a government is re-elected if it provides services that are at least not worse or not more expensive than those in other jurisdictions. Each government has incentives to wait initially in order to imitate only those policies of other jurisdictions that have turned out to be relatively successful. If the government of a state is uncertain about re-election, it has an incentive to act as a free-rider with respect to the policy innovations of other jurisdictions finally reducing their absolute amount (Rose-Ackerman 1980). Schnellenbach (2004) studies the incentives for policy innovations in systems competition by particularly focusing on the incentives of voters. As voters normally have little incentives to be politically informed before elections, policy innovations are mainly possible in times of crises. Citizens' incentives to become informed on policy innovations are however improved by high mobility and elements of direct democracy in political decision-making processes. Political rents of governments can then be reduced by competition, and politicians can be offered incentives to innovate.

Given these arguments, it could be asked whether fiscal competition or fiscal cooperation between jurisdictions has an effect on their economic growth. Still, fiscal competition theoretically has ambiguous effects because, on the one hand, it might induce higher efficiency of public goods' provision and higher political innovation and hence a better economic performance of jurisdictions. On the other hand, fiscal competition might lead to a migration of mobile production factors to centers of economic activity where agglomeration economies can be realized such that single poorer regions suffer from that competition.

## 3. Empirical Evidence on the Existence of Fiscal Competition

All the potential outcomes of fiscal competition discussed in Section 2 need not necessarily obtain in the real world. Theoretical arguments do not suffice to assess fiscal competition normatively. Insights as to the empirical validity of the arguments are necessary. In order to observe an impact of fiscal competition on efficiency, redistribution and growth, the existence of fiscal competition should be established. Fiscal competition exists if two conditions are met: First, taxes and public spending play a significant role in the choice of location of industry and/or of residence of individuals (mobility hypothesis). If there is no fiscally induced mobility, neither beneficial nor detrimental effects of fiscal competition can result. Second, governments actually use fiscal instruments to attract firms or individuals. If no strategic tax setting can be observed, a race to the bottom cannot occur (strategy hypothesis).

### *3.1. Location Choice*

The evidence on fiscally induced capital mobility clearly speaks for the existence of fiscal competition. A large body of evidence that stems from international, regional or local data supports the hypothesis that taxes and public spending play a role for location decisions of firms. The weakest evidence is found with respect to foreign direct investments (Feld 2000). While Grubert and Mutti (1991) and Hines and Rice (1994) find that international direct investment of multinational firms are lower, the higher corporate income taxes, Devereux and Freeman (1995) do not find a robust influence of taxes on foreign direct investments in Germany, France, the U.K., Italy, Japan, the Netherlands and the U.S. between 1984 and 1989 if a rich set of additional explanatory factors, in particular labor market characteristics are additionally considered. Büttner (2002) reports evidence of a joint impact of marginal and statutory taxes on FDI flows for 15 OECD countries between 1991 and 1998, while only weak evidence for countervailing effects of public expenditures are found. Stöwhase (2002) obtains tax effects on for FDI of German multinationals in eight OECD countries and the same period by identifying an impact effective tax rates on real activity and of statutory tax rates on profit shifting activities. These inconclusive results might be grounded in the high aggregation level of foreign direct investment figures or may be attributed to the fact that statistics on foreign direct investment or on portfolio investment are not reliable.

This has induced an extensive empirical literature on investment behavior of multinational firms that mainly uses large firm level data sets (Hines 1997). Grubert and Mutti (2000) focus on new investment of multinationals at particular locations in a cross section analysis for 500 firms in 60 countries in 1992. They find that higher average effective corporate income tax rates on distributed earnings reduce the probability that multinationals invest in a location. Mutti and Grubert (2002) present evidence for 728 U.S. multinationals in 1996 that a 10 percent increase in the cost of capital reduces the probability that a location is chosen by 1.4 percent. Altshuler, Grubert and Newlon (2001) find a relatively important impact of effective tax rates on investment of multinationals in 58 different countries for the years 1984 and 1992. The relative importance of taxes for international investment has doubled during that period. A very convincing study on location choice of multinationals has been conducted by Devereux and Griffith (1998). For more than 1600 firms between 1980 and 1994, they analyze the impact of taxes on U.S. multinationals‘ investment in Germany, France or the U.K. as a two step decision. In the first step, multinationals decide whether to invest at all in Europe. The choice to invest at home or in Europe is largely independent from taxes and follows along long-term sales strategies of firms. The second step of the decision consists in the choice of the particular country if a firm has already decided to invest in Europe. Average effective corporate tax rates have an important impact on that second decision.

Recent meta-analyses on the impact of taxes on location decisions of multinationals have been provided by Gorter and de Mooij (2002) and de Mooij and Ederveen (2003). They review the econometric studies analyzing the impact of taxes on the location of firms and on FDI and establish the characteristics of the study design that affect the size of the estimated tax rate elasticities. According to their analyses, the median tax rate elasticity of foreign direct investment is 3.3 exhibiting an important variation across the studies. Desai, Foley and Hines (2003) use the most extensive data set on multinationals' location decisions with 20,346 observations. They report a tax rate elasticity of 7.7 for Europe and 2.3 for the countries outside of Europe. A 10 percent higher tax rate is associated with a 7.7 percent reduction in investment. Desai, Foley and Hines (2004) report similar elasticities for indirect taxes.

Evidence corroborating the importance of taxes for location choice is found for federal states (Newman and Sullivan 1988, Bartik 1991, Wasylenko 1991, Feld 2000). Hines (1996) presents evidence that multinationals locate in U.S. states with lower taxes. Feld and Kirchgässner (2003) study the impact of personal and corporate income taxes on the distribution of firms between the Swiss cantons and on cantonal employment. They report significant negative effects of taxes on the number of small and medium sized firms in different classes of rates of return in 1981/82 and 1991/92 and on cantonal employment between 1985 and 1997. The higher taxes, the lower the number of firms and employment. All in all, this is strong evidence that international and interregional location decisions are affected by taxes.

Tax rate differentials do however not only affect real investment of multinational corporations. They also have an effect on transfer prices that are set between parent companies and subsidiaries. If the parent locates in a high tax jurisdiction and the subsidiary is located in the low tax jurisdiction, the multinational corporation has incentives to set the prices for services provided by the subsidiary at higher levels in order to reduce profits and thus also taxes paid in the high tax jurisdiction. For the period 1981 to 1988, Swenson (2001) presents evidence that multinationals with parent companies in the U.S. and subsidiaries in Germany, France, the U.K., Japan and Canada increased transfer prices by 8.2 percent on average when foreign tax rates decreased by one percentage point. Mintz and Smart (2004) present similar evidence for Canada. Declared taxable profits of firms that have branches in more than one Canadian province declines by 4.3 percent in the case of tax hikes while otherwise similar firms that only have branches in one province declare profits that are by 1.6 percent lower. Finally, Grubert and Slemrod (1998) argue that transfer prices are particularly strongly influenced by taxes if a subsidiary's specialization is in research and development. In R&D, the internationally accepted dealing at arm's length principle cannot be used because most of the products of the subsidiary do not exist in the market such that market prices cannot serve for comparisons.

### *3.2. Residence Choice*

Support for the mobility hypothesis is also found with respect to migration and residence choice of individuals. Lower taxes and/or higher levels of public services attract individuals – ceteris paribus. There is however a first notable difference between location choice and residence choice. Because capital is internationally more mobile than labor, the international evidence on fiscally induced migration is rather non-existent. This also holds for the EU although mobility between member states has considerably increased. Labor market conditions and general economic development of a country may serve as the main pull factors in international migration. Public finance still appears to be too unimportant for most researchers to take it into account. This holds although there is anecdotal evidence from firms which have difficulties to attract highly qualified people to high tax jurisdictions.

Many empirical studies do however exist for regional or local migration and the impact of fiscal policy on residence choice of individuals. These studies have been mainly performed by using U.S. and Swiss data because income tax differentials and differences in public services are high between the sub-federal jurisdictions in both countries. For example, someone living in the canton and the city of Zurich who earns a million SFr taxable income per year pays more than three times the amount of taxes to the canton and the local jurisdiction of Zurich than in the community of Freienbach in the canton of Schwyz which is only half an hour away from Zurich. Looking at the evidence from federal states is also useful for an assessment of international fiscal competition because mobility costs are much lower, the lower the government level such that the potential for fiscal competition strongly increases. If fiscal competition turns out to be at least not harmful to economic outcomes of jurisdictions at the lower level of governments, it is probably having similar effects in international terms.

The studies for the U.S. broadly support the migration hypothesis (see Feld 2000 for a survey). They find that tax rate differentials and differences in public services across U.S. states and local jurisdictions – ceteris paribus – influence individual residence choices. Welfare payments mainly affect migration of the poor. However, many studies also provide evidence that labor market conditions or the housing market are quantitatively more important than fiscal policy. In addition, the attraction of jurisdictions with favorable public or private infrastructure (in particular health and education) as well as a good quality of the natural environment (parks and other recreation facilities) should not be underestimated. The differences in tax rates and public services at the state or local levels moreover capitalize in housing prices (see Feld 2000 for a survey on U.S. studies). Higher taxes induce – ceteris paribus – lower housing prices, while a higher level of public services is associated with higher housing prices. The tax burden is shifted to the immobile factor land.

Similar evidence on fiscally induced migration is found for Switzerland. Frey (1981) reports only a small or no impact of income tax rate differentials on migration between and within Swiss cantons. Feld (2000) finds stronger effects for cantonal immigration between 1980 and 1990, but the results are not very robust to the inclusion of additional influences on migration. In an alternative approach, the impact of income taxes and public services on the distribution of taxpayers in different income classes across the Swiss cantons and local jurisdictions has been investigated. Kirchgässner and Pommerehne (1996) in a cross section analysis for the Swiss cantons in 1987, Pommerehne, Kirchgässner and Feld (1996), Feld (1999, 2000, 2000a), Feld and Kirchgässner (2001) in cross section analyses for the Swiss cantons and for 137 Swiss cities and communities for 1990 as well as Feld and Frey (2000) in a panel data analysis for the cantons between 1981/82 and 1993/94 report a strong impact of income taxes on the distribution of taxpayers. The impact of income tax rate differentials is quantitatively more important in higher than in lower income classes. Tax competition appears to be more intense at the local than at the cantonal level and more important for self-employed than for dependent workers and for retirees. These results on the impact of public finance for the regional distribution of taxpayers is corroborated by the Swiss studies on capitalization of tax rate differentials in housing prices. Feld and Kirchgässner (1997), Hilber (1998) and Feld (2000) report evidence that the higher income taxes, the lower are dwelling rents of apartments and houses. The income tax burden of high income taxpayers is capitalized more strongly than that of low income people. Welfare does not play any role. All in all, there is strong evidence from the regional level that fiscally induced migration and residence choice takes place. The migration hypothesis can thus not be rejected.

### *3.3. Strategic Fiscal Policy*

Fiscally induced migration is a necessary condition for the existence of fiscal competition. A sufficient condition is the strategy hypothesis: Jurisdictions actually engage in strategic tax setting. How strategic tax setting emerges can be easily illustrated in the following example: In his tax policy, the Croatian finance minister has to consider several requirements many of which are derived from Croatian legislation and others stem from the influence of different interest groups on tax policy. In addition, he has to consider the international development in order to make Croatia attractive for investments and locations of firms. If the Slovak Republic decreases its tax rate on individual and personal income to, say, 19 percent, the Croatian finance minister has to take that into account when announcing the next tax reform. Jurisdictions look at what happens in other jurisdictions. They identify their competitors and react to their tax rate changes. According to the strategy hypothesis, a correlation between the changes of tax rates in different jurisdictions should be observed.

Evidence on such a strategic tax setting exists, like for the location choice of firms, at all government levels. The first studies have again been conducted for the U.S. states and local jurisdictions (Ladd 1992, Case 1993, Brueckner and Saavedra 2001), but there is meanwhile also evidence on strategic tax setting in Canada (Brett and Pinske 2000, Hayashi and Boadway 2000), Belgian communities (Heyndels and Vuchelen 1998), German local jurisdictions (Büttner 1999, 2001), French regions and départements (Feld, Josselin and Rocaboy 2003, Leprince, Madiès and

Paty 2003, Reulier 2004), Italian cities (Bordignon, Cerniglia and Revelli 2003), Spanish local jurisdictions (Solé-Ollé 2003) and Swiss cantons (Feld and Reulier 2005). Most of these studies focus on income, business and property taxation. They find that a reduction of the average tax rates of competitors induces a reduction of tax rates of an observed jurisdiction. Comparable evidence is presented by Figlio, Kolpin and Reid (1999) and Saavedra (2000) on welfare payments in the U.S. Again, reductions in welfare payments on average in competitor jurisdictions induce a reduction of welfare payments in an observed jurisdiction. Moreover, Fredriksson and Millimet (2002) provide evidence on strategic interaction in environmental policy. Brueckner (2003) provides a survey of these studies.

Most notably, such evidence could also be found at the international level. Devereux, Lockwood and Redoano (2001) analyze strategic tax setting for ten OECD countries between 1979 and 1999. They find that there is a positive spatial correlation between statutory corporate income taxes of these countries as well as between their effective average corporate income tax rates. The lower these tax rates in the other nine countries on average is, the lower are the tax rates in the remaining ten countries. Besley, Griffith and Klemm (2001) corroborate these results in a study on corporate income tax ratios (tax revenue in percent of GDP) for 29 OECD countries between 1965 and 1997. Again, a positive spatial correlation of taxes exists. Altshuler and Goodspeed (2002) provide additional evidence on how the U.S. serves as a role model in international tax policy whose tax reforms are imitated by European countries. Evers, de Mooij and Vollebergh (2004) find strategic interaction in the case of European diesel excises for 15 EU member countries plus Norway and Switzerland between 1978 and 2001. Egger, Pfaffermayr and Winner (2004) complete these findings for VAT and excise tax ratios in 22 OECD countries between 1965 and 1997.

On the basis of this evidence, the strategy hypothesis cannot be rejected. Fiscal competition exists at the local, regional and international level at different intensities concerning different production factors. It is most intense at the local level in countries with local or regional fiscal autonomy. At the regional level, the intensity is lower compared with the local level, but higher compared to the international level. The evidence provides strong support for the existence of fiscal competition for firms and individual taxpayers and hence for corporate and individual income taxes as well as property taxes (the latter in particular in the U.S.).

## 4. Evidence on the Economic Effects of Fiscal Competition

Stating that fiscal competition exists does not tell anything about its impact on the supply of public services, the welfare state or economic growth. These three classes of economic outcomes must be considered explicitly. However, not much systematic international evidence on the impact of fiscal competition on these economic outcomes exists. The empirical studies have mainly been conducted for the federal countries Switzerland and the U.S. using regional or local data. What has been said in Section 3.2 however also holds with respect to economic outcomes: If fiscal competition is more intense at the local or regional level, the hypothesized positive or negative effects should be more easily observed in studies on federal states. In a ‚Sinatra-analogy', we can state: ‚If you can make it there, you can make it anywhere.'

### *4.1. The Efficiency of Public Goods' Provision*

To measure economic efficiency in the provision of public goods is not easy. Public services are efficiently provided if the marginal cost of provision is equal to the sum of marginal rates of substitution of users. Though it is not impossible, finding out the marginal cost of provision is difficult, because most statistics on the public sector contain information on expenditure and not on cost. The real difficulty emerges however on the demand side. Consumers have incentives to hide their true willingness to pay for public services in order to get a free ride when they actually expect to pay. Consequently, direct evidence on the impact of fiscal competition on the efficiency of public goods' provision is scarce.

Bergstrom, Roberts, Rubinfeld and Shapiro (1988) conduct the first direct test of the efficiency hypothesis according to which fiscal competition leads to an efficient decentralized provision of public goods. They estimate Samuelson condition, i.e. the equality of marginal costs of provision of public services and the sum of individual marginal willingness to pay for public education directly. The demand for public services is estimated on the basis of individual survey data. In addition, aggregate data on local jurisdictions is used to assess marginal costs. The authors present evidence that the efficiency hypothesis cannot be rejected. Hoxby (2000) develops a less ambitious test by comparing the relative efficiency of education in jurisdictions with a higher and those with a lower intensity of fiscal competition. She presents evidence that the performance of students per input unit is increased by fiscal competition although it leads to significantly less spending per student.

In addition, there is a broad discussion in the literature on the impact of fiscal competition on the size of government. According to Brennan and Buchanan (1980), fiscal competition restricts Leviathan behavior of governments. Most studies attempt at testing this hypothesis by looking at the impact of fiscal decentralization on public spending or revenue. There is mixed evidence on this impact of fiscal decentralization however. Only the more recent evidence by Shadbegian (1999) for the U.S., Schaltegger (2001) and Kirchgässner (2002) for Switzerland and

Rodden (2003) in a cross-country study provides unambiguous support for such a relationship. Feld, Kirchgässner and Schaltegger (2003) focus more closely on the transmission channels by which fiscal decentralization in federal states might affect the size of government. They find that a more intense tax competition leads to lower public revenue. Moreover, tax competition shifts the revenue structure from broad-based taxes to user charges and fees. Tax competition thus leads to a stronger enforcement of the *benefit principle of taxation*. Kirchgässner and Feld (2004) provide evidence using the same data set that again tax competition induces lower spending. The estimated reduction of spending for the canton which stands most strongly in tax competition compared to that which is the least affected by tax competition amounts to SFr 2,114.- per capita and year.

In the theoretical discussion, externalities of fiscal competition are focused. Büttner (2003) finds evidence for fiscal externalities between small German communities. Murdoch, Sandler and Sargent (1997) estimate significant negative benefit spillovers (sulfur and $NO_x$ emissions) for 25 European states. As Sørensen (2000, 2004) in his simulation study shows, these fiscal and regional externalities can easily compensate for each other. Parry (2003) corroborates this analysis and also reports relatively low welfare costs of tax competition even excluding tax exporting. Pommerehne, Feld and Hart (1994), with systematic evidence on local cross-border pollution, and Pommerehne and Krebs (1991), with econometric evidence on spillovers of public services in the canton of Zurich, show how regional externalities are successfully internalized in Coase-like bargaining processes. On the basis of empirical evidence for the U.S., Haughwout (2003) argues as well that Coasian bargaining is particularly suited to internalize fiscal externalities. Swiss federalism is in general characterized by specific inter-jurisdictional compensations for spillovers. Although this leads to high transaction costs it also induces incentive compatibility of public goods' provision. Indeed, Schaltegger (2003) does not find any significant benefit spillovers between Swiss cantons in a panel study for the years 1980 to 1998. All in all, this evidence speaks in favor of fiscal competition. The *efficiency hypothesis* cannot be rejected on the basis of this evidence.

### *4.2. Income Redistribution*

Accordin to the redistribution hypothesis in its strong version, fiscal competition leads to a collapse of the welfare state because of fiscally induced migration of the poor to jurisdictions with high transfers and the rich to jurisdictions with low income taxes – keeping all other factors constant that might attract migrants. As discussed in Section 3.2, this fiscally induced migration takes place in the U.S. and, to a lesser extent with respect to welfare payments at least, also in Switzerland. There is additional evidence on strategic tax setting in both countries. There is however no evidence that the welfare state in both countries has collapsed – given national redistribution preferences. This is particularly interesting for Switzerland because of its more pronounced income redistribution. Where does this result come from?

Feld, Kirchgässner and Schaltegger (2003) analyze the impact of tax competition between Swiss cantons on their revenue structure and report evidence that tax competition shifts revenue from broad based taxes to user charges and fees as hypothesized by the theoretical literature. These results are in line with more recent evidence by Winner (2004) on the impact of tax competition on tax structure. For 23 OECD countries and the time period 1965 to 2000, he finds that capital mobility shifts the tax burden from capital taxation to labor taxes. The less mobile tax base has to be bear a higher tax burden. According to the results of Feld, Fischer and Kirchgässner (2003) for the Swiss cantons, welfare spending is however not affected by tax competition such that no unambiguous result is found for the spending structure. In essence, tax competition restricts the use of the main instruments of state income redistribution at least at the revenue side. Less funds are available for income redistribution if tax competition prevails. They could however be used more effectively and in a more targeted way.

On the basis of data from 1977, Kirchgässner and Pommerehne (1996) present evidence for Switzerland that two thirds of public income redistribution (without considering social security in that analysis) were conducted by sub-federal jurisdictions. The income distribution was not significantly more unequal for Switzerland in 1977 than in Germany in the beginning of the seventies. Since the seventies, the Swiss income distribution has become more unequal than in other European countries. This development can be attributed to the fact that the ten percent of the population with the highest incomes have more than proportionally gained from income growth between 1977 and 1992. Still, excluding social security, the Swiss public sector redistributes as much income in 1992 as in the end of the seventies. The share of sub-federal jurisdictions from this amount of income redistribution has even increased during the same period (Feld 2000, 2000a). In addition, cantons and local jurisdictions have relied more heavily on taxes than on spending to accomplish income redistribution. Although Feld, Fischer and Kirchgässner (2003) find some evidence that tax competition between cantons is leading to less income redistribution, this effect is not robust to the primary distribution of income. There is thus some indication that tax competition forces cantonal governments to redistribute income more effectively.

It should moreover be noted that the most important differences between fiscal competition in federal states on the one hand and international fiscal competition on the other hand must be attributed to the distribution branch. The Swiss cantons and local jurisdictions as well as the U.S. states and local jurisdictions are indeed embedded in a system with much income redistribution undertaken by the federal level. The public acceptance of the effects of fiscal competition on the income distribution thus hinges on the fact that there is some redistribution of income at the federal level. In Switzerland, the progressive federal income tax, the source tax on interest income and the pay-as-you-go part of the Swiss pension system are centralized and have a strong redistributive impact. Similarly, the U.S. federal income tax is most important for income redistribution. In addition, both countries had strong residence requirements for longer time periods. As it is well documented by the U.S. studies on migration and welfare (Moffitt, 1992), residential requirements could be crucial for decentralized redistribution to work. Until 1969, the U.S. states imposed residence requirements on potential welfare recipients according to which they could only obtain welfare payments in a state if they had worked at least two years in the same state in which they applied for social welfare. The residence requirement was declared unconstitutional by the Supreme Court in that year. Evidence for a harmful welfare migration has been provided only for the period after that Supreme Court decision. In Switzerland, a citizenship principle existed until 1979 according to which the places of citizenship were responsible for social welfare of their citizens. Citizenship has been inherited. If the place of residence of a welfare recipient was different from the place of citizenship, he could be forced to move back in the place of citizenship or obtained lower transfer payments than he would have received at the place of residence. Finally the Swiss political decision-making process plays a role for income redistribution. Since Swiss cantons to differing degrees enable voters to participate directly in fiscal decision-making by referenda on tax rates, spending or budget deficits, and because institutional competition of direct with representative democratic cantons induces the latter to deviate not too much from basic redistributive concerns, fiscal competition in Switzerland may not lead to a collapse of the welfare state as well. Actually, tax competition is less pronounced in cantons with a tax referendum than in those without one (Feld 1997). The strong *redistribution hypothesis* must therefore be rejected for Switzerland. The existing extent of decentralized income redistribution depends however on particular rules at the federal level.

### *4.3. Economic Growth, Regional Convergence and Political Innovation*

If there is the famous trade-off between efficiency and equity in the assessment of fiscal competition, is there any indication on the dynamic efficiency of competitive fiscal systems? A widely used proxy for dynamic efficiency is the growth of GDP per emplyoee. The impact of fiscal competition on economic growth is even less intensively studied than that on efficiency or income redistribution. There is a more recent literature mainly with cross-country evidence, but also with evidence on

Chinese provinces, German or U.S. states that attempts at analyzing whether fiscal decentralization has a positive or negative impact on economic growth. The main disadvantage of the empirical approach in those studies is that fiscal decentralization is almost exclusively measured by the share of spending (or revenue) of lower level jurisdictions from total spending (or revenue). This share is not measuring fiscal autonomy. It could easily be the case that sub-federal jurisdictions spend a relatively large share, but are forced to do so by federal mandates or do not raise funds autonomously to finance that spending such that they depend on the federal government. This holds for example for Mexico (Feld 2003). It is thus not surprising that the existing studies do not find any clear-cut evidence on this relationship (Feld, Zimmermann and Döring 2003).

There is one paper in which the impact of tax competition on economic performance is analyzed. Feld, Kirchgässner and Schaltegger (2004) present evidence for the Swiss cantons from 1980 to 1998 that tax competition has not been harmful to economic performance of the cantons. In addition, no evidence on the importance of economies of scale for economic performance is found in that study. The arguments for a merger of cantons are thus not supported by the evidence from this paper. Still no evidence on the impact of fiscal competition on regional convergence exists. However, Desai, Foley and Hines (2004a) analyze the economic effects of regional tax havens and finds that the use of tax havens indirectly stimulates growth of operations in non-haven countries in the same region while Hines (2004) points to the fact that tax havens particularly gain from tax competition. This evidence shows that regional tax havens have effects on economic performance although they do not tell anything about agglomeration effects in central regions and locational disadvantages of the periphery.

With respect to the impact of fiscal competition on political innovation only evidence from case studies can be found. Feld and Schnellenbach (2004) discuss the diffusion of administration reforms (new public management) at the Swiss local level during the nineties and the welfare reform of the U.S. in 1996. In particular, the latter example has been explicitly conducted with the expectation of the federal government that the states as a laboratory for welfare policies are better suited to find the most reasonable solutions for welfare policy. Although the welfare reform is a success story and the expectations are thus not disappointed, it must be noted that there are still federal mandates aiming at a quality control of these reforms. The U.S. welfare reform is hence not exclusively providing evidence for the success of fiscal competition in inducing political innovation. Much needs to be done to get a more conclusive picture in this area.

## 5. Policy Conclusions

In policy debates across Europe, tax competition is very critically perceived. Most finance ministers would rather harmonize taxes than allow for tax competition. They fear that mobile tax bases will not contribute to the financing of European welfare states anymore. In this paper, the main theoretical arguments are discussed and evaluated as to what impact tax competition has on the provision of public services, on income redistribution by the state and on economic development. Moreover, the arguments from the theoretical analysis are confronted with the existing empirical evidence. Several conclusions can be drawn from that analysis:

1. It is misleading to talk about tax competition. Taxes are prices for public services and the public insurance provided by welfare states. Governments find themselves in a locational competition of which fiscal competition is an important part. It is also misleading to trace the development of statutory or average effective tax rates over time without controlling other factors that affect location or residence choices.
2. The international and regional evidence provide overwhelming support for the existence of fiscal competition. Firms' international or regional location choices – ceteris paribus – depend on corporate and personal income tax rate differentials and on differences in public services. Taxes also play a significant role for the choice of transfer prices of multinational firms. The higher taxes, the less attractive a jurisdiction. Residence choices depend on personal income taxes, public infrastructure and welfare payments. The evidence for the latter mainly stems from interregional fiscal competition in federal states. International evidence does not exist. Being aware of fiscally induced migration, governments engage in strategic tax setting and enter a process of tax and welfare competition.
3. The arguments on the impact of fiscal competition focus on the efficiency of public goods' provision and the sustainability of decentralized income redistribution. While there are contradictory hypotheses on efficiency, fiscal competition is hypothesized to render decentralized income redistribution impossible. The empirical evidence speaks in favor of the efficiency enhancing effect of fiscal competition, while the deterioration of income redistribution is not necessarily found. It strongly depends on the rules shaping income redistribution. In particular residence requirements appear to be useful.
4. The impact of fiscal competition on economic growth and regional convergence is neither theoretically nor empirically sufficiently analyzed. Neither fiscal harmonization with intergovernmental grants, nor fiscal competition can have big impacts on convergence or divergence of regions because it more strongly depends on agglomeration economies, economies of scale and

transport costs. The few studies undertaken on this relationship indicate that fiscal competition is at least not harmful for economic performance.

5. Perhaps the most important effects of fiscal competition theoretically stem from the political innovation it induces. Fiscal competition forces governments to find new policy solutions and experiment with them in a decentralized fashion. The successful policy innovations succeed in a process of imitation and adaptation. Policy innovation means policy reform. Some case studies indicate that the innovation enhancing effects of fiscal competition may be there. However, much more research needs to be done in this area.

Is tax competition a challenge? It certainly is, but it is much more difficult to assess how important the challenge is. Old Europe's tax systems currently cause a tremendous extent of inefficiencies and distortions. The violation of intertemporal neutrality may be the most notorious distortion imposed by those tax systems today. As the recent developments towards flat taxes or dual income taxes may indicate, European governments slowly move towards more neutral tax systems. This recent experience would not have been possible without the pressure to reform tax systems that is exerted by tax competition. Tax competition may thus be the most important vehicle to arrive at consumption based taxation represented by Manfred Rose's (2003) proposal for the Heidelberg Simple Tax. A consumption based tax system does not only provide for intertemporal neutrality, it is also less vulnerable to tax competition.

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# POREZNA KONKURENCIJA: KOLIKO JE IZAZOV VELIK?

## Sažetak

U «Staroj Europi» gotovo da i ne prođe tjedan dana bez rasprava o poreznim reformama, što je zapravo reakcija na uvođenje jedinstvene porezne stope u novim članicama Europske unije (EU). Mnogi promatrači to smatraju izrazom borbe do uništenja za koju se smatra da je uzrokuje oštra porezna konkurencija u Europi i cijelom svijetu. Umjesto promatranja brojaka koje opisuju porez na dobit, odgovor na pitanje koliki je zapravo izazov porezne konkurencije zahtjeva, prvo, da se iznađe kakav bi utjecaj porezna konkurencija *mogla* imati na alokaciju oskudnih resursa i kako bi se *mogla* odraziti na redistribuciju dohotka od strane države. Drugo, treba doći do empirijskih podataka o postojanju i stvarnom ekonomskom učinku porezne konkurencije. Obadvije se ove teme razrađuju u ovom članku, te se pokušava dati odgovor na sljedeća pitanja: Kako *funkcionira* porezna konkurencija? Kakav *jest* učinak porezne konkurencije na efikasnost pribavljanja javnih dobara i djelotvornost redistribucije dohotka? Djeluje li uopće porezna konkurencija na regionalnu konvergenciju i gospodarski rast? I konačno: Da li porezna konkurencija u javnom sektoru - analogno s konkurencijom na privatnim tržištima - služi kao "postupak brzog pronalaženja" za detektiranje i difuziju bolje politike javnog sektora?

Ključne riječi: Porezna konkurencija, porezna harmonizacija, efikasnost, redistribucija dohotka, konkurencija kao «postupak pronalaženja».