Interaction between local expenditure responsibilities and local tax policy

The Copenhagen Workshop 2013

Editors: Junghun Kim, Jørgen Lotz and Niels Jørgen Mau

KIPF KOREA INSTITUTE OF PUBLIC FINANCE

økonomi og indenrigsministeriet

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Table of Contents

i.

Foreword
Dong-Suk Oak

Foreword

A country's system of intergovernmental fiscal relations reflects various aspects of its governmental system. It is not only influenced by economic conditions but also by politics and institutions. It is also an evolving system, continually responding to changes in economic, demographic and political variables. Due to its complexity, few countries seem to be satisfied with their system of intergovernmental fiscal relations. Most countries therefore have the desire to learn from the experiences of other nations. However, fully understanding the intergovernmental fiscal relations of other countries is not an easy task as detailed information is often unavailable to outside observers. Also, countries that have reached the stage of mature decentralization have developed systems of intergovernmental fiscal relations that countries in the early stage of decentralization cannot easily follow. Despite these difficulties, an international comparison of intergovernmental fiscal relations provides a good learning opportunity when the experiences of other nations are understood in a guided manner. One particularly valuable way in which such a comparison can be optimized is by combining the insight of academics and the experiences of practitioners.

In this spirit, the Korea Institute of Public Finance (KIPF) and the Danish Ministry of Economic Affairs and the Interior have been holding jointly-organized biennial workshops since 2007. These workshops have been quite successful in creating a rare opportunity for both renowned academics and experienced practitioners to gather and exchange views on major policy issues relating to intergovernmental fiscal relations. The papers presented at the past three workshops in 2007, 2009 and 2011 were later published as books titled "Measuring Local Government

Expenditure Needs", "General Grants versus Earmarked Grants: Theory and Practice", and "Balance between Decentralization and Merit". In 2013, the fourth biennial workshop was held on the theme of a "Interaction Between Local Expenditures and Local Taxes". This book is based on the papers presented at that workshop. We expect this volume, as was the case of the previous three volumes, to offer policy guidelines for practitioners and stimulating research topics for academics.

As the president of a government think-tank long devoted to research on intergovernmental fiscal relations in Korea, I find that the contribution towards establishing worldwide joint research cooperation makes the ongoing collaboration between the Korea Institute of Public Finance and the Danish Ministry of Economic Affairs and the Interior both meaningful and successful. I hope the biennial workshop we are organizing will continue to provide a stimulating environment and generate interesting results in the future.

President
Dong-Suk Oak
Korea Institute of Public Finance

ii.

Opening address
Niels Jørgen Mau

The Danish Ministry for Economic Affairs and the Interior is very honoured to host this international expert seminar here in Copenhagen. It is not the first seminar of its kind, but the fourth. Maybe a kind of tradition. A good tradition. We have studied expenditure needs in 2007, general grants versus earmarked grants in 2009 and decentralization versus merit wants in 2011. And this time the fundamental relationship between local expenditures and taxes – and other revenues.

Welcome both to academics from universities and research institutions and civil servants from the administration. In my experience it is not often that we have the possibility to exchange views on local public finance between the academic world and the world of bureaucrats. Maybe because the division of labour is very pronounced in all specialist fields. Some of us are academics who publish papers in international journals. Some are bureaucrats focused on the practical implementation of policy ideas in public administration – taking into account the political context.

The division of labour has probably become even more distinct in the past few years. Not least in the field of economics. In this field, there is a considerable use of math-like language which for the more practically oriented civil servants, like myself, seems like a code that is very hard to crack or at least very time-consuming to crack.

Civil servants typically don't have much time on their hands. Therefore, they often have to give priority to shorter-term goals.

For example: A civil servant has two tasks on his to-do list. One with a short-term deadline and another with a long-term deadline. An example from our current situation in the ministry: 1) In Denmark the Ministry for Economic Affairs and the Interior must within a few weeks determine which municipalities are allowed to raise their municipal tax in 2014. This is job nr. 1. 2) At the same time there is a need to review the complete rate-setting system of municipal taxes. Job no. 1 wins, of course, but job no. 2 is important too.

Therefore we are pleased to host this seminar. It brings together both academics and civil servants, and it has a subject focused on looking at structures and fundamental economic relations in the local public sector.

The theme of this seminar is highly relevant. Both theoretically and politically. Just to mention a couple of issues that are related to this workshop and worth discussing – and which Danish policymakers are presently preoccupied with:

1) The size and development of the public sector. Why is the public sector in some countries relatively large and maybe even growing, and in other countries relatively small and possibly even shrinking? Are there connections to the tax structure and how the public sector is organized, for instance by being more or less decentralized?

2) Given the existence and tasks of the local public sector – what are the effects of different ways of financing (that is the assignment of tax instruments and equalization systems)? What makes the local governments more or less growth-oriented, i.e. aware of both the public and private sector development conditions?

3) Finally: Recent decisions have been taken – in Denmark and presumably many other countries, responding for example to EU's Fiscal Compact – to strengthen the management of local governments' budgets because of urgent needs for macroeconomic performance. This means a lot of attention to total public expenditures, aggregate tax level and overall local and public sector budget balance. But we still need to secure that the citizens' needs are met as precisely as possibly at the micro level, which means looking at the connection between taxes and expenditures. Or put in another way: how do we strengthen local respon-

sibility and flexibility in times of high priority to macroeconomic goals in the aftermath of the financial crisis?

Such questions are undoubtedly not only relevant in Denmark, but are difficult to answer. It cannot be done solely from theoretical models but must also be based on real life experiences.

The "real life" in this respect is the country studies. Country studies often present huge variations when it comes to institutions. But they also reveal a lot of similarities and common challenges.

Niels Jørgen Mau
Deputy Permanent Secretary

iii.

Introduction
Junghun Kim

What determines the structure of local public finance?[1]In essence, local budgets consist of two components: local revenue and local expenditures. But exactly how are they related, and to what extent does such a relationship differ across countries or from theory? This was the question addressed in the Copenhagen workshop held in September 2013.[2]

To this question, *Bird and Slack* offer an answer in the form of the following simple and yet fundamental principle: "If one aim of policy is to ensure that the public sector operates efficiently, it is important to establish as clear a linkage between expenditure and revenue decisions as possible – to strengthen what Breton (1996) calls the Wicksellian Connection".[3] The Wicksellian Connection has had powerful implications on local public finance. Bird and Slack list several examples of policy recommendations made in the literature on the basis of this principle: (i) local governments should, whenever possible, charge for local services (Bird, 1993); (ii) local property taxation can be a surrogate user charge (Hamiltion, 1976); (iii) the property tax burden should be lower on non-

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* This chapter is based on the author's interpretation of the workshop papers. I thank Jørgen Lotz and Niels Jørgen Mau, co-editors of this volume, for their helpful comments.
[1] In this chapter, the term "local government" refers to all types of sub-national governments that include both state (regional) governments and municipalities.
[2] The so-called Copenhagen workshop is held as a biennial event. The pdf files of the previous workshop volumes can be found at http://english.oim.dk/CPHWorkshop/ or http://kipf.re.kr/CPHWorkshop.
[3] As Bird and Slack quote, this terminology was first put forward by Breton (1996), who suggested that "Wicksell (1896) and Lindahl (1919) … recognized that if genuine links or connections were to emerge between revenue and expenditure decisions …, the public (collective) provision of goods and services would be efficient…. I will henceforth call this connection the Wicksellian Connection".

residents (Bird, Slack, and Tassonyi, 2012); (iv) local payroll taxes or sales taxes can be used to make non-residents pay for local services (McLure, 1998); (v) tax-exporting should be avoided (Bird, 1993); (vi) intergovernmental transfers should internalize external benefits (Break, 1980; Oates, 1999).

Having established a very clear and theoretically sound principle of local public finance, Bird and Slack go on to note that "theory and practice are far apart". Additionally, they note that "in reality, decisions on the two sides of the local budget are usually made independently, often with relatively little local input, while both local expenditures and local taxes are often being largely determined by central authorities". Indeed the OECD statistics on subnational revenue and expenditures show that in many OECD countries a major part of local government revenue consists of tax sharing and intergovernmental transfers. In countries where the size of local revenue is significant (such as the Nordic countries), the major source of local government revenue is mostly income tax. And, even in this case, local income tax in Norway is not an "autonomous" tax, and has the characteristics of tax sharing. In Anglo-Saxon countries such as the US, the UK, Australia, and Canada, local governments do rely heavily on property tax, which is a kind of benefit tax. But their tax revenue does not account for more than 10 percent of total taxes while their expenditures are much larger.

Recognizing the absence of the Wicksellian Connection in reality, Bird and Slack still emphasize that it should be the first principle of local public finance. So they offer the basic conditions for a Wicksellian local government system along the lines of the recommendations in the literature listed above – such as clear lines of responsibility and accountability, charging for local services, benefit taxation, and accountable budgeting. Above all, they emphasize the importance of information being available to local officials and citizens, which will enhance more participatory democracy.

Even though Bird and Slack put much emphasis on the Wicksellian Connection, it should be noted that they are not very optimistic about it. They conclude their paper with the following remark: "Still, it seems unlikely that many politicians are likely to be willing to risk their futures by being the messengers who deliver to the public what most are likely to see as the bad news that not only do they have to pay for what they

get but also, to add insult to injury, that it will in the end be good for them to do so".

The pessimistic view of Bird and Slack comes from the recognition of the political economy nature of local public finance. In fact, the recent trend of the literature on local public finance is to shift its focus from the normative framework of the "first-generation fiscal federalism (FGFF)" to the implications of the fiscal and political incentives facing subnational officials – the subject of the "second-generation fiscal federalism (SGFF)" literature (Oates, 2005, 2008; Weingast, 2009, 2014).[4] As the literature on SGFF emphasizes, the normative framework of the FGFF has its limits in explaining the system of intergovernmental fiscal relations that are observed in many countries. In this sense, Bird and Slack follow the tradition of making policy recommendations based on the normative framework of FGFF.[5]

As will be seen, the papers in this volume do show that the realities in many countries do not reflect the normative framework of the Wicksellian connection. In almost all countries presented in this volume, tax sharing and intergovernmental grants rather than benefit taxes play an important role for subnational government revenue. Moreover, the reason for this seems to be related as much to the historical development of decentralization as to the incentive effect of political and fiscal institutions. This aspect is seen especially clearly in the case of tax sharing, which is much more prevalent than currently recognized in the literature (Table 1 below).

What is interesting and makes the reality complicated is that the institution of intergovernmental fiscal relations evolves as the result of the incentives created by its structure. The focus of the papers in this vol-

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[4] The definition of SGFF in the literature is rather broad and diverse. Oates (2005) notes that the SGFF draws heavily on two basic sources: (i) the work in public choice and political economy that focuses on political processes and the behavior of political agents; (ii) the expansive literature on problems of information. According to Weingast (2009), "SGFF encompasses a large and varied literature. At the most general level is Inman and Rubinfeld's call for a new political economy of federalism (Inman, 1988; Inman and Rubinfeld, 1997)". In this chapter, SGFF means the study of the institutional and political incentives faced by policy makers and politicians in both central and local governments.

[5] Similarly, Oates (2005) discusses how the normative framework of FGFF has implications on benefit taxes for efficient provision of local public goods.

ume is to describe the interaction between local revenue and expenditures, and to interpret its implications rather than to analyze the political economy nature of such a system. However, readers will recognize that there is much room for understanding the interaction between local revenue and expenditures presented in this volume from the conceptual framework of second-generation fiscal federalism.

Table 1. Major source of subnational revenue

Tax Sharing		Local Tax	Grants
Constitutional & Legal	De facto	Finland Denmark[6] (Sweden)	The Netherlands
Austria Germany Poland Spain	Japan Korea Norway		

Note: Author's categorization.

In the paper by *Anton Matzinger*, the subnational public finance in Austria is discussed. Austria consists of nine states (Länder) and 2,359 municipalities. By constitution, the right to legislate on intergovernmental fiscal relations rests with the Federal Parliament, which legislates on intergovernmental fiscal relations every four to six years. The laws are the results of consensually negotiated drafts compiled by representatives of all levels of government. On the expenditure side, the spending responsibilities are defined as a basic core for each level of government, and beyond that core, each government is free to spend according to its own preferences. On the other hand, on the revenue side, subnational governments do not have taxing powers. Matzinger notes that "Länders lack tax autonomy almost completely. Instead, an intricate tax-sharing system is the most important pillar of subnational budgets".

Indeed, tax sharing is a dominant part of Austria's general government tax revenue. The revenue from shared federal taxes accounts for 86.2 percent of total federal tax revenue (excluding social security contributions), and the revenue from Länder taxes accounts for only 0.5 percent.

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[6] According to Lotz et al. (this volume), the Danish local income tax rates had been almost frozen at historical levels between 2011 and 2012. So they argue that local income tax in Denmark is becoming like a shared tax. However, Niels Jorgen Mau notes that around one-third of Danish municipalities changed their tax rates between 2013 and 2014 due to the "defrost measures" (incentives). As of 2014, the lowest local income tax rate is 22.8% and the highest 27.8%.

The rather complicated formula for vertical and horizontal distributions of shared federal taxes is stipulated in the law, which is based on agreements between the federal government, the Länder, and the two large municipal associations. Consequently, the tax sharing in Austria is the result of political compromise between federal and Länder governments as well as among Länders. Matzinger notes that "as heads of regional parties have clout over federal party organizations..., ministers in federal government need their political backing to keep their job in the midst of fierce party-internal competition".

An important implication of the political economy of tax sharing in Austria is that subnational governments' tax revenue is not the result of their own tax effort. This leads to the absence of fiscal accountability or, borrowing Bird and Slack's terminology, the absence of the Wicksellian Connection. Matzinger notes that "due to their political influence, the Länder are able to secure their financial interests without necessarily needing formal instruments. Besides, having once lost the 'power to tax', the Länder now lack the 'will to tax'".[7]

An additional problem caused by the tax-sharing system is subnational soft budget constraints created by it. An increase in the cost of local public services becomes an important argument for higher subnational tax shares, which in turn puts the federal tax burden under pressure.

Matzinger notes that the inefficiency of subnational public finance is a concern for the MoF, which makes a constant proposal for the tax autonomy of the Länder. He expects that the tax-sharing system will be on the agenda for the next round of negotiations over fiscal federal relations, which starts from 2017. However, he also expects that reform proposals for more regional tax autonomy will face the persistent political economy factors that favor the status quo.

Importantly, however, he notes that the new European fiscal rules and their implementation for subnational policy have the potential to strengthen political institutions for tougher budget constraints of subnational governments in Austria.

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[7] An analogous situation in Poland is described by Swianiewicz (2013).

Färber, *Salm* and *Hengstwerth* discuss the issue of property tax reform in Germany. Their discussion, however, is not limited to the property tax system itself, but is closely related to the fiscal equalization system in Germany. As is well known, property tax has many good characteristics as a local tax. Its tax base – at least the land part – is immobile across jurisdictions. Also, the benefit of local public goods is capitalized into the value of property. This makes property tax effectively serve as a benefit tax – the key characteristic of local tax that ensures the Wicksellian Connection. In Anglo-Saxon countries and some other OECD countries, property tax plays an important role as a source of local revenue.[8] However, in many continental European countries, property tax plays a relatively little role. In Germany, for example, property tax revenue accounts for 0.5 percent of GDP and 1.2 percent of total tax revenue. This implies that, compared to Anglo-Saxon countries, there is a greater room for expanding property tax revenue in Germany.

Färber, Salm and Hengstwerth describe three property tax reform models currently being discussed in Germany. A newly reformed property tax will have redistributional effects between property owners due to the fact that the current property tax is based on values determined in the years 1964 and 1935 (in the former East Germany). Furthermore, the reform models have an impact on the fiscal capacity of the states as the municipal tax capacity is credited against a states' tax capacity. Germany adopts a fiscal system which uses municipal tax capacity as an indicator for horizontal fiscal equalization among the states.[9] The property tax reform models discussed by Färber et al. are the following: (i) a fair market value model which assesses property value based on data on purchasing prices; (ii) a value-independent model which assesses property value based on land size and floor space of buildings; (iii) a combined model which assesses the land value based on market price and the value of building based on sizes.

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[8] In the US, the UK, Canada, Japan and France, the share of recurrent immovable property tax revenue in GDP was, respectively, 2.8%, 3.4%, 2.9%, 2.1% and 2.6% in 2012. Its share in total tax revenue was, respectively, 11.5%, 9.6%, 9.3%, 7.6%, and 5.7% (OECD, Revenue Statistics, 2013).

[9] Thus the discussion by Färber et al. on the redistributive effects of property tax reform is not unique to Germany but is also relevant to other countries which adopt a general grants system in the form of tax sharing.

In many countries, any controversy involved in property tax reform is not whether to adopt a fair market valuation, but how to adopt it, how much closer it should be to the market value, and whether to evaluate the values of the land and structures differently. However, in Germany, the closer the assessed property value is to the market value, the stronger is the effect of horizontal redistribution within the fiscal equalization system among the 16 states. Färber et al. note that municipalities in Germany are constitutionally part of their respective states, and therefore rich states are strongly opposed to the fair market value model since it creates considerable amounts of horizontal transfers. Consequently they think that the property tax reform in Germany needs to be integrated into discussions on the intergovernmental fiscal relations. Taking into consideration the strong interrelation between property tax reform and horizontal redistribution, they conclude that the combined model is likely to be the best compromise of property tax reform in Germany. Obviously, it seems that another option to avoid this situation is to exclude municipal property tax revenue from the horizontal tax-sharing basis among states.

The analysis of Färber et al. is interesting in two respects. It provides a detailed analysis of different models of property tax reform options in Germany. But, more importantly, it shows how redistributive tax-sharing systems may complicate the effort to strengthen what Bird and Slack call the Wicksellian Connection. If the effect of horizontal tax sharing is strong enough, as in the case of Germany, it is self-evident that a close connection between subnational tax revenues and subnational expenditures is not easy to establish.

Poland has a population of 38.5 million and consists of 16 regions, 314 counties, and 2,480 municipalities. Among the three levels of local governments, more than 70 percent of sub-national public spending is assigned to the municipal level, which has a mean population of 15,500. At the same time, of the three levels of local governments, only municipalities have taxing power. However, the bulk of municipal revenue comes from tax sharing of personal and corporate income taxes and intergovernmental grants. The revenue from property tax, over which

municipalities have taxing power, occupies about 13% of total municipal revenue.[10]

In Poland, the Parliament sets the maximum property tax rate, and municipalities are given the taxing power to set the rate below that level. In order to see how tight the linkage is between local taxes and local expenditures, *Swianiewicz and Łukomska* first examine how much variation exists in the property tax ratio across municipalities. On average, municipalities collect 76.2% of the maximum possible revenue. There are variations, however. Cities collect, on average, 91.6% while urban and rural municipalities collect, respectively, 87.3% and 72.6%.

Swianiewicz and Łukomska next analyze the nature of the municipal taxing power by empirically testing the following hypotheses: property tax rates are higher, (i) the more affluent are municipal tax bases; (ii) the larger are municipalities; and (iii) the closer are municipalities to the centers of the largest agglomerations. As for the hypothesis on the municipal tax base, they find that there is a kind of U-shape relationship between property tax bases and rates. What needs to be noted here is that the assessment of the property tax bases in Poland is based on the size of property, not its market value. As a result, rich municipalities tend to set property tax rates higher than average to make property tax revenue somewhat proportional to property value. For poor municipalities, the assessed values of properties are so low that they find it necessary to set relatively high tax rates.

The second hypothesis considered is that opposition to property taxation is more likely in small communities, where the distance between voters and politicians is shorter and the property tax tends to be more visible. The assumption underlying this hypothesis is that budget maximization rather than the Wicksellian Connection is the mechanism that determines the municipal budget. They find this hypothesis confirmed by empirical data. For the third hypothesis, which assumes that distance reflects both location rents and the value of properties, they also find supporting empirical evidence. This is an expected result, since the third hypothesis is close to the first one. In addition to the above hypotheses, Swianiewicz and Łukomska look at the effect of the electoral

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[10] There are other "autonomous" municipal taxes such as agriculture tax, tax on transport vehicles, and tax on civil law activities. However, the revenue from these taxes is less than 5% of total municipal revenue.

cycle on local taxes – whether in an electoral year, local authorities try to increase the level of spending and avoid increasing local taxes. They find weak evidence of this hypothesis. This is a somewhat expected result given that autonomous local taxes provide a small portion of local revenue.

The empirical results shown by Swianiewicz and Łukomska indicate that, to a certain extent, the mechanism of the Wicksellian Connection works in the municipalities in Poland. For example, richer municipalities take fiscal responsibilities by raising their tax rates compared to poorer municipalities. However, Swianiewicz and Łukomska argue that taxing power plays a minimal role in local public finance in Poland. This is because local governments concentrate their efforts on increasing tax sharing and intergovernmental grants rather than on expanding their taxing power. Obviously, the former is politically more convenient to local governments. In their concluding remarks, Swianiewicz and Łukomska note that there is some discussion about reforms of property tax and personal income tax in the direction of moving toward more local government autonomy. However, they hold a pessimistic view that such changes are not likely to occur in the near future.

The political system of Spain is somewhat unique. According to the OECD publication, Spain is categorized as a "regional" country rather than a federal or unitary country.[11] The current political system in Spain is shaped by the 1978 Constitution. The Constitution of 1978 reserves all taxation powers to the central government, but it stipulates that regions by law can regulate their taxes within the conditions set by the central parliament. Following the enactment of the 1978 Constitution, Spain has gone through several phases of devolution over the last three decades. *Albert Solé-Ollé* explains the evolution of such changes and discusses the reason why regional governments ("autonomous communities") had been so passive in exercising the taxing powers given to them by the Constitution and laws. He also discusses the fact that there is some evidence that their behavior is changing in recent years, particularly after the economic crisis in 2008.

In the first stage (1978~1986), several taxes (Wealth tax, Death and gift tax, Property transmission tax and Stamp duties) were "ceded" to re-

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[11] In the Revenue Statistics of OECD, it is stated that "Spain is constitutionally a non-federal country with a highly decentralized political structure".

gional governments. In the second stage (1987~1996), a share (15% in 1994) of personal income tax was given to autonomous communities (ACs), as were spending functions such as education and health. In the third phase (1997~2001), spending responsibilities in education and health were further extended. At the same time, the tax power on ceded taxes was transferred to ACs. Also, the regional share of local income tax was significantly increased from the previous 15% to 30%, which was achieved by transforming 15% of each of the ten original rates of the schedule of the 1997 income tax into the regional tax schedule. In the fourth stage (2002~2008), the regional tax base was further expanded. The regional share of income tax was increased from 30% to 33%. More significantly, tax sharing of VAT and excise taxes was introduced with sharing rates of 35% and 40%, respectively. Additionally, three smaller taxes (Transportation tax, Retail Gas tax and Electricity tax) were completely assigned to the ACs. Finally, from 2002, the ACs were allowed to change local PIT rates on a centrally defined tax base within a 20% band of the national PIT rate. In the last stage (after 2009), the sharing rates of PIT, VAT, and excise taxes were increased to 50%, 50%, and 58%, respectively. With this extensive tax sharing system, the share of non-earmarked revenue (including equalizing transfers) of ACs reached around 83% in 2010.

Given the extensive transfer of tax revenues from the central government to ACs and the tax power given to ACs, one question asked by Solé-Ollé is how much tax power is exercised by ACs. On this question, he summarizes the trend of ACs' tax power as follows: Before 2009, the ACs were quite passive in terms of exercising tax power except in the cases of PIT deductions and the practical abolition of the death and gift tax in some ACs. However, after 2009, all ACs increased the tax rates of the property transmission tax and stamp duties, and some of them increased the PIT rates (especially the top ones) while others reduced them and tried to create new taxes.

So why were the ACs in Spain reluctant to exercise their tax power, but have then recently become more active? Solé-Ollé mentions several possibilities that make ACs reluctant to use their tax powers, such as inadequate tax assignment (no tax power on VAT and excise taxes), central government obstructionism (populist decision-making on tax policy), soft budget constraint, and revenue largesse (buoyant tax revenue). Among these several factors that affect ACs' attitude toward tax power,

the slowdown of tax revenue growth seems to have exerted a greater in-fluence after the economic crisis in 2008. As Solé-Ollé explains, all ACs increased the tax rate of property transaction tax from 6% to 7% and the rate of stamp duties from 0.5% to 1% in response to the loss of reve-nues after the bubble burst in the real estate market. Also, some ACs increased the PIT rates, especially the top ones, which indicates that, when faced with shrunk revenue, ACs find no other option but to raise their own tax revenue.

However, given that this kind of change is only a recent phenomenon, it may take a while to more concretely understand the forces behind the recent behavioral changes of Spanish ACs. In this respect, it is worth noting that the ACs in Spain are responsible for a large amount of re-distributive public services such as education and health. Also a bulk of ACs' revenue comes from tax sharing of VAT and excise taxes. Moreo-ver, the effect of the equalization system is quite strong in Spain, with the rich ACs ending up with a total level of revenue below average. So, overall, there is interesting evidence of behavioral changes of Spanish ACs. But whether this will visibly strengthen the Wicksellian Connec-tion will depend on how the tax power of ACs evolves in its interaction with the tax-sharing system and equalization grants in Spain.

The relationship between local tax and local expenditures in Japan is investigated by *Nobuki Mochida*. Among the OECD countries, Japan has one of the largest local tax revenue. It accounts for about 43 percent of the total tax revenue (excluding social security contributions), the highest among unitary countries in the OECD, and the fourth highest among all OECD countries. However, as Mochida notes, local govern-ment spending responsibilities mostly consist of "agent delegation func-tions". This is because local governments are responsible for providing welfare services such as education, health, and assistance to the poor and the elderly, for which the central government sets the national standards. As a result, Mochida notes that "very much in line with con-temporary thinking in the Nordic countries, there is in Japan no clear separation between central and local functions."

The fact that local governments in Japan collect a large amount of local tax revenue should imply that they enjoy a high degree of revenue au-tonomy. According to King and Blöchliger (2006), the revenue from "au-

tonomous" local taxes[12] indeed accounts for about 78 percent of the total local tax revenue. However, this is in contrast with how the local tax system in Japan actually works in reality. Mochida notes that all local governments in Japan adopt a uniform local tax rate for almost all local taxes. Therefore, Mochida argues that the local tax system in Japan has many similarities with the Central European tax sharing system. That is, as in the case of Austria and Germany (and as in many other countries surveyed in this volume), the Wicksellian Connection is absent in local public finance in Japan. Mochida thus argues that "the Japanese system seems to attempt to combine Northern European expenditure decentralization with Continental-style centralized methods of financing. This is a problematic match".

Mochida next explains how the mismatch between local expenditure and local tax in Japan has changed over time. In the 1960s, local expenditures exploded due to a rapid increase in welfare expenditures. On the other hand, the local tax revenue rose rather slowly. As a result, transfers from the central government sharply increased to fill the expenditure-tax gap. A second wave of expenditure-tax gaps took place during the 1990s, as the Japanese government engaged in stimulative fiscal policies. This time, deficit financing rather than transfers played the main role in financing local expenditures, which resulted in a sizable accumulation of local debt during this period. In the 2000s, a third wave of expenditure-tax gaps took place, this time finally in the reverse direction: local tax revenue was increased while local expenditures were cut. However, this "trinity reform" was abruptly disturbed by the world economic crisis in 2008 and the Great Tohoku Earthquake and Tsunami in 2011.

In order to empirically investigate the relationship between local revenues and local expenditures, Mochida employs an econometric analysis to test Granger causality and ratchet effect. In the case of Granger causality, he finds that in recent years, there is some empirical evidence that local tax and general grants Granger-cause local expenditures. This is a meaningful finding, because empirical studies done so far in Japan have found that until the 1990s, local expenditures Granger-cause local tax and grants, but not vice-versa. In the case of the ratchet

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[12] Local taxes for which local governments can change either tax base or tax rate (type b in King and Blöchliger, 2006).

effect, Mochida tests whether an increase in local expenditures in "good" years is accompanied by local expenditure cuts in "bad" years. He finds that there is no such empirical evidence, which implies that a ratchet effect has had a cumulative impact on expanding local expenditures and local debt.

In his conclusion, Mochida notes again that the local income tax, local consumption tax, and property tax in Japan are essentially tax sharing, and corporate tax revenue is 'exported' to non-residents. On the revenue side, local governments are, as Mochida notes, mainly responsible for a delegated function. So finding the way to resolve the 'problematic mismatch' between the Nordic-style expenditure decentralization with Continental European-style tax sharing is a key challenge in Japan.

The local public finance in Korea closely resembles that of Japan. This is because the intergovernmental fiscal institutions in Korea mirrored those of Japan after its independence in 1945. Notably, laws about local tax, general grants, and national subsidies in Korea are all very similar to those in Japan.

As a result, it is not surprising that when it comes to the central-local fiscal relations, Korea shares similar problems with Japan. In his paper, *Junghun Kim* investigates how the 'problematic mismatch' between decentralization of welfare services and tax sharing combined with general grants creates the need for the central governments to impose national mandates on local governments. He also discusses how such a fiscal strategy of the central government results in fiscal illusions that underestimate the cost of government expenditures.

The local public sector in Korea is quite large. After intergovernmental transfers, local government expenditures (including local education expenditures executed by local education offices) are larger than that of the central government. The share of local tax revenue in total tax revenue (excluding social security contributions) in Korea is about 21.5 percent. This is smaller than that of the Nordic countries and Japan, but it is still among the highest in the unitary countries in the OECD.[13]

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[13] According to the OECD Revenue Statistics (2012), the share of local tax revenue in the total tax revenue is higher than 20% in eight countries out of 25 unitary countries in the OECD: Japan (46.7%), Sweden (41.58%), Finland (34.05%), France (29.6%), Iceland (27.3%), Denmark (26.43%), Italy (21.91%) and Korea (21.5%).

However, as in the case of Japan, local tax rates in Korea are uniform across local governments despite the fact that the Local Tax Act permits local governments to independently adjust the standard tax rates within certain boundaries (typically ±50%). Therefore, although revenue from "autonomous" local taxes accounts for 64 percent of total local tax revenue according to the study by King and Blöchliger (2006), local taxes in Korea are de facto shared taxes. Moreover, general grants in Korea, called the Local Allocation Tax, is another type of tax sharing (strongly redistributive tax sharing), because its total amount is determined by law as a fixed percentage (currently 19.24%) of national tax revenue and its distribution is based on formula stipulated in law and regulation.

Until recently, main items of government expenditures in Korea were related to the economic development. However, welfare expenditures have increased quite significantly for the past decade, and this trend is getting stronger. Under the circumstances, the central government has adopted the fiscal strategy to "shift" its fiscal burden to local governments by imposing on local governments unfunded or partially funded mandates to provide welfare services. Kim argues that such a fiscal strategy eventually fails, because local governments demand increased tax sharing after a few years with strong political support from parliamentary members who have their constituencies rooted in local jurisdictions. The end result is that the welfare expenditures that are politically popular are initially provided under the fiscal illusion of the central government, but such a strategy creates pressure on the tax burden or government debt. Readers may note that this situation is quite similar to the case of Austria described by Matzinger. Kim concludes his paper by saying that "a better policy is to link the decision on increase in expenditures to the decision on tax burden as transparently as possible at both the central and local levels", a recommendation echoed by many other authors in this volume.

A theme that has repeatedly emerged throughout the Copenhagen workshops is the divergence between theory (especially first generation fiscal federalism) and practice in the role of subnational governments. Almost all local governments in the countries presented in this volume take the responsibility of providing redistributive public services rather than just local public goods. Moreover, tax sharing is widely adopted in many countries, not just in Germany and Austria, which have the long

history of and the formal constitutional and legal provisions for such a system. For example, according to King and Blöchliger (2006), a majority of local government revenue in Japan and Korea comes from "autonomous" local taxes, but, as discussed by Mochida and Kim, they are in fact shared taxes. In addition to these countries, an important and interesting case is Norway. In his paper, Lars-Erik Borge explains that Norway is in effect adopting a tax-sharing system under which income tax revenue is shared between the central and local governments. Furthermore, local governments in Norway are a major provider of social services. With regard to the nature of the non-Wicksellian Connection of the Norwegian local public sector, Lars-Erik Borge gives it the following description: "Local governments in the Nordic countries are responsible for comprehensive welfare service and are an integrated part of the national public sector. The design is very different from the textbook model of local public finance assuming local public goods, mobility and benefit taxation. The Nordics differ in all three characteristics".

In the literature on decentralized redistribution, a well-known theoretical result is that decentralized redistribution induces "the race to the bottom".[14] This theory predicts that if a local government engages in an active redistribution policy, the rich emigrate out of it while the poor migrate into it. As a result, faced with the fiscal externalities created by welfare migration, local governments prefer to provide a low level of welfare services.[15] However, what happens in Norway is that local governments provide welfare services under the principle of administrative federalism rather than that of fiscal federalism. In other words, local governments' provision of welfare services is not the result of their autonomous decision-making, but the result of local governments' role as an agent for the central government to deliver redistributive public services. As Borge explains, the key mechanism in Norway by which it is possible for central government to make local governments follow the welfare benefit norms without engaging fiscal competition is tax equalization.[16]

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[14] See Brueckner (2000) for a comprehensive survey on the topic.
[15] As Brueckner emphasizes, the expression "the race to the bottom" does not mean that it makes the level of welfare services spiral downward, but that it creates a downward bias of the level of welfare services provided by local governments.
[16] This is discussed in more detail in Fiva and Rattsø (2006).

The use of tax equalization grants, however, has its own limitations. Borge examines the nature of tax equalization in Norway and shows that it creates distortionary incentives for local governments to increase local income tax rate. Under tax equalization, grants given to a local government is determined to be proportional to its tax rate times the difference between the average (reference) tax base and its own tax base. Under this setting, the tax equalization creates two types of distortion. Firstly, local governments do not have an incentive to do their best to increase their tax base because it leads to the reduction of the amount of tax equalization grants. Secondly, local governments have an incentive to adopt a higher than optimal level of local tax rate because it contributes to an increase in tax equalization grants. Borge explains these incentive effects with the formula of the marginal cost of public find (MCPF). It shows that the decrease in local tax base induced by an increase in local tax rate is perceived to be less than real by local governments because of the central government's grants accompanying the increase in local tax rate.

What needs to be noted about the incentive effect of tax equalization grants is that in Norway, income tax revenue is largely assigned to local governments to give them sufficient fiscal resources to provide public services such as education, health, welfare services. This implies that the effect of the upward pressure on local income tax rate created by the distortionary tax equalization system is significant. Borge therefore compares tax equalization grants with general grants to show that the two systems are the same in terms of revenue dispersion, tax rate dispersion, and incentives for business development. Borge additionally argues that the system of general grants can in fact be a better option if property tax is assigned to local governments as an autonomous local tax that is not subject to tax equalization. This can be, at least at a theoretical level, a desirable policy option since the distortionary effect of local income tax equalization is removed and replaced by local property tax system.

In the concluding section, however, Borge raises an important political economy question as to the role of local income tax in Norway, which is in fact a shared tax. He observes that "the narrow economic argument above implicitly assumes that the share of taxes in local government revenue is of little importance. However, in a political context the tax share may be important. Jackman (1988, p.7) notes that proposals of

less tax financing and less ambitious tax equalization '... has been attacked by political scientists on the ground that distinguishing the total from marginal expenditures is confusing in a political context, and thus may undermine the political preconditions for democratic accountability'". Given the prevalence of tax sharing in many European and Asian countries, this question certainly deserves further investigation in the future.

The Nordic countries (Sweden, Demark, Norway and Finland) have many common characteristics in their structure of public finance. First of all, the size of the public sector is the largest in the world. And they have a long history of decentralized public finance. Also, unlike many other unitary countries, local governments in the region collect a sizable amount of income tax.[17] However, each country in the region has developed its own unique characteristic in the central-local fiscal relationship. A notable feature in Norway's local public finance is that local revenue consists of income tax sharing with a strong element of tax equalization. As argued by Borge, this makes local income tax in Norway theoretically equivalent to general grants. Thus, among the Nordic countries, Norway stands out as having a fairly centralized system of local public finance.

It has been known that other countries in the Nordic region are different from Norway in that local governments have independent taxing powers over income tax. However, at least in the case of Denmark, this may be changing. In their paper, *Lotz, Blom-Hansen and Hede* provide the detailed history of local public finance in Denmark and discuss how the role of local governments in Denmark has evolved in the 20th century. They then focus on recent changes in local public finance in Denmark and argue that it is moving toward a more centralized system – something similar to that of Norway.

According to Lotz et al., the role of local governments in providing public services was already very important in the 19th century as a result of the central government's delegation of functions such as roads, social affairs and schools to the local level. As for roads, central government subsidy for the maintenance of the main road system was awarded to local governments as early as the late 18th century. From the early 19th

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[17] See Lotz (2012) and Mosio (2010) for detailed discussions on the system of local public finance in the Nordic countries.

century, local governments in Denmark were responsible for poverty-relief service. The central government supported this function by providing matching grants, the importance of which grew throughout the 19th and the 20th century. For schools, local governments in Denmark provided education services early in the 19th century. As the role of the central government in education increased, the central share of school financing significantly increased in the 20th century, from 35 percent in the 1930s to 85 percent in 1980s.

On the revenue side, local governments in Denmark started to collect local income tax in the early 19th century. But the assessment of income tax base was not much advanced at that time. However, as early as 1861, Copenhagen introduced a formal local tax on income and assets with a low tax rate. After these experiences, the modern income tax system was introduced in Denmark in 1903. Both the central and local governments used the same income tax base, but local governments applied varying rates. The revenue from local income tax was not much at that time, but as municipalities were responsible for financing local expenditures that significantly increased throughout the 20th century, the role of local income tax also grew during this period. Lotz et al. describe the historical development of local public finance in Denmark as follows: "the center wanted bigger government. But the center realized that it was administratively best to let the municipalities deliver the services". They also explain the reason why local income tax in Denmark has taken such an important role in financing the delegated functions: "towards the end of the first half of the 20th century, Denmark was left with a system where grants were used, both for financial and equalization purposes, but where local taxation was beginning to be regarded as important from the point of view of responsibility". Indeed the mean local income tax rate rose by more than 10%p from 1976 (15%) to 2013 (25%). What should be noted in this regard is that the number of local employees grew from 46,020 in 1966 to about 527,755 in 2010. This figure indirectly indicates how much expenditure pressure has grown in the local public sector in Denmark. Lotz et al. explain this situation as follows: "with unlimited access to set the rates for the modern rules-based local personal income tax, this became a dangerous cocktail that resulted in a growing relative size of the local government sector."

A very important aspect to note in the trend of local income tax in Denmark is that the variance of tax rates has decreased over the long run.

Combined with the fact that the mean local income tax rate has continued to rise during this period, "the race to the top" rather than "the race to the bottom" has taken place in the Danish local tax system. As Lotz et al. note, the increases in the local income tax rates increasingly frustrated central government.

As a matter of fact, the increasing trend of local expenditures was a concern for the central government already in the 1970s. So an annual negotiation between central and local governments over the size of the general grants for the following year started in 1979. However, such negotiations have not been very successful, and several types of sanctions such as individual and collective cuts in general grants were introduced in the 1980s. However, after another decade of failed attempts to control local spending, the central government started to introduce rather heavy permanent and individual sanctions in recent years. As a result, local governments became increasingly reluctant to reduce their tax rates due to the concern that they would not be allowed to increase taxes again later should the need arise. As a result, the authors find that the recent situation in Denmark is that local income tax rates are frozen at historical levels.[18]

Regarding this situation, Lotz et al. discuss two alternatives: a "Norwegian solution" and a "Swedish solution". The Norwegian solution means that local income tax rates in Denmark are gradually made uniform so that local income tax becomes a shared tax. However, Lotz et al. consider this option undesirable since it completely removes local taxing powers. They then discuss the "Swedish solution" in which municipalities are less protected by the state via block grants in times of economic recession. However, they also find this option difficult to implement in the Danish system because currently, local governments in Denmark are responsible for almost all income transfers that get upward pressure during an economic downturn. In conclusion, they make the following pessimistic remark: "All in all, the options are not appealing, and the tensions built into the present system may for some years remain unresolved. ... Neither the local side nor the government have so far voiced support for any solution".

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[18] As previously noted in footnote 7, the recent "defrost measures" (incentives) have made local governments in Denmark more active in adjusting their local income tax rates.

The history and the recent development of the Danish local public sector laid out by Lotz et al. have important implications in several respects. First of all, contrary to the general view, there is no such thing as "the Nordic model" as far as the intergovernmental fiscal relations are concerned. All four countries in the Nordic region (Norway, Denmark, Finland, and Sweden) are as different as they are similar. Secondly, the large local public sector and local income tax in Denmark are the result of a long history going back to the early 19th century. The current system of Danish local public finance is as much the product of historical development as the current economic and fiscal environments. When other countries look at "the Nordic model" as the benchmark model of public finance, its evolving nature is certainly worth paying attention to.

The case of Finland, another Nordic country, is discussed by *Antti Moisio*. Like Denmark, Finland has a long history of decentralized provision of social services. Already in the late 19th century, local governments had the right to levy taxes and assumed responsibilities regarding the poor relief and basic education of citizens. By the 1960s, local governments assumed responsibilities for hospitals and secondary education. By the 1980s, Mosio explains that "the uniform system of welfare services had spread all over the country, with massive central government steering". Currently all main social welfare, healthcare and education services in Finland are performed by municipalities or by joint municipal authorities. On the revenue side, local income tax is a major source of local revenue as in other Nordic countries. As local governments provide key social services, the provision of these public services is also assisted by intergovernmental grants from the central government. Until the early 1990s, matching grants were the main fiscal tool to finance municipal social expenditures. However, there was a grant system reform in 1993 that transformed matching grants into formula-based block grants.[19] Currently, local tax revenue make up about 46 percent of municipal revenues, but grants also play an important role as well, making up of about 18 percent of municipal revenues. For some poor municipalities, the share of grants is more than 50 percent of all revenues.

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[19] A detailed discussion on the grant system reform in the Nordic countries can be found in Kim, Lotz and Mau (2010).

The structure of local income tax of Finland is quite similar to that of Denmark. In the early 1970s, the mean income tax rate was around 15 percent, but it has steadily risen to around 20 percent in 2012. However, the convergence of local income tax rates in Finland has been slightly more modest than in Denmark: in the 1970s, the minimum local tax rate was below 10 percent and the maximum slightly below 20 percent, and, in 2012, the minimum rate was around 16 percent and the maximum rate around 22 percent. In Denmark, the differences in income tax rates were about 10 percentage points in the 1990s, but are now only 5 percentage points (a reduction largely due to the Danish structural reform in 2007). Unlike in the case of Norway, local income tax in Finland is not a de facto shared tax, and it more closely reflects the demand for local expenditures.[20]

However, the fact that there is a variance in local income tax rates in Finland does not mean that there is a great variance in the fiscal capacities of municipalities. As discussed by Moisio (2010), intergovernmental grants for cost equalization and revenue equalization greatly reduce per capita revenue in Finnish municipalities. Moreover, as municipalities in Finland are responsible for key government functions such as education, healthcare and social welfare services, many types of regulations apply to local expenditures (currently 535 statutory municipal tasks and 974 norms).

An overall impression of the Finnish municipal finance is that it has a balance between the central government regulation and local governments' autonomy. However, the recent economic condition in Finland seems to shift the balance toward more centralized control of municipal finance. Local government debt has been increasing steadily from 3% of GDP in the early 2000s to about 7% in 2013, and is expected to reach nearly 11% of GDP by 2017.[21] As the OECD (2014) notes, this is not very high both in relation to central government debt and in international perspective, but the increasing trend is a cause of concern. Moreover, the debt level of general government in Finland is rising more rapidly. As a result, the major current concern of the Ministry of Finance in Finland is fiscal consolidation at both the central and local levels. From

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[20] It is also noteworthy that, in the Finish municipal revenue, fees and charges for water supply, waste disposal, power supply, public transport, etc. account for about 25 percent of municipal revenues.

[21] See OECD (2014).

2008, the MoF in Finland introduced a kind of Medium Term Fiscal Framework, which is called the Basic Public Services Programme and the Basic Public Services Budget. Under this medium-term planning, which is drafted every four years, a medium-term outlook of local government finances is prepared, and the medium-term impact of the government budget proposal on local government finances is evaluated. In conclusion, assessing the current development of Finnish municipal finance, Mosio makes the following observation: "An important plan is to increase the macroeconomic control of the municipal finances. It then seems that the traditional normative regulation will be replaced by (not so traditional by Finnish standards) tighter fiscal regulation."

In many countries presented in this volume, the connection between local expenditures and local tax revenue is blurred for two reasons: (i) local governments are responsible for redistributive public services which involve national standards and central government regulations; (ii) local tax revenue consists of tax sharing which is not based on a benefit principle but reflects historical, political and institutional characteristics of each country's intergovernmental fiscal relations. The case of the Netherlands, which *Maarten Allers* addresses, might be an exception in this regard. First of all, the Netherlands does not rely on a tax-sharing system unlike many countries covered in this volume. Neither does it rely on a sizable local income tax. As a result, the share of local tax in total tax revenue in the Netherlands is among the lowest in the OECD countries.[22] On the other hand, the share of local expenditures in the total government expenditures is about 32%.[23] Its absolute level is not very high by OECD standards[24], but because of a very small local revenue, the vertical fiscal gap in the Netherlands is quite large. Therefore, in the Netherlands, the design of intergovernmental grants is the key element in establishing accountability of local governments.

In their recommendation on strengthening the Wicksellian Connection, Bird and Slack emphasize the role of high-quality information on and

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[22] According to the OECD Revenue Statistics (2012), the share of local tax revenue in total tax revenue (excluding social security contributions) in the Netherlands is about 6%, which is among the lowest along with the UK (6.65%) and Ireland (3.84%).

[23] The OECD Fiscal Decentralization Database.

[24] The share of local expenditures in the total government expenditure in the Nordic countries is among the highest in the OECD countries. In Denmark, Finland, Norway, and Sweden, it is respectively 62.8%, 40.3%, 33.6%, and 48.7%.

transparency of local budgets, which in turn requires enhancing participatory democracy at the local level. Likewise, Maarten Allers focuses on the importance of information on the quality of public services available to local citizens, which allows them to correctly evaluate the performance of their local administrators. As Allers notes, obtaining such information is not straightforward, and it is in reality not easily available. But Allers argues that yardstick competition helps enhance the information on the quality of public services by allowing local citizens to compare the quality of public services they receive with that in the neighboring jurisdictions. The problem is that the fiscal capacities of local governments are not equal, and the observed performance of a rich local government may be superior to that of a poor local government, solely because the former can provide a given level of public services with a relative low tax rate while the latter would need a relatively high tax rate to match the service level. Obviously, a simple comparison of local tax burden and the level of public services is misleading. So the differences in fiscal capacities need to be taken into account when the yardstick is used to compare the performance of local governments.

On this backdrop, Allers builds a model in which a relative performance yardstick for a local government is expressed as a multiplicative of the relative fiscal advantage and the yardstick without fiscal disparities (unbiased yardstick). The central government can then make the observed yardstick equal to the unbiased yardstick by providing grants which take into account the relative cost of local public services as well as the local tax capacity. In this way, the jurisdictions with high costs relative to tax capacities receive a positive amount of grants and vice versa for the jurisdictions with low costs. This scheme of grants, which is called a power equalization grant, has a disadvantage, however. Since it is proportional to the observed value of expenditures, albeit adjusted by relative costs and fiscal capacities, jurisdictions can adjust the amount of grants by changing their spending behavior.

Allers therefore considers two other types of general grants which are commonly adopted in practice. The so-called foundation grants are based on two components: standard-quality services calculated with cost index and revenue capacity calculated with an average tax rate. This need-capacity equalization has the advantage of being independent of actual spending and tax revenue, and, with full equalization, jurisdictions wishing to supply a standard service level can do so by levying the

standard tax rate. However, it does not necessarily remove the yard-stick bias, because fiscal disparities are not completely equalized under this scheme. Thus an important condition for need-capacity equalization grants to (almost) remove the yardstick bias is that tax rates are not too different across jurisdictions. By the same logic, revenue capacity equalization which does not take into account cost differentials requires a more stringent condition for removing yardstick bias, which is that levels of cost differentials should be equal across jurisdictions.

In summary, the three types of general grants considered by Allers include a trade-off between moral hazard (grants affect spending behavior) and yardstick bias (grants do not completely equalize fiscal capacities). This, in addition to other disadvantages of equalization such as the inducement of inefficient migration and political influence, has led Allers to conclude that equalization itself is not an ideal instrument to remove the yardstick bias. He therefore suggests that the central government should provide information on the relative fiscal capacities and the cost differentials to citizens. He observes that although the empirical evidence of the effectiveness of such a scheme is limited, a study on the UK's national performance indicator implies that nation-wide information on local governments' fiscal performance does make local administrators use the information from the national performance indicators rather than the information from the fiscal policies of neighboring jurisdictions.

The Copenhagen workshop held in 2013 had the theme of the interaction between local expenditure responsibilities and local tax policy. The papers presented in the workshop turned out to cover a much broader spectrum than was initially anticipated. The comparison between the theoretically ideal principle of the Wicksellian Connection and the practice of intergovernmental fiscal relations that is explained in this volume provides fruitful information on how history and institutions in each different country affect the evolution of fiscal decentralization. At the same time, proper understanding of the implication of the broader environment of fiscal decentralization allows us to better appreciate the normative framework of fiscal decentralization.

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Chapter 1

Local Taxes and Local Expenditures: Strengthening the Wicksellian Connection
Richard M. Bird and Enid Slack

1.1. Introduction

Revenues and expenditure are inextricably linked. The central problem of public economics is what governments should do, and what governments do is inseparably entangled with the question of how what they do is financed. If one aim of policy is to ensure that the public sector operates efficiently, it is important to establish as clear a linkage between expenditure and revenue decisions as possible – to strengthen what Breton (1996) calls the Wicksellian Connection.[25] Since the benefit principle in the sense of a link between taxation and spending – the Wicksellian Connection – is central to achieving the aims of fiscal decentralization, charging for public services and earmarking revenues to the services provided should be equally central to a sound local finance system. In such a system, expenditure responsibilities would be matched with revenue resources, revenue capacities matched with political accountability, and benefit areas matched with financing areas. The services provided by the public sector are then (so to speak) sold to those who receive them, and the revenues yielded by such sales are sufficient to pay for the cost of providing the service. In effect, this approach treats local governments as essentially 'firms' that produce and sell services to their

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[25] "…Wicksell (1896) and Lindahl (1919) … recognized that if genuine links or connections were to emerge between revenue and expenditure decisions and if true demand functions were as a result to be revealed, the public (collective) provision of goods and services would be efficient…. I will henceforth call this connection the Wicksellian Connection" (Breton, 1996, 3).

customers.[26]

Some Wicksellian influence is evident in a number of aspects of the local finance literature:

- For example, a standard recommendation in the literature on fiscal federalism is that some local expenditure should be financed through user charges (Sjoquist and Stoycheva 2012).
- Moreover, one rationale sometimes offered in support of local property taxation is that it serves as a sort of surrogate user charge through which residents who benefit from local services pay for those services.[27]
- At the same time, it has been argued that non-residential property tax rates should be lower than residential rates because non-residents use fewer municipal services (Bird, Slack, and Tassonyi, 2012).
- Occasionally, benefit arguments have been used to support local payroll taxes or sales taxes as ways of getting non-residents (commuters or visitors) to pay for at least some of the benefits they received from local services.[28]
- More commonly, similar arguments are used to support constraining localities from imposing taxes that finance services benefiting residents when the taxes can be 'exported' to non-residents (Bird 1993).
- A similarly 'split' view of the appropriate link between financing and service provision underlies the standard Pigouvian argument for intergovernmental transfers to compensate for external

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[26] Tiebout (1956) treated localities as competing firms. However, his local governments sold only pure public services, enjoyed equally by all local residents and only by them, and operated in an extremely artificial institutional setting (Bewley 1981). In reality local governments operate in many different institutional settings, offer some services that are essentially 'private' in nature (that is, consumed by specific persons) and others that 'spill over' local boundaries to varying degrees, and often have little discretion with respect to either the services they offer or how they pay for them, with many in the end being paid for neither by local residents nor by the (overlapping but not identical) group of beneficiaries.

[27] Although this approach is nicely developed in a seminal paper by Vickrey (1963) and discussed further in Netzer's (1966) important treatise, it has seldom surfaced subsequently in the voluminous literature on property taxation.

[28] Few countries have followed the Swiss example of extending 'equal treatment of equals' to mean that charges for local services cannot be apportioned except in relation to services provided, thus barring distinctions between residential houses and vacation homes (Dafflon and Daguet 2012).

    benefits provided to others than local residents from locally-
    provided services (Bird and Smart 2002).
- Finally, the argument that borrowing to finance long-term local
    investment is both an efficient and an equitable way to share the
    costs of investment between present and future beneficiaries is
    an obvious example of the Wicksellian approach .

However, such disparate ideas are seldom packaged as a whole and con-
sidered seriously as components of the revenue side of an appropriate
Wicksellian local finance system. Moreover, the extent to which specific
local revenues are or should be explicitly 'earmarked' to specific expend-
itures is seldom discussed. Indeed, earmarking seems to be almost as
unpopular with experts in local finance as with budgeting experts at the
national level.[29]

Theory and practice thus seem to be far apart. In principle the optimal
way to design a local tax system would seem to be, first, to determine
the desired size and nature of local expenditures, and then to put in
place that tax (and transfer) system which faces local decision-makers
with incentives that will lead them to choose to finance precisely that
package of expenditures. In reality, however, decisions on the two sides
of the local budget are usually made independently, often with relative-
ly little local input, with both local expenditures and local taxes often
being largely determined by central authorities. The result is that not
only are local expenditures little influenced by local revenue policy, but
accountability at the local level is often both confused and confusing.

This paper is a preliminary exploration of these tangled and dark wa-
ters. Section 2 considers several ways in which the Wicksellian connec-
tion between local services and revenues might be strengthened: (1) by
changing the 'package' of local services, (2) by altering the 'package' of
local revenues, and (3) by altering the way in which the two packages
are tied together, although only the second of these points is discussed
in any depth. Advances in technology may now make a more rational lo-
cal finance system much more readily achievable than in the past, but it
remains far from clear that people (or politicians) really want to face up
to the economic realities of local finance. Section 3 concludes with a few

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[29] Bird and Jun (2007) discuss the pros and cons of earmarking and the many varieties
found in practice.

reflections on why political economy makes it difficult to sell economic rationality when it comes to local government finance.

1.2. Strengthening the Wicksellian Connection

The basic conditions for a Wicksellian local government system are simple:

- First, give local governments the right things to do. Local governments should be in control of an appropriate range of expenditure responsibilities – essentially, providing local services to local residents and businesses. Everyone should be clear exactly who is responsible for exactly what so that the role of local governments in serving local residents – as opposed, for example, to their role as agents of higher-level governments in delivering services financed by those governments – is clearly set out for all to see in order to judge how satisfactorily they perform.
- Secondly, local governments need sufficient fiscal autonomy to do what they are supposed to do. Local governments should be allowed to exercise their responsibilities freely both in the sense that they (potentially) have access to sufficient resources to do so at an acceptable level and in the sense that they are not subject to detailed controls over what they do and how they do it, though of course subject to full administrative and political accountability.
- Thirdly, in true Wicksellian fashion, local governments are concerned only with financing and delivering local services as efficiently and effectively as possible: that is, they are not directly concerned with redistributive policy.

In practice, few if any of these conditions is fully satisfied in any country. To take the last condition as an example, if local governments are democratically responsive bodies, they are inevitably in the business of redistribution to some extent (although their attempts to redistribute may be vitiated by the openness of their economies). Nonetheless, for present purposes we simply assume that any redistributive concerns are adequately dealt with by the national tax-transfer system (whether or not some of the pains and pleasures meted out by that system happen to be delivered by local agents). Local governments are thus assumed to have as their primary task the provision of local services with distribution concerns being dealt with by regional or national governments. Similarly, we do not discuss further here such important issues as the

difficulty of measuring and offsetting spillovers, the extent to which higher-level governments attempt through transfers and other means to bend local government decisions on local services to conform more closely with their own desires, and the almost universal lack of clear public understanding about who is responsible for what when it comes to such complex (and multi-level) products as the delivery of health or education services.

1.2.1. What local governments (should) do

Conventional wisdom has it that finance follows function, as Bahl (2002) puts it: one must know exactly what local governments are supposed to do before considering how best to finance them. From this perspective, the basic requirement for an efficient and effective Wicksellian local government is what may be called the "matching principle." One important dimension of matching is 'horizontal' matching in the sense of matching as closely as possible those who benefit with those who pay and with those to whom the relevant political decision-makers are politically accountable. How to do this is the principal concern of this section.[30]

The basic rule of efficient expenditure assignment is often taken to be to assign each function to the lowest level of government consistent with its efficient performance. So long as there are local variations in tastes and costs, there are efficiency gains from carrying out public sector activities in as decentralized a fashion as possible (Oates 1972). Indeed, from this perspective, the only services that should be provided central-

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[30] Another dimension is 'vertical' matching: when local governments are really acting as agents of higher-level governments in providing services, the primary financing responsibility should also be with those governments, as in the standard discussion of Pigouvian transfers. Although this aspect is not discussed further here (see Smart and Bird 2010), transfers paying for such services, like the equalization transfers intended to place different jurisdictions in circumstances to be able to respond equally to incentives, should be carefully designed to ensure that, at the margin, the costs and benefits of local fiscal decisions are borne locally, while taking adequately into account such interjurisdictional spillovers as are deemed relevant. Consistent application of these rules with respect to both local revenues and transfers will impose a hard budget constraint on local decision-makers and hence make them fully accountable for the consequences of their decisions. The failure to apply such rules in part reflects information problems but more basically perhaps arises from political economy considerations. Neither local decision-makers nor, in most instances, their constituents are usually happy to be subject to such a budget constraint since it is always easier and more pleasant to spend, as it were, 'other people's money' in an unaccountable (and hence inevitably somewhat irresponsible) fashion.

ly are those for which there are no differences in demands in different localities, there are substantial "spillovers" between jurisdictions that cannot be handled in some other way (by contracting, by redrawing boundaries, or by grant design), or the additional costs of local administration are sufficiently higher to outweigh its advantages. In practice, however, although there are some functions (such as street maintenance) that are local everywhere, and although the allocation of functions to local governments varies considerably from country to country, few, if any, countries come close to this in reality.

Nonetheless, the benefit model of local finance, in which local governments provide services for the last (marginal) units of which recipients are willing to pay a price or charge that is just equal to the benefit they receive, is clearly essential to effective, efficient, and accountable local government.[31] But it can be difficult in practice to design an appropriate pricing policy for some local public services, and even if such prices can be designed, implementing them is seldom politically appealing – especially when, as may often be the case, user charge financing means that people are asked to pay for services which in the past were supplied for free.[32]

Even when pricing is not possible or desirable (e.g. because it would be too costly to administer), local expenditures and revenues should be linked through matching service benefit areas to the spatial dimension of the financing sources. Taxes levied by local governments to finance local services should thus fall exclusively on local residents or on non-residents who benefit from such services. Moreover, such services should be financed solely by such taxes and charges unless there is a clear public purpose rationale for financing part or all of the cost by transfers from higher levels of government. For accountability, it is critical that full information be provided to local citizens about exactly who

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[31] The results are not only allocatively efficient; they may also be considered equitable in the sense that no one pays less (or more) than he or she would be willing to pay in a free market.

[32] It is not surprising that, as Zetland (2013) reports, surveys frequently show that, even when it comes to something as simple as paying for water, many customers would prefer a policy of subsidies (e.g. for water-saving devices) and regulations (e.g. on watering lawns) to paying for what they use.

pays for exactly what and why.[33]

The first step in setting up such a system is to establish clear lines of responsibility and accountability, as noted above. However, clarity of assignment in terms of specifying exactly what services each governmental agency is responsible for delivering is only part of the story. Clarity must be matched by accountability, in terms of both political democracy and transparency of operation, as well as by authority in terms of both the ability to manage expenditures and to determine (within limits) revenues.

Often, full clarity in expenditure assignment may not be fully attainable. One reason is that the level and type of services provided are closely related to services provided by other governments. This problem arises with respect to such mundane issues as the provision of local roads that are networked with other (provincial, national) roads, as well as transit and water and other environmental issues that may have strong regional linkages. Even when a particular service is exclusively assigned to the local level, much of the relevant policy and regulatory framework may be established at higher levels of government, which may, for example, impose higher standards of service provision than local citizens want or are willing to pay for. Clarity is easier to ask for than to deliver. But if public service delivery is to be efficient, it must be as clear as possible to all exactly who is responsible for doing precisely what.

Since even the best-designed decentralized public sector is unlikely to be a perfectly competitive market structure, outcomes are unlikely ever to be optimal in the technical economic sense. Nonetheless, it is seldom necessary or advisable to revert to a centralized alternative. It is usually better to set up the local finance system with as hard budget constraints as possible for all relevant decision-makers and to make the op-

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[33] Where other governments pay, local governments should also of course be accountable to those governments (and their wider constituencies) with respect to how they spend those funds. As Dafflon and Daguet (2012) demonstrate, even in the case of Swiss local governments there is room for substantial improvement in accounting for costs with respect to user-charge financed services.

eration of the system as transparent as possible.[34] As Oates (1999) observes, relatively uncoordinated decentralized public sector suppliers striving to meet clearly specified and publicly accountable mandates are more likely to provide new and better ways of providing public services than are more centralized alternatives.

1.2.2. Charging for local services

Financing local services through appropriately designed and implemented user fees provides not only the funds to supply such services but also information on which services should be provided, in what quantity and quality, and to whom. Better-designed and implemented user charges, unlike taxes, not only provide funds but also improve the efficiency with which scarce public resources give people more of what they want and are willing to pay for instead of what someone else decides they should have. The 'own source' revenue side of the Wicksellian connection is strongest for prices and weakest for general taxes.

The first rule of sensible local finance should thus be: "Wherever possible, charge." The main economic rationale for better pricing of local public services is not to produce revenue but to promote economic efficiency. When consumers are not explicitly charged for consuming a service, the implied value they attach to the last unit they use is approximately zero. When no charge is imposed for a service, more of it will be consumed than people would be willing to pay if faced with the real costs of providing the service. Under-pricing – the free (or subsidized) provision of services – results in over-consumption and all too often leads to subsequent ill-advised investment in more of the same. For example, the crowding resulting from the provision of subsidized roads leads to political pres-

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[34] A principal argument for decentralization is that coordination (or cartelization, or monopoly, as it might perhaps also be labelled) is less likely to deliver the goods – or, more precisely, to deliver the right goods in the right quantities to the right people – than are more competitive suppliers responding to price signals. What may at first glance appear to be undesirable duplication or overlapping of functions may actually be useful redundancy in a complex system facing changing conditions (Landau 1969). On the other hand, duplication and confusion may sometimes lead to waste, so better intergovernmental coordination is needed. The solution to such problems is to design intergovernmental fiscal relations in such a way as to minimize real coordination problems as well as to continue working at the difficult and perhaps never-ending task of establishing effective and preferably cooperative coordinating institutions. In addition, of course, it is important to make appropriate use of private as well as public service providers, although this question is again not pursued here.

sure for ever more roads. This is the "black hole" of local government finance and is the root of many problems with efficiency and even corruption. Something goes in – the resources used in building more and more roads – but nothing of equal value to society comes out. Good user charges can avoid such waste.

Local governments already charge fees and prices for many services, but the level and structure of charging usually leaves much to be desired (Dafflon and Daguet 2012). Water rates, for example, are sometimes fixed charges independent of the volume of water consumed. Since the marginal cost of additional consumption is zero, the result is over-consumption of water and, sometimes, over-investment in water capacity. Even when water consumption is metered, if declining block rates are used, prices may be less than marginal cost for large water consumers thus favouring those with large lawns and backyard swimming pools. The fact that sewer charges are usually pro-rated on the amount of the water bill only compounds such pricing errors. The "postage stamp pricing" approach (uniform everywhere) often taken in setting public prices almost never makes economic sense. Both distance from the source of supply and the time of use should be taken into account in setting charges – as should, of course, the administrative and enforcement costs of any pricing system.

Determining the proper domain and design of user charges can be challenging. The economically efficient price for any good or service is that which would be charged in a perfectly competitive market, that is, one in which there are many buyers and many sellers, all of whom have full information not only about the price and cost of the item in question but also about all possible substitute and complementary products.[35] Although these conditions seldom exist, we allow private markets to distribute such essentials of life as food and shelter for the most part. Such problems are taken more seriously in the public sector, however, in part because the fundamental rationale for many public sector activities is that some or all of the conditions required to achieve market efficiency are violated: publicness (joint consumption) matters; excludability is not feasible; scale and sunk cost factors result in monopoly provision; non-priced externalities are significant; distributional concerns are important. Such problems do not preclude charging for public services, but

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[35] This assumes that prices are adjusted to reflect all external costs and benefits and that – as Wicksell (1896) emphasized – a satisfactorily "just" initial distribution exists.

they underline how difficult it can be to design appropriate user charges. Any charge may produce (some) revenue, but only well-designed charges can improve economic efficiency as well as produce revenue.

Defining costs properly is neither technically simple nor politically easy with respect to many public sector activities. At the technical level, as Dafflon and Daguet (2012) show in detail, both a clear legal framework and a well-designed and well-implemented accounting system are needed. Moreover, the costs relevant to marginal-cost pricing are not always those with which private or public sector managers, even those operating activities already structured as cost centres, are familiar. The common accounting notion of cost refers to identifiable monetary outlays incurred in the process of carrying out a particular activity such as wages, rent, utilities, transportation, and supplies. But accounting costs are not the same as economic costs. The fundamental economic concept of cost is opportunity cost – the value of the benefits that could have been obtained had the inputs been used instead for some alternative purpose. From this perspective, the cost of, say, a park is not the tangible construction and operation costs recorded in financial accounts but the (highest) value that the land could have realized had it been used for some other purpose, such as logging or residential development. Estimation of opportunity costs is seldom easy. Determining the right marginal cost of providing another unit of a particular service such as widening a street requires the identification of all the additional costs arising from this incremental expansion. Congestion gives rise to social costs that may be reduced by such investment but converting such costs into monetary values is not simple. Even when relevant market costs – for example, the value of land used for a park – are available, they are not always good approximations to social marginal cost prices.

An especially tricky issue is how to treat fixed costs (investment costs). To ensure the efficient allocation of resources, short-run marginal cost (SRMC) prices should be imposed to ensure the efficient use of existing facilities. However, this presumes that the size of the facility is optimal to begin with, an assumption unlikely to be valid given the way public sector investment decisions have traditionally been made. Moreover, for SRMC pricing to be efficient it must be altered as usage changes. When usage increases, so should prices to reflect increasing congestion costs. Raising prices when service levels deteriorate is seldom acceptable. Politically, it is often simpler to wait until a bridge becomes unusable (or

even falls down) and then seek the funds to rebuild it than to raise the funds needed for a new bridge by raising tolls on an ever-more congested (and unsafe) old one.

The alternative approach of including fixed (replacement) costs in setting prices in the first place --- using long run marginal costs (LRMC) as the basis for setting charges – not only results in underutilized facilities but deprives managers of the demand information arising from reactions to SRMC prices. When investments in infrastructure have decreasing average costs, marginal cost pricing will result in financial deficits. To avoid this outcome (and also because they are easier to calculate, especially if only financial costs are considered as is usually the case), prices are often set at average costs rather than marginal costs, which again results in inefficient utilization levels (unless unit costs are constant and marginal and average costs are equal).

Average incremental cost (AIC) pricing may sometimes be a useful compromise. Like marginal cost pricing, this approach attempts to calculate the costs incurred as a result of an additional user, but does so in a way designed not only to result in full cost-recovery (as in some versions of average cost pricing) but also to be computationally feasible. The idea is simply to allocate each element of costs, fixed and variable, financial and (to the extent measurable) social, to a particular incremental decision with respect to providing a service and then to assign to each additional user the incremental cost attributable, on average, to his or her usage. For example, when a vehicle enters a highway at a particular time, the costs attributable to this decision may be broken down into those arising from the addition of one vehicle at this time at this place (congestion), those attributable to the place (building the highway to its particular specifications), and those attributable to the trip (wear and tear on the road). An approximation to efficient pricing in this case might be some combination of a time penalty at peak times, appropriate charges for cost recovery for road use (wear and tear, which is exponentially related to vehicle axle-weight, as well as accidents, which are related to driving records), and perhaps some sort of access charge (vehicle license) to recover the fixed cost of highways. Such charges could be levied in part on vehicles (vehicle license), in part on vehicle use (gasoline taxes; tolls), and in part on drivers (drivers' licenses), with the appropriate user charge being calculated on the basis of available accounting information, supplemented by additional information as needed to

take into account important social costs (noise, pollution, congestion). The resulting charges might be imposed on users as classes (e.g. trucks vs. cars) on an average basis. Such a system does not amount to marginal cost pricing in the strict sense, but it may sometimes be as close as we can come.

Other such compromises – variable block pricing, multi-part tariffs, etc. – may be applied with respect to different services.[36] Such pragmatic approaches can also be used to develop systems of capital financing through development charges and the like in order to simulate quasi-marginal cost pricing and hence, among other good things, reduce urban sprawl (Slack 2002). For example, to cover capital (fixed) costs, a connection (or admission) fee might be charged. Such two-part pricing is generally more efficient than average cost pricing (Dafflon and Daguet 2012). But even such simple approximations to appropriate user charges often require information that is hard to obtain. Moreover, unless the gain from collecting such a charge exceeds the cost of imposing it, no charge should be levied. Every road could be a toll road. But the cost of collecting all those tolls – both the administrative and compliance cost and the related social cost of added congestion – means that such charging makes no sense. On the other hand, with modern technology it is now possible to establish time- and place-sensitive pricing for many public services, and the cost of doing so is declining so rapidly that governments everywhere should be reconsidering their expanded pricing options in light of such developments.[37]

Not only can it be difficult to determine the 'right' price, it may also be politically risky to adopt it. If people pay for identifiable public services which they consume, and no one either receives a service without paying for it or pays without receiving a service, some might perceive the outcome to be fair. The rich do not, as a rule, pay more or less for bread or milk than the poor. Why should they pay more or less for a building permit or a fishing license? Nonetheless, the most common objection to proposals to expand or reform public sector pricing is that doing so would be unfair and regressive. Attempting to rectify fundamental distributional problems through inefficiently pricing scarce local resources is a bad idea, resulting in little if any equity obtained at a high price in

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[36] For careful discussions of such approaches see e.g. Bos (1985) and Arnott (1994).
[37] The result of such deliberation will not always be to adopt the new technology: for an interesting discussion of water metering in England, see Zetland (2013).

efficiency terms. Undesirable distributional effects from particular changes are better offset through such devices as offsetting increases in transfer payments or by recourse to such well-established technology as letting users access services through 'smart cards' with low-income users receiving an initial credit on their cards, thus simultaneously achieving universality (everyone has the same card) and targeting (those who need it have free or subsidized access). Second-best approaches to redistribution through distorting price signals may perhaps sometimes be necessary in developing countries attempting to rectify huge inequalities with limited technical and administrative resources, but there should be little if any place for such techniques in most developed countries.

1.2.3. Local government taxes

When the direct use made of services by specific individuals can be reasonably measured, such services should be priced. However, some services like local streets and water and sewerage connections are provided to specific locations such as particular lots or buildings. In some instances and to some extent, at least the access costs of such services might be paid for through charges that are related to relevant characteristics of properties (such as size of lot, frontage, or building height) or to property values.[38] Other services (or components of services), such as arterial streets, utility lines, and public transit as well as major parks and recreation facilities may be 'area-specific' in the sense of being most accessible to those nearby. Since the value people attach to such services should be reflected in property values, a suitable form of financing may again be a value-based property tax. Still other services may provide city-wide or even region-wide benefits: again, such benefits should affect property values, and an appropriate form of financing would appear to be a property tax, although a case can sometimes be made for income or sales tax financing.

Similar services are provided to businesses. However, since the cost of providing such services may differ widely from business to business, it is less clear that property-based taxation is the optimal form of financing business-related services, not least because their employees (who

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[38] However, it almost never makes sense to charge for the usage of e.g. water on the basis of the assessed value of the property as was long the standard treatment in England (Zetland 2013).

enjoy lunch in the local park), their customers (who benefit from locally-provided business inputs like streets), and their owners (who similarly benefit from cost-reducing local services) are not always residents of the locality.

In addition to business-related services that may indirectly benefit non-residents, non-residents may benefit directly from locally provided services when they visit a locality as commuters (working but not living there), as tourists (presumably enjoying locally-provided amenities), or simply as visitors coming to shop, to dine, or for some form of entertainment or recreation. While some of the cost of providing services to non-residents may be recouped through user charges and taxes on business, a case may sometimes be made for additional specific forms of taxation on non-residents, although from the perspective of efficiency it is also important, as in the case of taxing business in general, to be sure that the taxes and charges imposed on such non-voting beneficiaries are not excessive.

Beyond user charges, two basic principles of assigning revenues to local governments may be suggested. First, "own-source" revenues should ideally be sufficient to enable at least the richest such governments to finance from their own resources all locally-provided services primarily benefiting local residents (Bird 1993). Second, to the extent possible, local revenues should be collected only from local residents, preferably in relation to the perceived benefits they receive from local services. Revenues from other sources (including local business activities) should similarly match the benefits they receive from local services.

A key question to ask about local revenues from the benefit perspective is thus the possibility of undesirable tax exporting – negative spillovers to non-residents such as (1) commuters (non-resident labour), (2) tourists and other visitors (non-resident consumers), (3) non-resident owners of local businesses (external capital), and (4) non-resident consumers of city exports (e.g. financial services). On the other hand, non-residents may gain from the joy of living next to the parks and theatres of the city (even if they don't use them – option demand), so another important question is the extent to which tax exporting matches possible offsetting benefits from local services.

With respect to the many local services which increase the value of particular locations, there is obviously much to be said for taxing land and, more broadly, real property. With respect to other, less location-specific, services provided to local residents, 'personal' taxes ranging from the much-despised UK 'community charge' of a few years ago to the personal income taxes that are the local revenue mainstay in Nordic countries might be suitable. Local sales taxation might also serve and would have the additional virtue of taxing visitors as well. Taxes on hotels and entertainment would similarly catch this group, while a payroll tax would tax non-resident commuters as well as most residents.[39]

1.2.4. Budgeting and accountability

Unless local governments have some significant degree of freedom to alter the level and composition of their revenues, neither local autonomy nor local accountability is meaningful. Local governments should not only have access to those revenue sources that they are best equipped to exploit –such as residential property taxes and user charges for local services – but should be permitted and encouraged to exploit these sources. If intergovernmental fiscal structures are properly designed, this should not be a real problem (Bird and Smart 2002). Accountability works in part through electoral democracy. If local electors do not like what their local government does, or does not do, they can (try to) throw the rascals out at the next election. If they do not do so, local electors should, in a properly designed system, bear the consequences of their inaction. The freedom to make mistakes, and to bear the consequences of one's mistakes, is an important component of local autonomy in any country. If those who fail to collect local taxes or to spend revenues efficiently are bailed out by discretionary transfers, the rascals may not be thrown out but rather re-elected for their success in obtaining a larger share of other people's money. Countries that have an inappropriate intergovernmental fiscal structure are likely to have more problems in managing decentralization and less satisfactory policy outcomes.

Accountability requires not just good information about what local governments do and how they pay for it. It also requires that such infor-

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[39] As Bird (2003) shows, the best way to tax local business from a benefit perspective may be through a so-called 'business value tax', based on the use of factors of production (labor, capital) by businesses. See Bird (2013) for a review of recent experiences with such taxes. A payroll tax combined with some form of capital tax (more broadly based than real property taxation) would amount to much the same thing.

mation is sufficiently understandable so that at least a critical margin of voters can understand what is really going on.[40] Much has been said recently about the important connections between fiscal transparency, public participation, and accountability (Khagram, de Renzio, and Fung 2013). Most developed countries could learn from the example of Brazil, which has done much to make public budgeting more transparent especially at the municipal level, with the clear result of increasing both popular participation in budgeting and accountability in fiscal decision-making (Alves and Heller 2013).

An important issue requiring careful attention is the extent to which particular local government revenues should be earmarked to particular expenditures. The basic principle is simple: when charges and taxes are imposed on beneficiaries, whether as individuals or as members of specific groups (drivers, area residents, etc.), those revenues should be earmarked to those expenditures, and those expenditures – abstracting from any externality-financing transfers – should be financed only from those revenues. There is no place for cross-subsidization in the Wicksellian world. There is also no place for the common practice of 'nominal' earmarking, in which some levy is rationalized as financing an activity but has no marginal effect on the level of that activity. While there are well-known limitations to the extent to which extensive earmarking is consistent with sound budgetary practice, the introduction of more explicit budgetary links between user charges and benefit taxes and the expenditures they are supposed to finance is an important component of a more Wicksellian local government finance system.[41]

A problem that is unlikely to be resolved by more sensible earmarking or more public awareness of local finances is that local governments may attempt to extract revenues from sources for which they are not accountable, thus obviating the basic efficiency argument for their existence. The local public is more likely to applaud than to deplore moves in this direction. It is therefore important to limit local government access

[40] As Dafflon and Daguet (2012) show, it is also critical that the supervisory level of government both establish clear accounting rules and ensure that they are appropriately applied.
[41] More detailed discussion of the pros and cons of earmarking may be found in Bird and Jun (2007). See also Dafflon and Daguet (2012) for a clear contrast between the strong case for earmarking user charges to cover the costs of coverage and service provisions and the weak case for 'political' earmarking of charges (and taxes) to other uses.

to taxes that fall mainly on non-residents – such as most natural resource levies, corporate income taxes, pre-retail stage sales taxes and, to some extent, even non-residential real property taxes.[42] One way to deal with this problem may be to establish a uniform set of tax bases for local governments (perhaps different for different categories such as big cities, small towns, and rural areas), with a limited amount of rate flexibility being permitted in order to provide room for local effort while restraining unproductive competition and unwarranted exploitation. If inappropriate tax bases are assigned, wasteful competition and undesirable tax exporting are likely to result. In this as in other ways, the role of the central government in establishing the rules of the local fiscal game is central to the establishment of a more Wicksellian approach to local finance.

1.3. The Political Economy of the Wicksellian Approach to Local Finance

This paper has emphasized the importance of the Wicksellian Connection – the tightness of the connection between decisions on public spending and on its financing – in determining whether local public policy decisions are right in the sense of being in accordance with citizens' wishes. The more closely spending and taxing decisions are linked by being made by the same body at the same time, the better government will function in its economic manifestation as a provider of services. However, few if any countries have done much to establish a strong Wicksellian Connection with respect to the local governments which most directly provide public services to citizens. As Dafflon and Daguet (2012) argue, if countries were to do so, not only would public spending efficiency improve, but perhaps – at least in the dreams of an economist – different governments might even compete to be the most efficient provider in order to strengthen their political support.

To move such dreams closer to reality, Breton (2004) suggests that local governments must not only be willing and capable of focusing on its achievement, but they must also be prepared to break the golden chain of transfer dependency and demand to be treated like adults responsible

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[42] As Bird, Slack and Tassonyi (2012) argue, an appropriate rule with respect to property taxes might be to require uniform taxation of residential and non-residential properties.

for making and largely financing their own decisions.[43] This vision of mayors and councils throughout the land marching arm in arm on provincial and national legislatures to demand less money in transfers and more revenue-raising power of their own is far removed from present reality in most countries. The outstretched municipal hand is more common than the upraised municipal fist. But the question is important. The local level is where public sector efficiency is most directly relevant to daily life. If local governments are to be efficiently run, they need to be essentially self-controlled, and to be self-controlled they need to be essentially self-financed at the margin rather than dependent on the largesse of others.

Even the most empowered local governments cannot be expected to act efficiently and responsibly in the interests of their residents unless the intergovernmental fiscal structure is properly designed and monitored to ensure that external benefits and costs of local actions are fully accounted for. Unless the essential information on who pays what for what and why is not only transparent but publicized by (e.g.) the higher-level governments that are usually responsible for assigning and regulating local service provision so that the information is easily accessible to and adequately understood – and accepted – at least by the critical few among the local public, it is unlikely that even the best-run and best-governed locality will make all fiscal decisions in a socially efficient way.

The political advantages of providing services with 'other people's money' are so great and the technical difficulties of evaluating and pricing many public services so important that at times even exceptionally strong intergovernmental, reporting, and accountability structures may be unlikely to result in a high level public sector efficiency in complex metropolitan regions, whether or not there is an adequate overreaching metropolitan governance structure.[44] Like most ideals, that discussed in this paper is thus unlikely to be easily attainable. Nonetheless, it is not hard in principle to move towards establishing a stronger Wicksellian

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[43] As stressed earlier, what is critical here is local decision-making at the margin. Inframarginal intergovernmental transfers for equalization purposes, like externality-compensating transfers at the margin, are quite compatible with the Wicksellian model.
[44] As Bird and Slack (2013) emphasize, the lack of adequate metropolitan regional governing structures in most countries is a serious constraint in providing local services efficiently in metropolitan areas.

Connection between taxes and expenditures at the local level. One might, for example, begin by establishing the necessary foundations such as (1) an improved information base available to local officials and citizens; (2) better technical support (e.g. in establishing good pricing systems); and (3) an appropriate local equalization transfer system to induce localities to focus more on efficient provision of services at least cost.

Although many citizens in most countries appear to be less than fully satisfied with what their governments do, most seem to attribute bad outcomes more to the unfit crowd in charge rather than to flaws in the design of the ship of state. But even if people care only about results and not processes, outcomes depend as much or more on the way in which policies are decided on than on the policies themselves, regardless of which particular set of politicians and officials came up with them. The ways different countries 'do' politics, like the ways they structure local finance (Bird 2011), have largely been inherited from the past, and hence shaped in part by what was then technologically feasible. Until recently, for example, only people in the very smallest communities were able to decide for themselves about most things in the political sphere. Representative democracy has many positive merits relative to direct popular democracy. It may perhaps be more conducive to reflective, rather than emotive, decisions. It may force people to take a longer view. It may enable us to select representatives who may be able to make good decisions. All of this may or may not be true. In the past, however, we really had no choice of how to conduct public business in a large democratic country: it was representative democracy or nothing. This is not true now.

It is now technologically feasible for everyone to be able to vote on anything at any time – if we want to follow this path. There may be good reasons why we should not do so and should instead stick with the tried and true systems we have. But there are also bad reasons for doing so, including what seems to be the deep distrust of many in the elite with respect to the ability of ordinary people to decide what is best for them. Some seem to think that if people are allowed to decide important things – like public policies – they will usually act emotionally, irrationally, and against their own long-term interests. It may well be true that people are and would remain rationally ignorant of most public policy issues. It may also be true that few would be willing to put in the hard

work needed to make such power-sharing worthwhile and that the process might – despite technological advances that allow us both to generate the needed information and to make it easily available to all relatively cheaply – turn out to be slow and inefficient or seized and controlled by a self-selected few. Certainly, more widespread and direct political participation, like more transparency in government in general, would both make the life of governments more difficult and bring to the surface fundamental disagreements on norms, hence perhaps increasing rather than reducing conflict. One result might be less growth and more redistribution, or the opposite. There are, as there have always been, many reasons for being cautious about increasing local democracy.

Still, although democracy, as Churchill once said, may be the worst of all governments except for all the rest, perhaps the same may be said of more participatory democracy especially at the local level where introducing much stronger market elements than are now present in most countries is now technologically feasible as well as – as argued in this paper – economically desirable. Sharing power is always a scary exercise, especially for those who now have the power, but perhaps the time has come to see which 19th century sage was right: the one who said there is a fool born every minute, implying that people are best seen as suckers to be fooled or sheep to be fleeced, or at least led? Or the one who said you can fool all of the people some of the time and some of the people all of the time, but you cannot fool all of the people all of the time?[45] No one has the answer to such questions, but an appropriate restructuring of local government finance would test the degree and danger of local foolishness in ways that – provided the Wicksellian Connection is firmly in place – will not cause undue harm to innocent bystanders.

The basic problem with the Wicksellian approach is that almost no one wants to hear such unpleasant truths as that users should pay or that redistribution through mispricing local public services is almost always a bad idea.[46] It is not always simple to think of how to sweeten such bad

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[45] The first 'sage' is usually said to be P.T. Barnum, a famed American showman, and the second is usually said to be Abraham Lincoln, although in fact neither saying can be accurately attributed – unlike Churchill's remark, which is discussed in depth by Lindert (2003).

[46] For an illustration of this point, see the discussion of financing regional transit in Bird and Slack (2013a).

news sufficiently to make it politically palatable. Nonetheless, if local government finances are ever to move in this direction, someone has to be willing and able not only to deliver the bad news but to persuade enough people that the message is real and needs to be dealt with. Perhaps the only way to do so, apart from bundling such policies with whatever sweeteners may be possible, may be to begin at the beginning, by explaining clearly to people what the costs and benefits of different courses of action are with respect to problems such as financing regional transit systems and then, over time, convincing enough of them that what you say is true.

Economics, like medicine, cannot be practiced solely in the laboratory: it requires close and often complicated engagement with patients and their families (policy-makers and their constituents). Indeed, policy economists may perhaps learn some useful lessons from such medical protocols as the ABCDE approach about how to tell bad news to patients: Advance preparation; Build good relationships; Communicate well; Deal empathetically with reactions; Encourage and validate emotions while correcting distortions.[47] Close attention to such basics when marketing unpopular ideas such as paying for what you get may eventually result in some improvements in outcomes here and there. But one should perhaps not be too optimistic: few politicians seem likely to be willing to risk their futures by being the messengers who deliver to the public what most people are likely to see as the bad news that not only should they pay for what they get but that, to add insult to injury, it would also, on the whole, be good for them to do so.

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[47] This is a slight modification of a protocol suggested by Rabow and McPhee (1999).

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Chapter 2

Tax competition across sub-central governments: A survey
Hansjörg Blöchliger

Abstract

Tax competition between jurisdictions is hotly debated, and views on its merits vary widely. While some consider that tax competition brings sub-central fiscal policy closer to citizens' preferences, increases the efficiency and productivity of the public sector and prevents tax and spending excesses, others argue that tax competition erodes the tax base, distorts the tax structure and prompts under-provision of publicly financed services. Overall, the main conclusions are as follows: tax competition is stronger on mobile taxes (corporate and personal income tax) than on immobile taxes (property tax, consumption taxes); tax rates tend to be lower in wealthier jurisdictions; inter-jurisdictional differences in tax raising capacity – or economic wealth – appear to be lower in countries with more tax competition; and there is little evidence of a "race to the bottom" with respect to tax rates and tax revenues. Tax and spending interact, but jurisdictions tend to maintain a given tax-spending ratio over prolonged periods. It appears that tax autonomy and tax competition provide incentives for economic development, especially for small and poor jurisdictions.

2.1. What is tax competition?

Tax competition – both between countries and between the sub-national governments of a country – has become a hotly debated policy issue in recent years. While some consider that tax competition brings fiscal policy closer to citizens' preferences, increases the productivity of the public sector and prevents tax and spending excesses in the public sector, others argue that tax competition leads to tax-base erosion, to a distort-

ed tax structure, and to under-provision of publicly financed services. Tax competition rests on firms' and households' willingness and ability to shift their tax base. Over the last decades, tax base mobility has expanded. With transport costs rapidly declining and barriers to shifting profits, income or consumption removed even further, households and firms may shop around and look for a jurisdiction whose tax and public spending combination suits them the best. In turn, sub-national governments have become more active in trying to attract new residents and firms, and they use taxation as a strategic instrument for developing their economy or for raising tax revenues. Taxation and tax levels have become a strategic instrument for governments to increase their competitiveness, as taxation appears to be an important determinant for investment.

This chapter will concentrate on tax interaction and tax competition *within* a country, *i.e.* between sub-central governments. Conceptually, international tax competition hardly differs from within-country competition. Tax competition may be milder between countries than within a country, since mobility is lower across international than across national borders. But international tax competition may also be fiercer than intra-country tax competition, since a single country can contain sub-national tax competition by using rules and devices that are so far lacking at the international level. In general, much of the analysis for sub-national governments remains valid for tax competition between countries as well. Also, tax competition is not only an issue for federal countries, where the state level often has constitutionally guaranteed taxing rights, but also for unitary countries, where local governments often have an extensive tax autonomy. Finally, the chapter concentrates on horizontal tax competition, *i.e.* between jurisdictions of the same level, rather than on vertical tax competition between central and sub-central governments, although both types of tax competition interact and may partially offset each other (Box 2.1.).

Box 2.1. Vertical tax competition

Vertical tax competition occurs when different government *levels* have individual discretion in setting rates on a common tax base. When an individual government or government level changes its tax rate, it affects the tax base for other government levels. For example, an increase in a central government business tax tends to reduce business investment, thereby reducing the capital stock in all sub-central jurisdictions. Similarly, an increase in the central government personal income tax reduces incentives to work and hence the income tax base for all SCGs. Since the tax increase imposed by one government level diminishes tax revenues for the other government levels, these in turn may have to increase their own taxes in order to rebalance budgets. The tax base becomes a common good, where each government level is imposing a tax externality on the others. Vertical tax competition or tax externalities can be quite pervasive in countries with concurrent taxation of corporate income, personal income or sales and turnover taxes. Examples are a central government income tax on which SCGs set individual surcharges or a combined central/sub-central VAT/sales tax.

Vertical and horizontal tax competition interact. Vertical tax competition tends to raise tax rates and hence to partially offset the effects of horizontal tax competition, but the overall effect depends on the tax mix and the elasticity of the shared tax base. Upward pressure on tax rates might become an issue if an inelastic tax base – such as the property tax or some consumption taxes like the gasoline tax – is shared across government levels, while it could be less salient when a more mobile base – such as the corporate or personal income tax – is shared. Vertical tax competition also depends on the extent to which the central government can commit as a "first mover" to a tax policy that SCGs then take for granted. In other words, the more "hierarchical" the relationship between the central and the sub-central level, the less significant is vertical tax competition. Finally, a government's platform in terms of taxation as well as political economy constraints – such as direct democracy – limits the extent to which government levels can exploit the joint tax base. Tax policy coordination across government levels may further help reduce vertical tax competition and excessive taxation (for an overview see Keen, 1998; Wilson, 2001 or Devereux, Lockwood and Redoano, 2007).

2.2. Horizontal tax interaction and tax base mobility

2.2.1. Horizontal tax interaction

Horizontal tax policy interaction (or tax mimicking) is widespread in the OECD realm, even in highly centralised countries that provide sub-central governments with little tax autonomy. The tax policy of one sub-central government seems to depend, at least partially, on what other sub-central governments do, have done or plan to do. Mimicking concerns all taxes, be they business taxes, personal income taxes, consumption taxes or immovable property taxes, i.e. sub-national governments tend to compete on their entire tax mix. The large set of country studies covering the last 15 years or so dealing with tax interaction can be summarised as follows:

- Tax mimicking depends on the type of tax. Mimicking is stronger for business and personal income taxes than it is for consumption and property taxes. The reaction of one government to another's' tax policy changes is usually positive, i.e. rising/falling tax rates in one jurisdiction lead to a rise/fall in tax rates elsewhere. Interaction on property tax is mostly of the yardstick competition type.

- Tax interaction depends on various economic and geographical factors. Urbanised and populous jurisdictions benefit from agglomeration economies, which allows them to set higher tax rates. Tax interaction is fiercer between small than between large SCGs and fiercer between local governments than between state/regional governments. Jurisdictions that are adjacent or that have strong economic ties interact more.

- The intergovernmental fiscal framework plays a crucial role for tax interaction. Intergovernmental grants that equalise tax-raising capacity tend to attenuate tax competition, probably by reducing jurisdictions' incentives to develop their economic and fiscal base. Non-equalising grants in general tend to lower tax rates, probably because jurisdictions need less own resource revenue to fund their public services.

- There is often a leader in tax interaction whose policies are then followed by other governments. Small and sometimes poor jurisdictions appear to be first movers, because they are more exposed to tax competition and can benefit more. The emergence of small low-tax jurisdictions has provoked reactions from other ju-

risdictions and from central government, which in some cases imposed minimum tax rates.

- Vertical tax competition, *i.e.* the competition of different government levels for the same tax base, usually leads to rising tax rates and may hence partly offset the impact of horizontal competition (Box 2.1.).

2.2.2. Tax base mobility

The intensity of tax competition depends on the willingness and ability of households and firms to move after a change in sub-national tax policy. The crucial question is then how sensitive tax bases react to sub-national tax policy changes, *i.e.* what is the propensity of households and firms to relocate their place of production, consumption or residence following a change in the tax burden in one or – simultaneously – several jurisdictions. Surprisingly, and despite the lively policy debate about tax base erosion, there is only scant evidence on the impact of tax competition, one reason being that simultaneous tax interaction and tax-induced mobility is extremely difficult to isolate and measure. The current state of the art can be summarised as follows:

- Tax interaction does not always mean tax competition. Some tax interaction is based on voters' and policymakers' preferences to follow the fiscal policies of neighbouring jurisdictions, without any willingness – and often neither the ability – to attract additional tax bases. Tax policy changes in many jurisdictions may result from the pressure from the constituency to discover new policy avenues or else to avoid lagging behind other communities. This form of competition is often called "yardstick" or political competition, since tax policy changes are a reaction to observed policies and policy alternatives elsewhere. However, true tax competition and yardstick competition may often go hand in hand.
- Geographical mobility is just one way to react to tax policy changes. Basically, households and firms have three possible reactions to an increase in the tax burden: 1) they may move to another jurisdiction, 2) they may reduce work input and investment, and 3) they may try to avoid taxes. The extent to which geographical mobility becomes an option very much depends on the two other options. Recent research on the personal income tax at the international level tends to suggest that migration is a stronger reaction (has a higher elasticity) to tax

rate changes than changing capital and labour input or dodging taxes.

- The tax side is only one underlying rationale for moving across borders. The spending side of a sub-national budget, *i.e.* the provision of public services, which is finally paid for by tax revenues, also plays a role. Competition is hence multidimensional. Households may migrate because of the quality of public services (*e.g.* good schools, reliable public transport, high environmental quality), and in turn governments may make use of spending as a way to attract new firms (*e.g.* by investing in infrastructure or higher education). In this sense, it is often useful to think of SCGs engaged in *fiscal* competition rather than *tax* competition. Several studies conclude that SCGs, rather than to stall in pure tax competition, tend to compete on their spending policies.

- The willingness to relocate depends on the characteristics of households and firms. As regards households, mobility is different across social groups. Mobility is higher for labour market entrants, immigrants or young families, who are more likely to change both residence and workplace. Also, mobility tends to be higher for high-income earners since their potential tax savings are larger, while social transfers are more important for low-income earners. On the other hand, social changes like the emergence of two-income households might reduce mobility for certain income earners. As regards firms, younger firms and start-ups have a higher mobility and tend to mind taxation more when taking location decisions. Firms with a high proportion of human and intangible capital are more mobile than firms with important physical assets. Often household and firm mobility are strongly connected, especially in the case of small firms in the service sector that depend on highly qualified labour, which means that governments have to take a holistic approach when determining corporate and personal income tax levels.

- Tax and fiscal policy is only one among many other reasons to change residence or to relocate production. The initial decision to move often depends on the more general economic constraints in a jurisdiction such as available jobs or available housing. In most countries, residential and, to a smaller extent, corporate mobility is driven by the labour or the housing mar-

ket rather than the tax burden. A new job is the single most important reason for households to move. However, once people or firms decide to migrate, tax policy kicks in, and the choice of a new location might be based on tax levels, suggesting that tax-induced mobility is a "second-step consideration".

Tax base mobility is likely to have increased over the last decades, mainly because the costs of moving the tax base have fallen drastically. Economic activities rely more and more on non-physical assets such as licenses, patents and other intellectual property, which are easier to transfer to low-tax jurisdictions. Technological and financial innovations make tax base and profit shifting across SCG borders easier, as demonstrated by international experience. Lower transport costs allow for larger distances to be covered between production, sale and consumption. Better transport networks and improved infrastructure allow individuals to commute, *i.e.* to separate residence and workplace and thereby to exploit differences in tax rates between nearby jurisdictions. Electronic commerce and lower transport costs also allow firms to leverage between production, sale and consumption of goods and services. Tax competition studies from the 1980s concluded that tax differentials had little impact on migration, while similar studies carried out after 2000 discern quite some tax-induced mobility, particularly of the young, the well-educated, and high-income earners, and of firms with a high share of intellectual property. In the wake of higher tax base mobility, sub-national governments have begun using tax policy in a much more active and competitive way today than they did two or three decades ago.

2.3. Tax autonomy: a precondition for tax competition

Tax competition depends essentially on sub-central tax autonomy. There is no tax competition without tax autonomy. In an attempt to measure the true tax that autonomy sub-central governments enjoy, the OECD has established an *institutional indicator* that measures the percentage of tax revenue over which sub-central governments have full or partial policy control. This indicator is based on a uniform classification of country-specific rules and regulations on sub-central taxation (figure 2.1.). Most sub-central governments enjoy some taxing power and hence have the potential to compete on tax policy, but such power varies considerably across countries. Taxing power is highest in "classical" federations such as Canada, Switzerland and the United States, where the

constitution often prevents central government from interfering with SCG tax policy. Some unitary countries – *e.g.* the Nordic countries – also have a long-standing tradition of local self-government and taxing prerogatives. Autonomy is larger over property taxes than over income or consumption taxes, which are often embedded in tax-sharing systems with no taxing power for an individual jurisdiction. While property taxes are the most important autonomous taxes with around 33%, the more mobile personal income taxes make up around 30% of autonomous SCG tax revenue. Consumption taxes – essentially levied in Canada and the United States – make up around 24% of autonomous SCG tax revenue on average, while corporate income taxes make up around 9%.

Figure 2.1. Taxing power of sub-central governments
SCG autonomous taxes, in per cent of GDP, 2009
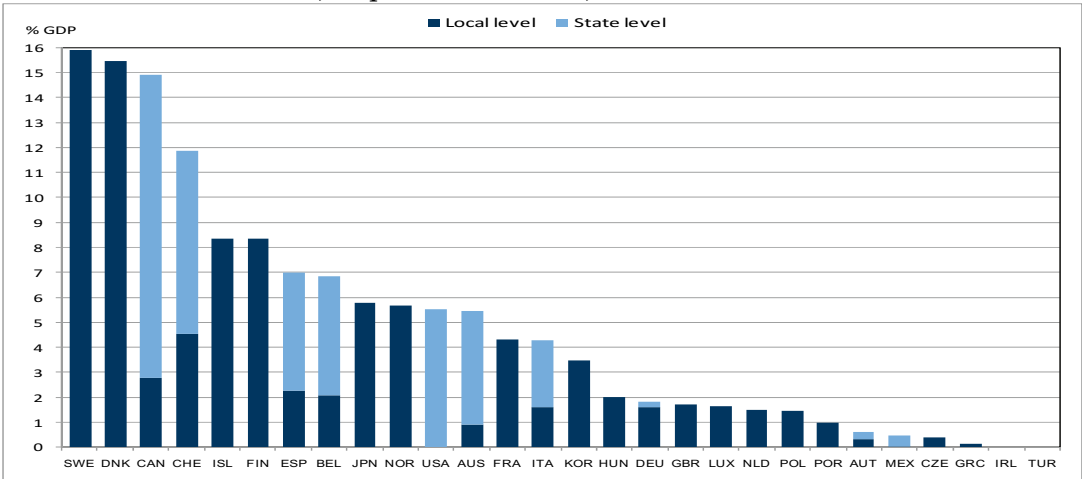
2.3.1. The tax mix: main driver of SCG tax competition
The strength of tax competition depends essentially on the SCG tax mix (figure 2.2.). Changes to a sub-national corporate income tax may induce firms to relocate headquarters and production plants, or to try to shift profits across borders. Changes to personal income taxes may induce individuals to change residence, sometimes without changing their workplace. Changes to consumption taxes may induce individuals to relocate purchase or consumption and – if the tax is origin-based – firms to transfer production plants. Mobility varies with the tax base. A bit

simplified: capital can be considered mobile at a national or interna-
tional scale, labour as mobile on the scale of regional labour markets or
metropolitan areas, consumption as mobile on a local scale, and immov-
able property can be considered as immobile once in place – which is
why property taxation triggers little tax competition. As a result, an or-
der of tax base mobility with respect to the type of tax could be estab-
lished, with capital income taxes likely to be most prone to tax base mo-
bility, followed by the personal income and wage taxes, consumption
taxes, and finally property taxes. However, and as argued above, tax
competition is likely to have increased for all types of taxes over the last
decades. Given that tax competition varies across taxes, the tax mix it-
self may become a policy tool, with SCGs trying to rely on taxes where
competition benefits them most or harms them least.

Figure 2.2. Taxing power and the tax mix

Autonomous taxes by tax type, in per cent of total SCG revenue, 2009
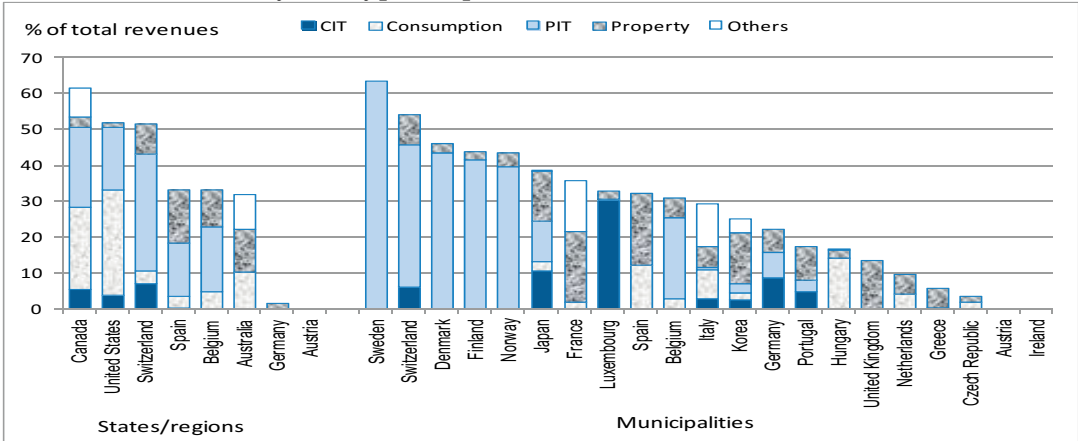
2.3.2. Corporate income tax

Corporate income and capital taxes (or business taxes) affect a firm's re-
turn on capital and provides incentives to relocate to jurisdictions where
profits are taxed less. There are eight (8) OECD countries with a sub-
central corporate income tax (CIT). While the average sub-central CIT
tax rate declined from 14% in 1987 to 9% in 2012, the CIT share of the
total sub-central tax revenue rose from 7 to 9% (OECD Tax database).
Tax competition is seen as one reason for the considerable decline in

statutory corporate income tax rates and – to a lesser extent – in effec-
tive average tax rates over the last 20 years, although tax-base broaden-
ing appears to have overcompensated for tax rate reductions. Effective
mobility varies across types of firms: while firms with large physical
plants face large transaction costs, firms with largely intangible assets
such as intellectual property can move more easily and also have a larg-
er potential to shift profits across borders without actually relocating
their activity. Finally, corporate mobility also hinges on tax incidence. If
tax increases can be easily shifted onto consumers – higher prices – or
onto employees – lower wages -, the incentive to relocate is smaller.

An important and recently re-emerging issue in sub-central business
taxation is how to treat firms with activities in several jurisdictions and
how to "apportion" tax liabilities between them. Traditionally, appor-
tionment formulas for business taxes rely on a mix of factors such as
number of employees, payroll, property values, sales or turnover in each
jurisdiction. As a reaction to tax competition and increasing profit shift-
ing, countries have amended sub-central apportionment formulas, rely-
ing on factors that reduce incentives for firms to relocate for tax purpos-
es or which are more difficult to manipulate, such as sales or turnover.
Since the 1990s, a large majority of US states have switched to appor-
tionment formulas that weigh sales and turnover more heavily than
other factors when assessing inter-jurisdictional tax liabilities, although
this turns business taxes more into consumption taxes. The relationship
between parent companies and their subsidiaries across jurisdictional
borders further complicates the situation, as exemplified by subsidiaries
holding intangible assets such as patents and licences. With the rising
ease and scope to shift assets, profits and production, the trend towards
apportionment formulas that are based on less fungible indicators
(sales, turnover) is high on the political agenda.

2.3.3. Personal income taxes
Personal income taxes reduce a household's net (labour) income and
provide an incentive to migrate to a jurisdiction where income is taxed
at a lower rate. Many OECD countries boast sub-central personal in-
come taxes, making up more than 35 per cent of SCG revenue on aver-
age. As a general rule, sub-central personal income taxes appear to be
less prone to tax competition than are corporate business taxes, given
the lower mobility of households compared with the mobility of firms.
Despite increasing international labour mobility in a few segments, la-

bour markets are still essentially regional. Inter-jurisdictional mobility and the choice of residence appear to be affected more by labour market considerations (wages, employment etc.) and the housing market (availability, prices) than by taxation, although tax considerations appear to have become more important, becoming a kind of second-stage consideration. Highly-skilled people and high-income earners have a higher propensity to migrate, and they are also more likely to migrate for tax-related reasons. Consequently, sub-national governments tend to compete more on high-income households than on other income groups. To attract high-income earners, some SCGs have reduced their tax burden considerably. To illustrate, Canadian and Swiss sub-central top marginal income tax rates have been reduced by more than have the rates for lower incomes over the last two decades.

In some instances, competition on the personal income tax has likely become more intense on a regional scale, especially within regional labour markets and commuting zones that are composed of a multitude of independent jurisdictions with local taxing rights. In such an institutional setting, the choice of workplace and residence has direct fiscal implications for both jurisdictions. With increasing spatial extension of regional labour markets, shopping for the lowest income tax rates without the need to take workplace considerations into account becomes more and more common. The "shield of distance" protecting local income tax revenues is disappearing. As a result, local governments become competitors for residents, while economic activity becomes increasingly concentrated in a geographical core. Suburban local governments within a metropolitan area tend to be more inclined to set lower income tax rates than the city centres, enabling them – together with restrictive zoning laws – to attract high-income residents. They might thereby create some fiscal imbalances between central cities and suburban areas. Also, personal income tax competition might lead to "income sorting", *i.e.* to relatively homogenous SCGs with respect to income distribution within their jurisdiction. To illustrate this, income levels differ widely across Switzerland but much less within one given sub-central government (OECD 2012, Swiss Economic Survey). Apportionment formulas tend to reduce the competitive pressures in as far as property income and income from self-employment tend to be taxed at their origin rather than in the area of residence.

2.3.4. Consumption taxes

Sub-central consumption taxes comprise a bunch of value-added taxes, sales taxes or excises such as cigarette or gasoline taxes. Only a few OECD countries have sub-central autonomous consumption taxes, *i.e.* taxes not embedded in tax-sharing systems. Tax base mobility depends on the goods that are taxed, on how and where the goods are taxed, and on geography – cross-border shopping tends to be more of an issue for small than for large SCGs (Devereux et al, 2007). To sum up the experience on consumption tax competition: *a)* taxes on goods that are easy to transport are more prone to tax competition. For example, a sub-central cigarette tax is more prone to tax base erosion than a sub-central gasoline tax; *b)* taxes with a narrow tax base such as excises are more prone to tax competition than taxes with a broad tax base like general sales taxes or a sub-central value-added tax; and *c)* an origin-based consumption tax (*i.e.* taxes are paid where goods are produced) is more prone to tax competition than a destination-based consumption tax (taxes are paid where the goods are consumed) because firms are more mobile than consumers.

Tax competition has likely intensified with the upcoming of e-commerce and the limited ability of SCGs to tax items purchased outside their jurisdiction, often with lower tax rates and leaky taxation rules on interstate trade. The US rules on interstate trade make it possible for individuals and firms to avoid consumption taxes. This hold especially true for e-commerce, since US states need to provide evidence that a business is physically present – holding property, employing staff etc. – in that state before it can be taxed (the principle of "nexus"). The same holds true for the state VAT in Brazil (de Mello, 2008). As a result, several countries have enacted policies with the objective of reducing competition on consumption taxes. Integrating these taxes into tax sharing systems is the most radical policy to reduce tax competition. The tax sharing systems in Germany, or in Australia since the introduction of the Goods and Services Tax in the year 2000, leave sub-national governments with no tax-base and rate-setting autonomy. Other, less radical, reforms have focused on sub-central consumption taxes that are less prone to tax competition, such as a destination-based dual central/sub-central VAT or a mix of central VAT/sub-central sales taxes. The 2010 tax-base harmonisation of central and sub-central value-added taxes in several Canadian provinces points in this direction. In 2013, the US Supreme Court tightened the "nexus" rules, enabling states to tax inter-

state e-commerce more effectively. In general, efficient SCG consumption tax systems are confined to large countries with large jurisdictions. SCGs in the European Union are prohibited by directives from levying sales and consumption taxes, with some sub-national consumption-like taxes having been reviewed.

2.3.5. Taxes on immovable property

Taxes on immovable property make up almost a third of sub-central taxes and thus the bulk of sub-central tax revenue, although the significance of property taxation varies strongly across countries (figure 2.3.). More than 90 per cent are recurrent taxes, with the remainder accounting for various forms of property transaction taxes. Property taxes are considered the least prone to tax competition, largely because immovable property is, well, not mobile. Given the near impossibility to move land and buildings, and the usually inelastic supply of land due to zoning restrictions, taxation levels and changes are capitalised in property prices. Any decrease – or even the expectation of a decrease – in property tax rates is likely to be reflected in raising property values. Moreover, property taxes tend to create a strong link between taxes paid and public services received, further reducing arbitrage across jurisdictions and incentives to migrate. Most studies on residential property tax interaction suggest that sub-central tax policy mimics the neighbours and can be traced back to voters' preferences on tax and public service levels rather than to the quest for new residents and firms. Such tax interaction is thus essentially of the "yardstick competition" type.

Figure 2.3. Taxes on immovable property
In per cent of GDP, 2008
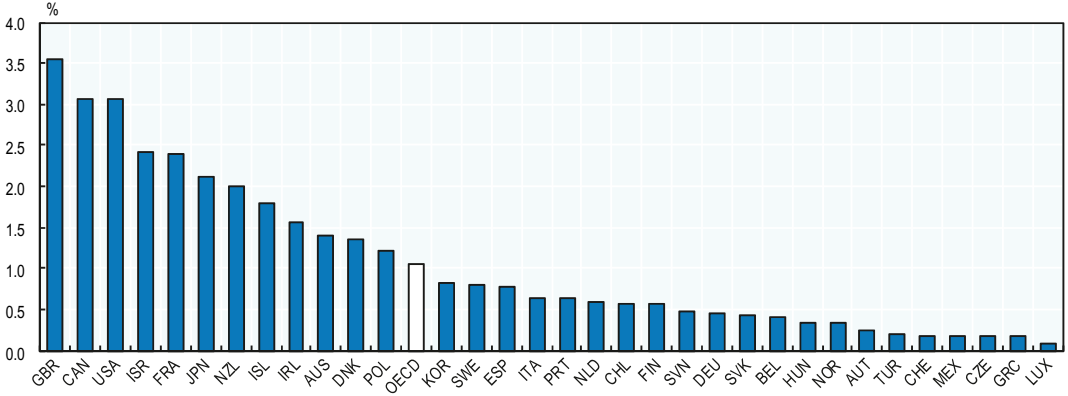
Tax competition on immovable property taxes and tax-induced migration cannot be fully excluded, however. Capitalisation may be incomplete under various circumstances, leaving room for both residents and firms to arbitrate between different locations. In addition to property tax changes, jurisdictions may alter spatial planning and zoning restrictions, further weakening the link between property values and property tax rates. If a jurisdiction has sufficient land available and imposes few restrictions on its use, overall land prices may hardly fluctuate once new land is developed, in which case property tax reductions become an effective means of attracting residents and firms. Many jurisdictions provide tax credits and other tax reliefs for business property, which indicates that the property tax is indeed a strategic instrument to attract economic activity to some extent. Moreover, while the taxation of land is unaffected by how firms develop their activities, taxation of physical capital – infrastructure, buildings etc. – depends on what firms are investing, thereby giving rise to strategic interaction between jurisdictions and firms on property tax rates and the rate of property development. Under these circumstances, the only property tax that fairly well excludes any form of tax competition is a pure tax on land values.

Despite its obvious advantages, the property tax share has been on the decline for several decades by now, currently representing around 32% of the sub-central tax revenue (figure 2.4.). Political economy may partly explain the erosion of the property tax base. Voters contest the tax, not least because tax hikes show up in lower property prices. Moreover, the tax is not linked to ability to pay, especially for liquidity-constrained households like the elderly. The rise of property prices in the years leading up to the financial crisis created sustained pressure on SCGs to limit property tax hikes, as exemplified by the "tax revolts" in many US states since the 1980s. As a result, a variety of – often social policy-induced – measures such as tax caps, abatements and exemptions, are gnawing at local property tax revenue. In many OECD countries, the adaptation of the tax base, *i.e.* property/cadastral values, dates back years or even decades, which creates further distortions between different types of property and property owners. As for business property taxation, the dwindling significance of manufacturing with large physical plants – for long the backbone of property tax revenues in many jurisdictions – may also explain the declining share of business property taxes in the total local tax take.

Figure 2.4. The significance of property tax is declining
Share of main taxes in total sub-central tax revenue
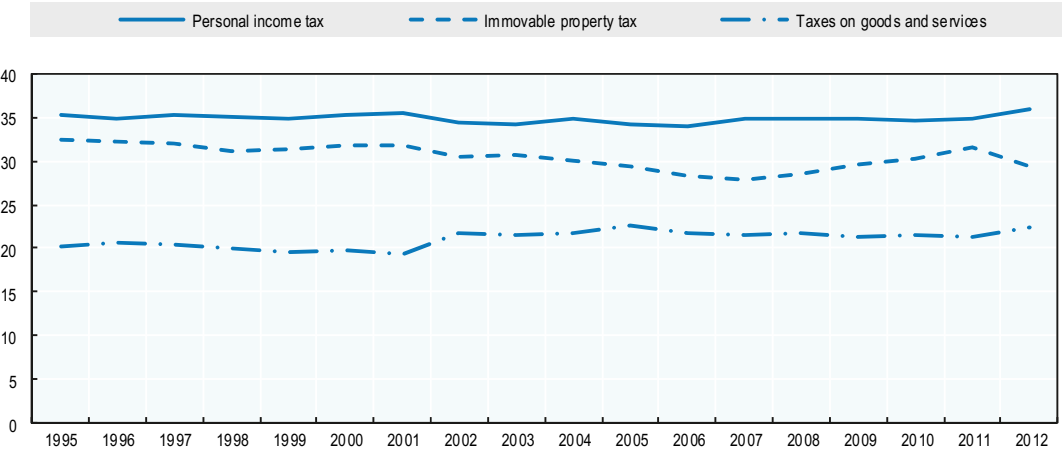
2.4. Other factors affecting tax competition

2.4.1. Geography

The geography of a country, such as size and location of sub-central governments as well as agglomeration effects, is crucial to the extent of tax competition and tax elasticity. Large jurisdictions have a "market power" that allows them to keep tax rates at a high level. The reason is that the move of one household or one firm after a change in taxation levels is felt more in a small than in a large jurisdiction, which is why small jurisdictions – other things being equal – tend to set lower tax rates. While at the international level the size effect is well-recognised – small countries, usually below one million inhabitants, have lower tax rates than larger ones –, empirical tests at the sub-national level are however lacking, and anecdotal evidence must replace empirical rigour. Also, jurisdictions at the geographical core have higher tax rates than peripheral sub-central governments. The so-called "agglomeration economies" – due to their highly productive firms, a pool of qualified and educated labour, good infrastructure etc. – provide an asset for both residents and firms, and this asset can be taxed. In Spain, municipalities located in an agglomeration have higher tax rates and a lower tax base mobility – up to 40% less – than do those located outside an agglomeration. In the United States, metropolitan areas levy local wage and income taxes that suburban or peripheral areas are unable to levy. In Switzerland, cities tend to have higher PIT rates than the surrounding suburban municipalities.

Persisting tax differences across jurisdictions can be seen as a boon to small and peripheral jurisdictions. Since these jurisdictions cannot provide the benefits of an agglomeration, their only policy tool to attract and retain firms and residents is tax policy, *i.e.* the ability to offer low taxation levels. Businesses that do not need an agglomeration to prosper or do not require much public service input may choose to settle in the peripheral areas and enjoy low taxes. In this vein, tax autonomy is a tool for small and peripheral regions to compete against the gravitational pull of large agglomerations. Tax competition could thus be seen as an institutional barrier against spatial concentration of economic activities, although "aggressive" low-tax policies by small, peripheral and sometimes poor SCGs usually encounter great scepticism and political resistance, often led by larger SCGs with higher tax rates.

2.4.2. The spending side

Taxes fund public services, hence the revenue and the spending side of the budget interact. Households and firms choose their location based not only on tax considerations but on the relationship between taxes paid and services rendered. When competing, SCGs may not only mind the tax side but also the spending side, turning tax competition into more general *fiscal competition*. The evidence for this more general type of competition can be summarised as follows:

- SCGs faced with inter-jurisdictional competition invest more in immobile public service inputs that raise the productivity of private investment, such as physical infrastructure, environmental quality and education. On the other hand, they invest relatively less in social and residential services. Higher tax rates are generally met with higher public service levels, allowing households and firms to choose among different tax-service levels across jurisdictions. These findings tend to support the so-called "Tiebout" hypothesis.

- Within a country, low tax/low service level jurisdictions and high tax/high service level jurisdictions appear to co-exist over extended periods, without much fiscally-induced mobility. SCGs hardly change the "tax/public service level" group in which they are placed, given that changing it could entail fiscal imbalances over long periods. These results again point to the relevance of the "Tiebout" hypothesis, which posits that households and firms tend to group across SCGs according to their tax-public service preferences.

- Rather than cutting general tax levels, SCGs sometimes prefer to grant tax-benefit packages to highly mobile households and firms. In some countries, specific tax allowances combined with subsidies for new firms are an important policy tool for SCGs. Low tax autonomy and tax competition intensify competition on the spending side, *i.e.* SCGs with little tax autonomy tend to use targeted subsidies and selective spending programmes more often, and competition becomes less transparent.

- Minimum spending needs in some policy areas – *e.g.* social welfare – may put pressure on SCGs to raise tax rates. Part of the tax rate differences observed across Swiss cantons appear to be caused by minimal spending obligations and spillovers from adjacent jurisdictions rather than by different preferences for public service levels. Also, if SCGs have little tax autonomy, compe-

tition turns to the spending side, with jurisdictions trying to re-
duce welfare spending.

Inter-jurisdictional collaboration on the spending side – common in
most OECD countries – may reduce tax competition. By funding ser-
vices across jurisdictions – such as a common hospital or university –
SCGs reduce cross-border externalities and distribute spending com-
mitments more evenly, thereby reducing the scope for competing on tax
rates. Also, and on more political economy grounds, inter-jurisdictional
collaboration may make it difficult to compete on tax policy. An SCG
that collaborates in various areas with its neighbours will hardly en-
gage in a die-hard tax war with them.

2.4.3. Fiscal equalisation

Fiscal equalisation is a transfer of fiscal resources across SCGs to offset
differences in revenue-raising capacity or public service cost. Fiscal
equalisation is thus aimed at fostering inter-regional equity. Equalisa-
tion can also be seen as increasing efficiency, since it prevents house-
holds from moving towards high-income SCGs, simply to receive public
services at lower tax rates. Fiscal equalisation is achieved by disbursing
grants in inverse proportion to an SCG's fiscal capacity: the higher the
tax raising capacity of an SCG or the lower its cost, the fewer grants it
gets. Fiscal equalisation works in two ways: It reduces differences be-
tween SCGs' tax raising capacity and costs. It also reduces the incen-
tives for SCGs to lower tax rates and to attract mobile tax bases, given
that part of the additional revenues has to be dedicated to equalisation
– or, for poorer jurisdictions, prompt a reduction in equalisation grants.
While fiscal equalisation tends to reduce inter-regional differences in
tax-raising capacity, it preserves sub-central tax autonomy and allows
jurisdictions to set tax rates according to voters' preferences for public
service levels. While equalisation is effective in reducing tax competi-
tion and providing all jurisdictions with sufficient resources to fund
public services, there is growing evidence that equalisation can slow
down regional convergence, *i.e.* the rapprochement between poor and
wealthy jurisdictions over time.

2.5. The impact of tax competition on fiscal outcomes

2.5.1. Tax rates are lower in wealthy jurisdictions

Tax rates are consistently lower in wealthy SCGs than in poor SCGs, *i.e.* there is a negative relationship between tax rates and tax-raising capacity – a jurisdiction's underlying economic wealth – in most countries (Figure 2.5.). Moreover, the relationship is likely to have become steeper, *i.e.* high/low tax rates and low/high tax-raising capacity are more intimately connected, and in some countries disparities have widened. The negative relationship suggests that income groups are sorted according to taxation levels. In a dynamic perspective, individual jurisdictions evolve very unequally over time and across countries: while the ranking order is very stable in some countries – indicating little mobility and similar economic growth across jurisdictions, jurisdictions change their relative position very frequently in some other countries, with some initially poor SCGs having converged towards the median, or even having made it above the national average, within a relatively short time span. However, the relationship between tax autonomy, tax competition and other determinants of regional convergence so far remains largely unchartered territory.

Figure 2.5. Tax rates and tax raising capacity are negatively correlated
a) State level

Canada

Implicit tax rate (in % of average)

2006

1997

Tax raising capacity per capita (in % of average)

France (regions)

Implicit tax rate (in % of average)

2007

2002

Tax raising capacity per capita (in % of average)

Italy

Implicit tax rate (in % of average)

2007

Tax raising capacity per capita (in % of average)

Spain

Implicit tax rate (in % of average)

2007

2002

Tax raising capacity per capita (in % of average)

Switzerland

Implicit tax rate (in % of average)

2006

1998

Tax raising capacity per capita (in % of average)

United States (state and local)

Implicit tax rate (in % of average)

2007

1994

Tax raising capacity per capita (in % of average)

b) Local level

Denmark

Finland

France (départements)

Germany (municipalities in the Bundesland of Nordrhein-Westfalen)

Portugal

Spain (local level in selected autonomous regions)

Sweden

Switzerland (municipalities in the canton of Zürich)

The negative relationship between wealth and tax rates, and the observation that this relationship has become more distinct over time could support the idea that weak SCGs with low tax revenues are forced to raise tax rates and then fall victim to a vicious circle of higher taxes, outmigration, and even lower tax revenue. However, the changing ranking order in some countries also suggests that SCGs can escape such a fate. In general, as with many correlations, they do not imply causality. Reverse causality cannot be excluded. Seen from one side, poor jurisdictions are obliged to set high rates because they need to fund minimal public service levels, sometimes defined by central government. Seen from the other side, high-tax SCGs are poor because they set high taxes rates and hence reduce their economic potential. The fact that the ranking order hardly changes in some countries while relative positions are traded frequently in others lends credibility to both interpretations, and so does the empirical literature. Much of the link between tax competition, sub-central government behaviour and economic and fiscal outcomes depends on the wider fiscal framework in which jurisdictions operate.

2.5.2. There seems to be no race to the bottom

Sub-central tax rates have had an upward rather than downward trend, and they tend to converge over time, regardless of the tax type (Figure 2.6.). A "race to the bottom" can hardly be detected. This tends to contradict the view that tax competition results in taxation levels too low to sustain adequate public service levels. Moreover, the trend of rising tax rate differences or disparities between jurisdictions cannot be confirmed. In the few countries for which data are available, tax rates mostly tend to converge rather than to diverge. While the results do not cover all OECD countries with highly autonomous sub-central governments, they nevertheless provide a fairly broad sample of sub-central tax-setting behaviour. The observed trends in tax rates do, however, say nothing about whether absolute tax levels today are more adequate than they were in the past.

Figure 2.6. SCG statutory tax rates tend to rise and to converge

Denmark (personal income tax)

Switzerland (state level, property taxes)

France (regions, property taxes)

Germany (municipal business surcharge or "Hebesatz")

Finland (municipal personal income tax)

Sweden (municipal property taxes)

United States (state level, sales tax)
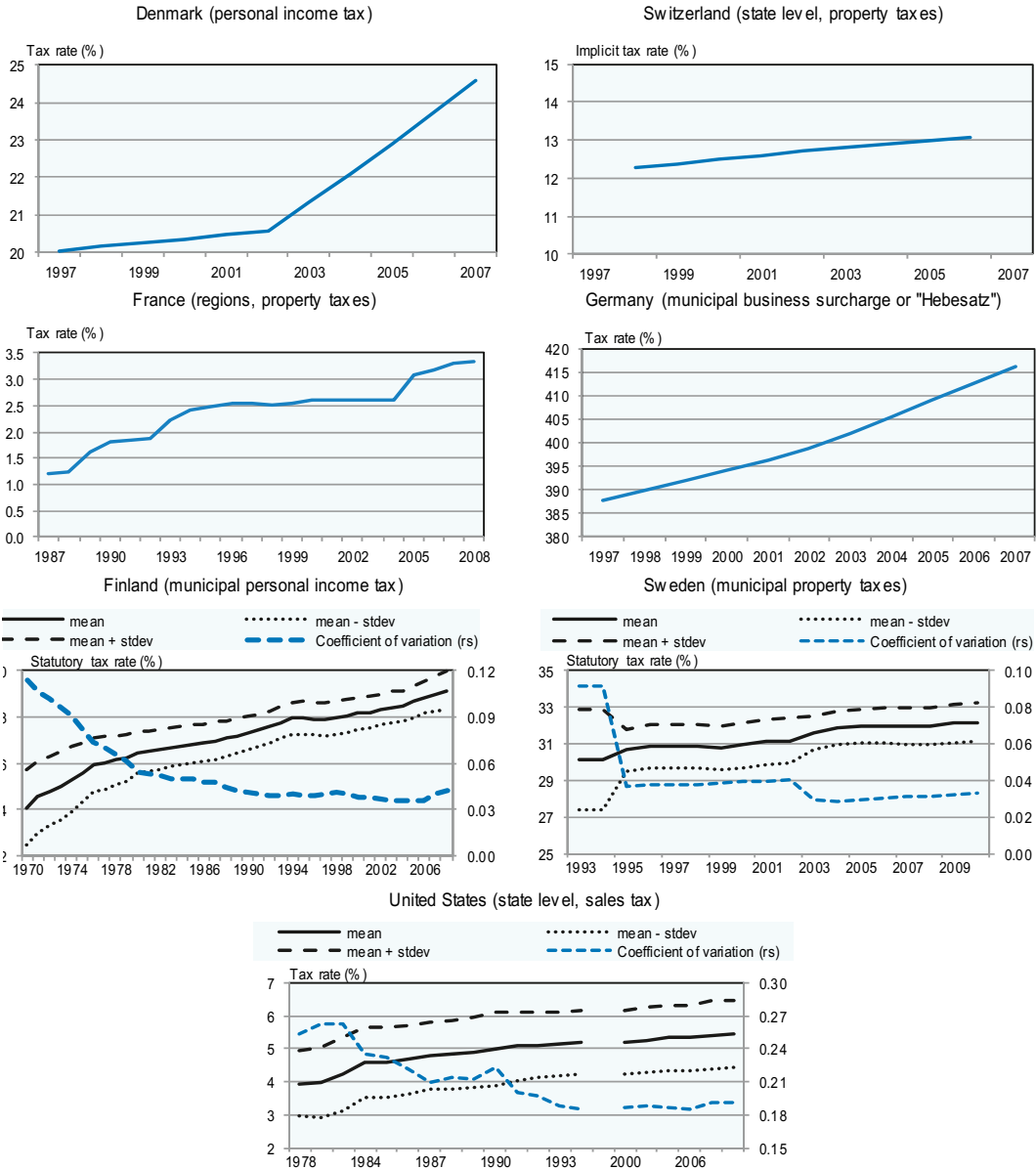
Different factors may explain why the "race-to-the bottom" hypothesis is not confirmed. The trend towards similar packages of public services across jurisdictions, often prescribed by central government regulation, may oblige jurisdictions to set similar tax rates, and differences remain only because service levels or productivity vary marginally across jurisdictions. Also, many fiscal arrangements, particularly fiscal equalisation, can actually reverse incentives and make SCGs increase rather than decrease tax rates, with a trend towards more equal taxation across SCGs (see the chapter on fiscal equalisation). Tax assignment may also play a role once the sub-central level taps the same base as central government. As a result, vertical tax competition – which has the effect of increasing rather than decreasing tax rates – may countervail horizontal tax competition forces. Finally, some regulation such as minimum tax rates may prevent individual SCGs from entering into an all-out tax reduction battle.

2.5.3. Tax competition raises the productivity and efficiency of the public sector

There is a general view that more tax competition leads to a more efficient and productive public sector, both by making public providers more responsive to households' and firms' demands and by raising the quality and lowering the cost of publicly-funded services. Tax competition provides voters and firms with an additional lever in making the public sector accountable. Potential tax base mobility is thought to put pressure on governments to reduce government size and to use available resources efficiently. These theories are often evasive, since public sector efficiency and productivity are notoriously hard to measure. However, some tangible studies are available. At the OECD level, the decentralisation of taxing powers tends to prompt more spending on productive investment such as infrastructure and education. Also, the decentralisation of educational functions tends to improve education outcomes. Country-wise research tends to suggest that fiscal autonomy has a positive impact on the efficiency of municipal spending. Moreover, more tax autonomy and tax competition is usually associated with a smaller public sector.

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Chapter 3

Are we getting value for our tax money? Improving the transparency of subnational government performance

Maarten A. Allers

Abstract

Citizens pay taxes in order to enjoy public services. But because they do not know the public production function, it is hard for them to assess whether they are getting value for money. Political yardstick competition, based on a comparison of public services and tax rates with those in nearby jurisdictions, can provide voters with a useful instrument to help solve this asymmetric information problem. However, is has been shown that fiscal disparities bias this yardstick. A politician in a fiscally advantaged jurisdiction can perform badly and still compare favorably, even if his neighbors perform well. An incumbent in a fiscally disadvantaged jurisdiction may be unable to avoid a bad reputation, even when performing well. This paper derives the characteristics of a fiscal equalization scheme that removes this yardstick bias. It turns out that currently used fiscal equalization systems do not remove the yardstick bias except under restrictive assumptions.

Keywords: rent-seeking, yardstick competition, fiscal disparities, equalization, transparency

Acknowledgements

3.1. Introduction

With some exceptions (e.g. national security), the provision of public services is best left to subnational governments. An important reason for this is that these can tailor public services to local needs (Oates, 1999). In every jurisdiction, local citizens can then decide how much tax money they are willing to pay to receive public services. Another advantage is that subnational voters can compare their own jurisdiction's tax rates and public service levels with those of nearby jurisdictions (yardstick competition). By comparing their incumbent's performance with the performance of administrators in similar jurisdictions, voters can re-elect good politicians and send non-performers packing. This in turn gives administrators an incentive to perform better.

Decentralization of government, however, creates the problem of fiscal disparities. In order to provide a certain service level, some subnational governments must, for reasons outside their control, spend more money per inhabitant than others. The first reason for this is that the demand for certain services may differ. In some communities, the proportion of schoolchildren, for example, is higher than elsewhere. The second reason is that, because of adverse geography, geology, climate, etcetera, some services are more costly to produce in some regions than in others. Public transport, for example, will be more costly in mountainous areas. For both these reasons, the spending needs of subnational governments may differ significantly. On the other hand, the ability to raise revenues may differ as well. Some jurisdictions have an affluent population and many successful businesses. In such cases, low tax rates suffice to generate substantial revenues.[48] Jurisdictions with a lower revenue capacity need higher tax rates in order to keep up.

It has been shown that fiscal disparities make it difficult to compare the performance of local governments (Allers, 2012). Politicians in disadvantaged jurisdictions seem to perform worse than they actually do, while the performance of politicians in jurisdictions with low costs or a high revenue capacity is overestimated. This makes yardstick competition biased.

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[48] Revenue capacity may include other income sources besides taxation, which will be ignored in this paper.

In many countries, fiscal disparities are equalized to some extent through a system of intergovernmental grants. Traditionally, equalization is advocated on the grounds that it improves locational efficiency, as it removes an incentive to move to jurisdictions with favorable fiscal conditions (Buchanan, 1950, 1952; Buchanan and Goetz, 1972; Boadway and Flatters, 1982); on equity grounds (Le Grand, 1975; Bramley, 1990; Cappelen and Tungodden, 2007); or as an insurance against regional shocks (Bucovetsky, 1998; Von Hagen, 2006; Konrad and Seitz, 2003).[49] Allers (2012) argues that a case can be made for equalization in order to improve the decision-making process of subnational governments. If fiscal disparities are equalized to the extent that every jurisdiction is able to provide the same service level at the same tax sacrifice, subnational government output levels, combined with tax rates, provide an unbiased indicator of subnational government performance. Note that fiscal equalization does not mean that all subnational governments will have identical service levels. Equalization applies to the *capacity* of subnational jurisdictions to provide an attractive combination of services and taxes. It is up to local administrators to use the available means efficiently and effectively. Voters can compare performance in different jurisdictions in order to assess their elected administrators (yardstick competition). In the presence of fiscal disparities, yardstick competition is hampered by the fact that rent-taking politicians in jurisdictions with a large revenue capacity relative to spending needs are less likely to be found out, whereas administrators who do not take rent may still compare unfavorably if their jurisdiction suffers from adverse circumstances.

The impact of fiscal disparities on accountability has not yet attracted much analysis. Kotsogiannis and Schwager (2008) argue that yardstick competition is more effective if differences in revenue capacities are equalized. However, this is not because equalization helps voters to improve their estimate of incumbents' rent-taking. On the contrary, in their model, voters are not interested in rent-taking: because there are only two periods, every administrator they choose after the first period will take maximum rent in the second.

This paper studies possible remedies for the yardstick bias, in particular equalization of revenue capacity and spending need. The paper is

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[49] For a review of the arguments for equalization, see Boadway (2004; 2006).

organized as follows: In section 2, we discuss the theoretical background and related literature. We proceed by deriving an equalizing grant that would entirely eliminate the yardstick bias (section 3). We demonstrate that equalization systems existing in practice do not remove the bias in the yardstick, except under restrictive assumptions (section 4). Section 5 argues that the problems attached to a transparency-improving equalization system make it difficult and costly to implement in real-world circumstances. As an alternative, we suggest that information on fiscal disparities could be made available to the public, in order to allow voters to form a true picture of their administrators' performance. Section 6 summarizes and concludes.

3.2. Background

The traditional arguments in favor of equalization implicitly assume a benevolent government which aims to maximize the electorate's welfare. The political economy literature challenges this assumption and stresses that politicians and bureaucrats maximize their own welfare instead. Here, decentralization is often seen as a strategy to reduce the monopolistic character of government and therefore to improve accountability (e.g., Brennan and Buchanan, 1985). Accountability can be defined as the extent to which voters can hold incumbents responsible for their performance. Decentralization may introduce two forms of competition between subnational governments. The first one works through mobility: competition to obtain mobile tax bases (fiscal competition) or to avoid high-cost citizens (welfare competition). The second form involves politics: competition for comparative performance (yardstick competition).

Voters have two options when they are dissatisfied: voice or exit (Hirschman, 1970; Tiebout, 1956). The most powerful way to voice disapproval is through the vote. People can either move away, or send the incumbents packing. Competition based on the exit option may limit incumbents' freedom to collect rents (e.g., Edwards and Keen, 1996). The exit option is characterized by high transaction costs, as people have to find a new home, move house, and perhaps find a new job. Therefore, this option only becomes attractive if differences between jurisdictions' performance are substantial. With only the exit option, politicians

would have considerable leeway.[50] Vote, on the other hand, is relatively cheap. However, to be effective, this instrument requires that voters are able to identify 'good' politicians, that is, politicians who give them value for their tax money. If voters are able to distinguish good politicians from bad ones, they can re-elect good ones and dismiss the bad ones. Besley and Smart (2007) call this the selection effect. Moreover, politicians will have an incentive to perform well in order to be re-elected (incentive effect).

Because of asymmetric information, voters are usually unable, at a reasonable cost, to determine how much service an efficient government is able to supply at a given tax rate (Bradford et al., 1969). Only the bureaucrats themselves know the governments' production function. Because promises cannot be trusted in this setting, past performance is the best indicator of future performance (Downs, 1957). Retrospective voting can remove politicians who do not perform well from power. The problem, however, is to assess performance. As Salmon (1987) points out, in a world with only one government, the only way to do this is to compare government output and tax rates over time. In a stationary world, this could be sufficient. Of course, the world is in fact far from stationary. As a result of the frequent occurrence of exogenous shocks, output is an imperfect indicator of performance. The retrospective vote is a blunt instrument.

This changes fundamentally if government is decentralized. If there are comparable jurisdictions, subject to the same exogenous shocks, voters can use tax rates and service levels in other jurisdictions to create a yardstick for assessing the performance of their administrators. Thus, decentralization may work as an incentive scheme. If incumbents seek to compare favorably to administrators in other jurisdictions, they engage in policy competition. This political yardstick competition may discipline politicians. Although this has been recognized by earlier writers (e.g., Parks and Ostrom, 1981), Salmon (1987) is the first to systematically describe this mechanism. Several theoretical papers study the effectiveness of yardstick competition to improve accountability (e.g. Wrede, 2001; Bordignon et al., 2004; Belleflamme and Hindriks, 2005;

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[50] Epple and Zelenitz (1981) show that even with costless migration, exit without vote is insufficient to prevent jurisdictions from exercising monopoly power if jurisdictional boundaries are fixed. Because land is immobile, bureaucrats can share in the rents accruing to land.

Besley and Smart, 2007). A steadily increasing number of empirical studies confirm the occurrence of yardstick competition (e.g., Besley and Case, 1995; Bordignon et al., 2003; Allers and Elhorst, 2005; Revelli, 2006).

This paper is concerned with an aspect of yardstick competition that has received little attention. Yardstick competition needs the existence of comparable jurisdictions. However, jurisdictions, even if they operate in the same institutional setting, have the same service responsibilities, and are susceptible to common exogenous shocks, differ with respect to fiscal capacity and spending need. In order for political yardstick competition to work optimally, differences in subnational government output and tax rates should reflect only differences in policies, not fiscal disparities. It would be sub-optimal to punish or to credit incumbents for factors outside their control (Allers, 2012).

We investigate what kind of equalization system would remove the transparency loss resulting from fiscal disparities. As it turns out, such a system does exist, but it is not normally used for equalization purposes. Therefore, we analyze the effects of two different equalization schemes which are actually used in various countries.

3.3. Equalization and transparency

3.3.1. Yardstick bias
To model the way fiscal disparities bias yardstick competition, we build on Allers (2012). There is a central government and there are two subnational jurisdictions[51]. Subnational jurisdictions provide public services and finance this through tax revenues and, in the case of fiscal equalization, equalization transfers. Public service levels are chosen at the subnational level.[52] The central government decides whether equalization is applied, and how.

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[51] This is for ease of exposition only. Extending the analysis to a greater number of jurisdictions is straightforward.
[52] In practice, the central government usually delegates some (or many) tasks to subnational governments. Here, we disregard that.

Each jurisdiction must balance its budget. The jurisdiction's budget constraint is

$$E_i = \theta_i \beta_i B + G_i \qquad (1)$$

where E_i is jurisdiction i's per capita expenditures; G_i its per capita equalization grant; B the average per capita tax base; β_i the relative per capita tax base, defined as $\dfrac{B_i}{B}$, where B_i is the per capita tax base of jurisdiction i; and θ_i the tax rate, defined as the share of the tax base that the jurisdiction collects ($0 < \theta_i < 1$). Thus, $\beta_i B$ is jurisdiction i's per capita tax base, and $\theta_i \beta_i B$ is its tax revenue. The administrator in i knows β_i and B; voters do not. We assume that relative tax bases are not affected by rent levels.[53]

Box 3.1. Assumptions

In order to keep the analysis simple, a number of assumptions have been made. Here is a list of the most important ones.
1) Subnational government spending is financed from own tax revenues and equalization grants (no borrowing).
2) Subnational taxes are borne by the jurisdictions' own residents (no tax exporting).
3) Benefits of subnational public services are enjoyed by residents only (no spillovers).
4) Subnational governments choose local service levels (no mandated tasks).
5) Politicians strive for re-election (no term limits).
6) Subnational jurisdictions face identical exogenous shocks.
7) Administrators in jurisdiction i observe B, β_i, y_i and ρ_i, voters do not. Everyone observes S_i, S_j, θ_i and θ_j.

Each jurisdiction is governed by an elected politician. After being elected, he or she chooses a tax rate (and thus an expenditure level, see

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[53] This is probably a simplification. There is some evidence (Hilber et al., 2011, Allers and Vermeulen, 2013) that service levels and tax rates are capitalized into property values.

equation 1), in a way that is exogenous to our model, and then a fraction ρ_i of public expenditures that is extracted as rent ($0 \leq \rho_i < 1$).

Administrators are assumed to strive for re-election. Thus, we abstract from term limits. This can be motivated by the fact that politicians are often organized in parties that may compete in one election after the other. Moreover, politicians often try for a different office when a term limit prevents them from being re-elected. E.g., mayors may want to run for governor later in their career. Like re-election, this requires a good reputation with voters and support from their party.

As a result of common exogenous shocks ω to the economy, the service level corresponding to a certain amount of spending varies. As a result, past performance is a weak indicator of future performance, which limits the usefulness of retrospective voting. Following the literature (e.g., Besley and Case, 1995), we assume that both jurisdictions experience identical shocks. Apart from ω, the per capita service level S_i depends on per capita spending on the public service $(1-\rho_i)E_i$, and on spending need, which may be expressed as the jurisdiction's need index γ_i:

$$S_i = \omega \frac{(1-\rho_i)E_i}{\gamma_i} \qquad (2)$$

γ_i reflects both demographic and other factors outside the control of the subnational government which determine the amount of spending on the public service needed to supply a certain service level in jurisdiction i. Like β_i, γ_i is expressed in relative terms; $\gamma_i > 0$, with average value one. The incumbent knows γ_i; voters do not. The existing yardstick competition literature generally assumes γ_i to be the same for all jurisdictions (e.g., Besley and Case, 1995). That is clearly unrealistic.

Table 3.1. Explanation of symbols

β_i	Jurisdiction i's relative per capita tax base
γ_i	Jurisdiction i's need index
λ_i	Relative fiscal advantage of jurisdiction i
π_i	Relative performance yardstick used by voters to judge the incumbent of i
ρ_i	Rent as fraction of jurisdiction i's spending
θ	Nationwide standard tax rate

θ_i	Jurisdiction i's tax rate
ω	Common exogenous shock
B	Average per capita tax base
B_i	Jurisdiction i's per capita tax base
E_i	Jurisdiction i's per capita expenditures
G_i	Jurisdiction i's per capita equalization grant
S	Nationwide standard service level
S_i	Jurisdiction i's per capita service level
t	Equalization rate

Voters do not observe ρ_i. Instead, they observe service levels and tax rates. Voters value high service levels and low tax rates. They maximize value for money: the ratio of services provided to tax sacrifice $\dfrac{S_i}{\theta_i}$. Regularly, voters choose a politician to govern their jurisdiction. They either re-elect the incumbent or elect a challenger. Voters use a relative performance yardstick π_i to judge the incumbent. If $\pi_i > 1$, jurisdiction i's incumbent's performance is considered superior to that of his or her counterpart in the other jurisdiction. If $\pi_i < 1$, i's incumbent is considered inferior. Voters base their judgment on an incumbents performance in the entire period since the previous elections.[54]

Given voters' preferences, the benchmark for jurisdiction i's incumbent's relative performance π_i is $\dfrac{S_i}{\theta_i}$, value for money, relative to the corresponding ratio in the other jurisdiction:

$$\pi_i = \frac{\dfrac{S_i}{\theta_i}}{\dfrac{S_j}{\theta_j}} \qquad (3)$$

[54] If voters only consider the situation as it is during election time, a political business cycle may result.

where $i \neq j$. Substituting (2) in (3), the performance benchmark becomes

$$\pi_i = \frac{(1-\rho_i)\dfrac{E_i}{\gamma_i\theta_i}}{(1-\rho_j)\dfrac{E_j}{\gamma_j\theta_j}}. \qquad (4)$$

Note that ω is cancelled out of the equation. That is because we have made the assumption that jurisdictions i and j experience identical shocks.

It is convenient to define $\lambda_i = \dfrac{\dfrac{\beta_i}{\gamma_i}}{\dfrac{\beta_j}{\gamma_j}}$. This is the relative fiscal advantage of jurisdiction i, compared with that of jurisdiction j. Substituting (1) in (4), setting G_i to zero as there is as yet no equalization, yields

$$\pi_i = \frac{(1-\rho_i)}{(1-\rho_j)}\lambda_i. \qquad (5)$$

Equation 5 demonstrates that the relative fiscal advantage of a jurisdiction, λ_i, affects the voters' judgment of his or her performance.

Now consider the case without fiscal disparities: $\lambda_i = 1$. The performance yardstick (5) reduces to

$$\pi_i^* = \frac{(1-\rho_i)}{(1-\rho_j)}. \qquad (6)$$

where π_i^* is the yardstick without fiscal disparities. Voters approve of incumbent i if $\pi_i^* > 1$. It follows from (6) that this requires $\rho_i < \rho_j$. Thus, the yardstick π_i^* gives a true picture of the incumbent's relative per-

formance. Politicians can improve their chances to be re-elected by taking less rent.

3.3.2. Equalization to remove the yardstick bias

In order to remove the bias in the comparative performance yardstick, we need an equalization grant that ensures that the yardstick used by voters (Equation 4) equals the optimal yardstick (Equation 6). This requires

$$\frac{E_i}{\gamma_i \theta_i} = \frac{E_j}{\gamma_j \theta_j}. \tag{7}$$

The equalization grant is by definition equal to expenditures minus tax revenue (see Equation 1). Combining this with the expenditure level derived from (7) yields $G_i = \dfrac{\gamma_i \theta_i}{\gamma_j \theta_j} E_j - \theta_i \beta_i B$. However, in such an equalization system, a grant would depend on the tax and spending levels chosen in the other jurisdiction. This may be avoided by setting both elements of Equation 7 equal to a common value:

$$\frac{E_i}{\gamma_i \theta_i} = \frac{E_j}{\gamma_j \theta_j} = C. \tag{8}$$

Here, C can have any positive value, provided it is the same for all jurisdictions. Condition (8) ensures the yardstick bias is zero. Combining (8) and the budget constraint (1), the optimal equalization grant becomes

$$G_i^* = \theta_i (\gamma_i C - \beta_i B) \tag{9}$$

It is easy to demonstrate how grants according to (9) affect the relative performance yardstick. The budget constraint (1) can now be written as

$$E_i = \theta_i \beta_i B + \theta_i (\gamma_i C - \beta_i B). \tag{10}$$

Substituting (10) in (4) yields

$$\pi_i = \frac{(1-\rho_i)C}{(1-\rho_j)C} = \pi_i^* . \qquad (11)$$

Thus, equalization according to (9) completely removes the yardstick bias caused by fiscal disparities.

A special case of the grant in (9), which has been used in practice (Ladd and Yinger, 1994), is derived by setting $C = B$:

$$G_i^{PEG} = t\theta_i B(\gamma_i - \beta_i) = t\frac{E_i}{\gamma_i}(\gamma_i - \beta_i) . \qquad (12)$$

where t $(0 \leq t \leq 1)$ is the program's equalization rate: the extent to which fiscal disparities are equalized. Complete equalization is characterized by $t=1$, but, in practice, t might be lower.

The grant in (12) is called a power equalization grant. Essentially, these are matching grants, where the match rate depends on the jurisdiction's relative needs and on its relative tax capacity. If the need index matches the tax base index ($\gamma_i = \beta_i$), the grant is zero. For jurisdictions with high needs relative to tax capacity ($\gamma_i > \beta_i$), the grant is positive, and higher expenditures translate into higher grants in order to offset the negative effect of high needs relative to tax base. For jurisdictions where $\gamma_i < \beta_i$, the grant is negative, and more spending leads to larger negative grants.[55] Thus, recipients can influence their power equalization grant by changing spending behavior. In practice, power equalization grants are not used to equalize fiscal disparities, although they are used sometimes to finance specific services.[56]

3.4. Existing equalization systems

We now analyze the effect on the relative performance yardstick of two equalization approaches which underpin many existing equalization

[55] This is the case where grants are transfers between subnational governments: $G_i = -G_j$ (horizontal equalization). Grants may instead be financed through tax revenues collected by the central government. In that case, for jurisdictions where $\gamma_i < \beta_i$, the grant is lower than for jurisdictions where $\gamma_i > \beta_i$.
[56] Ladd and Yinger (1994) report the use by several American states to help finance local education.

systems.[57] We will see that these generally do not remove the yardstick bias caused by fiscal disparities.

3.4.1. Need-capacity equalization

A relatively ambitious equalization system aims at closing or narrowing the gap between spending need and revenue capacity, both defined in absolute per capita terms (Bradbury et al., 1984). This objective is at the root of the equalization schemes in e.g. the UK, the Netherlands, and Australia. These countries have made considerable efforts to estimate both revenue capacities and spending needs of subnational governments. Possibly the most ambitious program exists in the Netherlands (Huigsloot, 2007), where equalization grants to municipalities are allocated using no less than sixty different local characteristics. Moreover, the equalization system is assessed annually, and changes are made regularly.[58]

Although fiscal disparities are estimated and used to base the equalization grant on, they are not common knowledge. The allocation system of the equalization grant is complicated, and grants received by local governments include non-equalizing parts. It would take a considerable effort to derive the relative fiscal position of a particular jurisdiction. Therefore, we maintain our assumption that voters do not know β_i or γ_i, even in the case of equalization.[59]

Here, spending need is the spending necessary for a jurisdiction to provide standard-quality services S, and equals $S\gamma_i$, where γ_i is the jurisdiction's need index, as before. S can be defined as the average per capita service level. Revenue capacity is now defined as the tax revenue given

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[57] Other equalization schemes are conceivable. See Musgrave (1961) for a useful taxonomy.

[58] In Belgium, Switzerland and elsewhere, much simpler versions are used, based on a few demographic or geographic characteristics that are not derived from an extensive study of spending needs.

[59] Even if voters would know β_i or γ_i, this would not be enough to remove the yardstick bias, for they would now have to take the equalization grant into account as well. The difference between the actual equalization grant and the ideal grant seen from a transparency point of view is what determines the yardstick bias at this point. We can safely assume that voters would generally not know this. Empirical evidence supports this. Recall from section 3 that Allers and Elhorst (2005) found that voters in the Netherlands seem to use raw tax and expenditure levels to compare local government performance, without taking fiscal disparities into account.

a standard or average tax rate, θ, and equals $\theta\beta_i B$. A jurisdiction's need-capacity grant G_i^{NCG} is then given as (a fraction of) the difference between spending need and revenue capacity:[60]

$$G_i^{NCG} = t(S\gamma_i - \theta\beta_i B) . \qquad (13)$$

Jurisdictions with favorable fiscal conditions (revenue capacity exceeding spending need) would "receive" a negative grant, less favored jurisdictions a positive grant.[61]

Note that a jurisdiction's need-capacity grant depends neither on its expenditure level nor on its tax rate, but only on γ_i, β_i and on national standards.[62] With full equalization ($t=1$), jurisdictions wishing to supply a standard service level can do so by levying the standard tax rate.[63] However, they are free to choose a different service level and higher or lower taxes to match. Thus, subnational government autonomy is preserved. Stated differently, service *capacities*, not service *levels*, are equalized. Note, however, that if jurisdictions choose to differ from the standard tax rate, fiscal disparities will not be completely equalized, because the service level increase that can be financed by raising the tax rate depends on β_i/γ_i. Need-capacity equalization ensures every jurisdiction can have standard service levels at the standard tax rate. This is an important difference with power equalization, which ensures equal service levels at equal tax rates (see Cappelen and Tungodden (2007) for a comparison of both grants).

From (1) and (13) we obtain the budget restriction with NCG-grants

$$E_i = tS\gamma_i + \beta_i B(\theta_i - t\theta) \qquad (14)$$

To derive π_i, we substitute (14) in (4). After rearranging, this yields

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[60] In the literature, such grants are also known as foundation grants.

[61] Negative grants would only occur in the case where grants are transfers between subnational governments (horizontal equalization). Negative grants may be avoided by financing grants through tax revenues collected by the central government.

[62] If national standards are based on averages, an individual jurisdiction does exert some influence on them, depending on its share. With few jurisdictions, this share is large.

[63] This is similar to Boadway's (2004) unitary state benchmark.

$$\pi_i = \frac{(1-\rho_i)\left[\dfrac{tS}{\theta_i B} + \dfrac{\beta_i}{\gamma_i}\dfrac{\theta_i - t\theta}{\theta_i}\right]}{(1-\rho_j)\left[\dfrac{tS}{\theta_j B} + \dfrac{\beta_j}{\gamma_j}\dfrac{\theta_j - t\theta}{\theta_j}\right]}. \qquad (15)$$

Now, the yardstick bias, the quotient of the bracketed terms in (15), may or may not decrease with increasing t, depending on S, B, θ_i and θ_j. Consider the case where $t=1$. If tax rates are similar, both $\dfrac{\theta_i - \theta}{\theta_i}$ and $\dfrac{\theta_j - \theta}{\theta_j}$ will be small, neutralizing the bias caused by $\dfrac{\beta_i}{\gamma_i}$ and $\dfrac{\beta_j}{\gamma_j}$. In addition, $\dfrac{S}{\theta_i B}$ in the numerator will tend to cancel out $\dfrac{S}{\theta_j B}$ in the denominator. Indeed, if $\theta_i = \theta_j = \theta$ and $t=1$, then π_i in Equation (15) is reduced to the optimal yardstick π^*_i in (6).

Thus, need-capacity equalization might improve transparency, but whether it actually does so is far from certain. That depends on (relative) tax rates and thus on incumbents' choices.[64]

3.4.2. Revenue capacity equalization

A less ambitious equalization scheme is only aimed at equal revenue capacities, ignoring differences in spending need. This is used in e.g. Canada. Reasons for not equalizing spending need may be difficulties in estimating spending need correctly, or the wish to avoid perverse incentives of equalization. A common approach to measuring revenue capacity is the representative tax system (RTS) developed by the Advisory Commission on Intergovernmental Relations (ACIR, 1962). Under this approach, full equalization implies that jurisdictions levying the average tax rate have average per capita spending power E:

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[64] In our model, tax rates are exogenously determined. For future research, it could be interesting to make tax rates endogenous. Eq. (15) shows that the choice of tax rate would then interact with the choice of rent level.

$$E = \theta B.$$
$$(16)$$

Jurisdictions spending E face the budged restraint

$$E = G_i^{RTS} + \theta \beta_i B.$$
$$(17)$$

Combining (16) and (17), and introducing t as before, yields the equalization grant under RTS:

$$G_i^{RTS} = t\theta B(1 - \beta_i).$$
$$(18)$$

This is similar to the equalization program analyzed by Kotsogiannis and Schwager (2008). There are two differences compared with the power equalization grant in (12). In the first place, G_i^{RTS} depends on θ, not θ_i. Like the NCG grant, the RTS grant cannot be influenced by individual jurisdictions, except in an indirect way by influencing national averages (θ and B). The second difference is that spending need differences are ignored in (18): the need index γ_i does not enter into the equation.

Combining (1) and (18) yields the budget restriction with RTS grants

$$E_i = t\theta B + \beta_i B(\theta_i - t\theta).$$
$$(19)$$

Substituting (19) in (4) yields the comparative performance yardstick:

$$\pi_i = \frac{(1-\rho_i)\left[\dfrac{t\theta}{\theta_i\gamma_i} + \dfrac{\beta_i}{\gamma_i}\dfrac{(\theta_i - t\theta)}{\theta_i}\right]}{(1-\rho_j)\left[\dfrac{t\theta}{\theta_j\gamma_j} + \dfrac{\beta_j}{\gamma_j}\dfrac{(\theta_j - t\theta)}{\theta_j}\right]}.$$
$$(20)$$

Comparing (20) with the performance yardstick under need-capacity equalization (Eq. 15), we see that only the first terms between square brackets differ. Consider the case with $t=1$ (full equalization). Like (15), (20) deviates from the optimal yardstick in (6). The bias in yardstick (20) will be zero only if the terms between square brackets cancel out.

This is the case if $\theta_i = \theta_j = \theta$ and $\gamma_i = \gamma_j$. As we have seen, under need-capacity equalization, for the yardstick bias to be zero it suffices to have $\theta_i = \theta_j = \theta$.

The condition $\theta_i = \theta_j = \theta$ and $\gamma_i = \gamma_j$ is unlikely to be met in practice. Like need-capacity equalization, equalization of revenue capacity using the RTS approach results in a biased yardstick. Whether this bias is smaller than the bias without equalization (Equation 5) depends on (relative) tax rates.

3.5. Discussion

We have shown that the yardstick bias created by fiscal disparities may, in theory, be removed entirely through equalization. However, equalization may not be the ideal instrument.

In the first place, in the equalization system needed to remove the yardstick bias completely, grants depend, apart from tax capacity and spending need, on recipients' spending. This is often not considered desirable. Equalization systems where grants are independent from local spending are available, e.g., the need-capacity system and the RTS system analyzed above. However, these do not remove the yardstick bias, except in special cases.

Secondly, equalization may create inefficiencies. Equalization of spending need may lead to an inefficiently large population in high-cost areas (e.g., Oakland, 1994). Grants must be financed through national taxation, which is usually distortive, or they may be transfers between subnational governments, in which case they distort tax prices of local public services (Dafflon, 2007). Equalizing tax capacity, on the other hand, may eliminate or greatly reduce jurisdictions' incentives to attract or preserve their tax base (e.g., Büttner, 2006).

Finally, even if an appropriate equalization system without harmful side effects could be found, politicians would not necessarily implement it. Several studies document political influence on existing intergovernmental transfers (Khemani, 2007; Allers and Ishemoi, 2011).

In order to circumvent the disadvantages of equalization, yardstick bias may perhaps be reduced by improving information availability instead. Our analysis shows that, to this end, voters need to know λ_i. If voters

augment their relative performance indicator (5) by dividing it by λ_i, they obtain the unbiased yardstick (6). The value of γ_i and β_i must be estimated for each jurisdiction in order to establish an equalization system aimed at reducing disparities in spending need and revenue capacity. However, instead of using them to create an equalization system, they may be used to calculate λ_i for each jurisdiction. In order to avoid political influences, this should be done by independent authorities, or civic organizations which use independent research institutes or universities to do the actual number-crunching.

Whether voters would actually understand, trust and be able to use this kind of information effectively is an open question. In practice, voters may well continue to base their vote on their own perception of service levels and tax rates. The available empirical evidence seems to be limited to Revelli (2006), who finds that the introduction, in the UK, of a national performance indicator of locally provided social services considerably reduced the degree to which local jurisdictions mimic the social care policies of their neighbors. This suggests that local administrators assume voters will no longer look at neighbors to assess local government performance, but instead use the newly introduced performance indicator.

Both solutions – equalization and making fiscal disparities or relative performance known – suffer from the practical problem that fiscal disparities are hard to measure accurately. Especially spending need is hard to quantify satisfactorily (e.g., Duncan and Smith, 1996).

3.6. Conclusions

Citizens pay taxes in order to enjoy public services. But because they do not know the public production function, it is hard for them to assess whether they are getting value for money. Increasingly, political yardstick competition is seen as an instrument helping voters get a grip on elected administrators at relatively low cost. By comparing their incumbent's performance with the performance of administrators in similar jurisdictions, voters can derive information helping them to re-elect good politicians and send non-performers packing. This in turn gives administrators an incentive to perform better. The key to yardstick competition is transparency. If administrators' performance cannot be derived from subnational government output and tax rates in a straightforward manner, yardstick competition is likely to be biased.

This is the case when fiscal disparities exist. Then, politicians in jurisdictions with a large revenue capacity relative to spending needs can take more rent than their counterparts in less favored fiscal circumstances and still maintain a good reputation. Administrators of jurisdictions suffering from adverse fiscal circumstances may acquire a bad reputation even if they do not take any rent at all.

We show how fiscal disparities bias the relative performance yardstick available to voters and how this bias may be reduced or removed through fiscal equalization. We also show, however, that equalization schemes existing in practice are less successful in improving transparency.

Although it is possible in theory to remove the yardstick bias entirely through equalization, the problems attached to this remedy make it uncertain that this will ever be accomplished satisfactorily. Moreover, even if this would be feasible, the costs arising from perverse incentives may well exceed the benefits. Such costs have not stopped countries from introducing equalization systems aimed at equity or efficiency, however. When an equalization system is set up or when an existing one is evaluated, the effects on transparency should at least be taken into consideration.

If fiscal disparities can be identified, it may not be necessary to use them to set up an equalization system. They may instead be used to provide voters with a ready-made relative performance measure. In this case, the remaining challenge would be how to disseminate this information in a way that would lead to actual and effective use by voters.

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Chapter 4

Tax financing and tax equalization: Incentives and distribution in the welfare state
Lars-Erik Borge and Jørn Rattsø

Abstract

Local tax financing is of importance to local democracy and incentives for economic development and service provision. Since tax base variation leads to variation in service provision, tax equalization may be necessary to limit adverse distributional effects. The purpose of this paper is to discuss the challenges of combining substantial tax financing, incentives, and distribution. We begin with the broad issues related to vertical fiscal imbalance and analyze the incentive effects of tax equalization with respect to local economic development and tax distortion in more detail. The concluding section compares the 'Nordic model' to more decentralized and centralized alternatives. The future of the model will be determined by its ability to control incentive problems in equalization and to avoid strategic interaction in a situation with large dependence upon central government grants.

4.1. Introduction

Local governments in the Nordic countries are responsible for comprehensive welfare services and form an integrated part of the national public sector. This design is very different from the textbook model of local public finance which assumes local public goods, mobility, and benefit taxation. The Nordics differ in all three characteristics. First,

the local public sector is responsible for welfare services with strong re-distributive characteristics, most of which may be termed publicly provided private goods, and local public goods only account for a small share of local spending. Second, population mobility is low and local jurisdictions are heterogeneous with respect to preferences for welfare services and local public goods. Third, financing is centralized and dominated by income tax revenue sharing and central government grants. The local governments are formed by national governments to organize efficient division of labor in a large public sector.

Nordic economists have struggled for decades to understand local governments operating under this design. Lotz (1998) expresses the frustration among economists of the region that the guidelines presented by local public finance theory are of so limited relevance. Philip (1954) presented an early account of the issues involved. When publicly provided private goods rather than local public goods are the main responsibility, we are in a much more open territory concerning principles for organization and financing. The international literature has acknowledged the lack of clear criteria for the handling of 'merit goods' (Musgrave, 1959) or 'redistributive services'. It is related to the lack of clear economic arguments in favor of government responsibility for publicly provided private goods in the first place. The design of local public sectors ends up more as a question of administrative convenience than of economic principle. The design is better described as delegation rather than decentralization.

The Nordic departure from the standard recipe for local government also has consequences for the central government level. The Nordics decentralize a large part of the distribution policy, but the decentralization of provision and production is associated with mandating and sophisticated control systems. The active local-central government interaction implies a challenge for central government control, with a permanent and strong spending pressure on central government funds. Interestingly, the central government is vulnerable in this centralized environment. Decentralized governments can exploit the national political concern for the access to and quality of the welfare services they provide. Rattsø (2003) discusses the consequences of vertical fiscal imbalance. The Nordic countries have chosen different ways of handling this situation. Denmark and Sweden have sought to achieve more local responsibility by applying local tax discretion. In all countries mandating

and detailed service regulations combined with balanced budget requirements impose fiscal discipline on the system.

All countries deal with tax base differences by extensive tax equalization schemes. Expenditure equalization arrangements add to the effect. Norway is a case in point: the privately rich urban communities in the south end up with the lowest municipal revenue per capita, while the most prosperous municipalities are small rural communities, particularly when they have waterfalls and/or are located in the north. This is mainly the result of expenditure equalization compensating the small municipalities, additional grants to the north motivated by regional policy, and resource rents being kept outside tax equalization.

In this article we will concentrate on the handling of tax financing and tax equalization in the Nordic system as understood on the basis of local public finance theory. The main challenge addressed is local financing and accountability on the one hand and the consequences of equalization for incentives and performance on the other. In all countries, reforms are underway addressing the incentive problems associated with tax equalization. Municipalities in Finland are rewarded for inward commuting (job creation), Sweden has reduced equalization for high- and middle-income municipalities, and both Denmark and Norway are considering growth incentives in the equalization system.

We draw on earlier work including Borge (2010, 2013), Rattsø (2005) and Borge and Rattsø (1998), but with a more narrow focus on tax financing in this article. In section 2 we outline the basics of tax financing, and section 3 adds a discussion of vertical fiscal imbalance and issues of accountability related to tax financing and grant dependence. The two main incentive effects of tax equalization are analyzed in sections 4 and 5 – incentives to stimulate local economic growth and tax distortions respectively. Section 6 summarizes our arguments in a discussion of alternative models.

4.2. Tax financing

In an international context, the Nordic countries are characterized by the important role they attribute to local income tax. Income taxes dominate as the main source of local tax revenue, varying from 85% of local taxes in Iceland to 100% in Sweden. The tax base of local income tax is a broad measure of income including salaries, capital income and pen-

sions, and all on an individual basis. The income tax is designed by the central government (definition of tax base, tax rules like deductions, etc.) and shared between local and central governments. Income tax is consequently a revenue-sharing arrangement. The local share is determined by a flat tax rate, but the revenue generated by this tax rate is affected by the central government design, such as expenditure deductions. In practice, the local income tax is progressive, the marginal tax is higher than the average tax rate for the tax payer. All local governments in all Nordic countries have some discretion in determining the tax rate for the local income tax.

The international literature on tax assignment, competently summarized by Bird (1999) and McLure (2001), does not pay much attention to income tax financing. The starting point is typically the mobility of the tax base. Oates (1996) clarifies the conditions for efficiency-enhancing competition among jurisdictions, notably the use of benefit taxation. Redistributive taxes may influence the mobility of households and firms, and such tax competition may distort the tax decision. A mobile tax base may encourage tax competition and lead to low taxes and underprovision of local public services. The Brennan-Buchanan (1977) view is less pessimistic about tax competition. The argument is that tax competition may counterbalance political failures that lead to a large and inefficient public sector.

The most obvious argument for an even distribution of the tax base is equity, since an uneven distribution of the tax base is a source of differences in service standards across local governments. The central government can compensate for differences by using a tax equalization system, but an ambitious tax equalization program weakens the link between the local tax base and local government revenue. An even distribution of the tax base may also be defended on efficiency grounds, since it reduces the incentives for fiscally induced migration. One of the consequences of this argument is that local governments should avoid having highly progressive taxes. Associated with this, the tax design should avoid giving local governments instruments for a local distribution policy.

The local public sector is typically considered a destabilizing factor in a macroeconomic context. When local tax revenues are pro-cyclical, balanced-budget rules imply that local public spending tends to increase in

booms and fall in recessions. A tax base that is stable over the business cycle can serve as an automatic stabilizer. The motivation of the Nordics to rely on personal income tax is mainly the need to generate a significant amount of revenue, well beyond countries with fragmented local governments providing limited public goods. The income tax is based on the residence principle, but does not offer the strong linkage between local government performance and tax base desired by theory. Compared to the conventional criteria, the income tax is more mobile and more cyclical. The variation in income tax revenue over the business cycle follows from the pro-cyclical character of labor and capital income. The mobility of the income tax base may induce tax competition, as income taxation may give an incentive to attract high-income individuals. The challenges related to distribution and mobility of income taxation are addressed by tax equalization schemes.

4.3. Vertical fiscal imbalance

In a welfare state setting with strong goals of equalization, the allocation gain of decentralization is less clear-cut. Local governments operate to a wide extent as agents for the central government and must follow national welfare policy guidelines. In this design, vertical fiscal imbalance is not necessarily seen as a problem. Expenditures are high when local governments are the main producers of the welfare services, and revenues are organized by the central government mandating and regulating the welfare services. In the literature, this system has been described as administrative federalism (Schwager, 1999) and partial fiscal decentralization (Brueckner, 2009; Borge et al., 2014). Optimal vertical fiscal imbalance is discussed by Boadway and Tremblay (2006).

The concerns about vertical fiscal imbalance are related to fiscal discipline and local accountability. Vertical fiscal imbalance is at odds with the benefit principle of taxation that serves as the basis of most thinking in fiscal federalism – those who benefit from a service should also pay the cost. When the linkage between beneficiaries of services and those who pay (also called the 'wicksellian connection') is broken, the beneficiaries will have little incentive to control volume and cost. In a system of fiscal federalism, this transmits into a spending pressure towards the central government – with demand for more services everywhere. It will be difficult to defend hard budget constraints and thus set up good incentives for local government allocation and production. Rodden et al. (2003) discuss this mechanism of fiscal indiscipline and the

experiences of vertical fiscal imbalance across the world. National studies indicate that the question of discipline is important even in systems with fairly hard budget constraints.

Vertical fiscal imbalance and the associated regulations reduce autonomy at local government level, with respect to both leeway in local decision-making and influence on local revenues. In the following we will concentrate on the revenue side. Limited local tax resources and limited control of taxation are compensated for by central government grants. The situation is often called grant dependence, and the concept refers to the dependence on central government funding. Local governments are oriented towards the central government instead of primarily being accountable to its own citizens. The understanding of grant dependence is not thoroughly elaborated on in the literature. The share of revenues made up by grants (as opposed to local revenue sources) is the typical measure of the imbalance. The concern is that the lower local autonomy and accountability reduce the incentive to apply cost control and efficient allocation and that they encourage strategic interaction with central government. Marquez-Vazquez and Sepulveda (2012) discuss the broad implications.

Attempts to strengthen local accountability with centralized financing have sought to establish autonomy at the margin. The argument is developed by McLure (2000). Local tax discretion at the margin is assumed to promote fiscal discipline and reduce the common pool problem. The argument is best understood in the context of the Brennan-Buchanan-approach. The role of tax discretion influences the relationship between local and central governments. Tax discretion can help local governments take more responsibility for the services they provide and reduce the spending pressure towards central government.

The emphasis on autonomy at the margin assumes that the tax share of local government revenue is of little importance. However, in a political context the tax share may be important. Jackman (1988, p.7) notes that proposals of less tax financing and less ambitious tax equalization "… has been attacked by political scientists on the ground that distinguishing the total from marginal expenditures is confusing in a political context, and thus may undermine the political preconditions for democratic accountability".

Carlsen (1994, 1998) offers theoretical models to capture strategic interactions and arguments for regulation in this setting. The strategic interaction can be understood as a bailout problem, as analyzed by von Hagen and Dahlberg (2004). Fiscal autonomy of a local government serves as protection against bailout for central government. Local governments that finance spending out of own taxes are expected to make stronger adjustments to shocks. Central government control will weaken fiscal autonomy at the local level and reduce the central government's protection against bailout.

Central governments all around the world struggle to control the level of local taxation. Two alternative strategies can be observed. One alternative is to have local tax discretion and let local governments be fully responsible for the local tax level. The other alternative is top-down control of the local tax level. The role of controls is dealt with in a comprehensive literature on tax limits. Preston and Ichinowski (1991), and Reuben (1997) offer representative analyses on US data, where regulations vary across states. They conclude that regulations do help to reduce the growth of tax revenues, total revenues, and total spending in local governments. Reuben and Poterba (1995) take a look behind the overall local public growth effects to study how regulation of the property tax has affected employment and wages in the local public sector. They find that regulations have been effective, in particular by keeping down the growth of local government employee wages. Regulation also is a way of avoiding tax competition. The tax regulations should be seen in relation to regulations regarding deficits and debt, as argued by Rattsø (2002).

Given these mixed arguments for local tax discretion and central government control it is not surprising that all Nordic countries have a mix of discretion and control. Local governments in all countries have the freedom to set income tax rates, but local discretion varies across countries and time. And tax equalization systems redistribute large revenues. A common feature, though, is that equalization is combined with substantial tax financing (through the income tax) to limit the vertical fiscal imbalance.

4.4. Incentive issue I: Tax equalization and local economic development

Income tax generates substantial local revenue and seems to be a necessary part of financing when the local public sector is as large as in the Nordic countries. The income tax base is not equally distributed among local governments; differences between top to bottom is about 2.5:1 in Sweden, Denmark and Norway, and even more in Finland and Iceland. Differences in local government revenue at this level will generate large and unacceptable differences in welfare services across each country. The concern for distribution motivates central government interventions and disturbs the local autonomy and accountability. The distribution problem fundamentally results from differences in the private income tax base across local governments. This is influenced by both the size structure of local governments and the geographic pattern of economic activity. The tax equalization systems affect the incentives of local taxation and reduce the local autonomy of taxation.

The main goal of tax equalization is political, to ensure horizontal equity, in particular equality in service provision across municipalities. The main tradeoff concerns the incentive to stimulate local economic development. If tax equalization is complete, so that local governments with the same (income) tax rate receive the same per capita revenue everywhere, local governments will receive no extra revenue from improving the tax base. Similar arguments can be made with respect to incentives for tax collection and tax assessment when this is decentralized.

Tax equalization also addresses the tax competition problem associated with income tax. The countries have solved this problem by combining income tax financing with an ambitious tax equalization program. The tax equalization weakens the relationship between the local tax base and local government revenue. Søderstrøm (1990, 1998) emphasizes how tax equalization 'solves' the tax competition problem. The advantage of the tax equalization is that it offsets most of the variation in the tax base. This must be balanced against the disadvantage that incentives to achieve economic development are distorted.

Technically, the balance between equalization and incentive is affected by the choice of tax rate compensated for. If local governments are compensated at their actual local tax rate, their tax increases are subsidized when their tax base is low. On the other hand, if a tax rate norm is

compensated for, local governments will not receive much equalization at the margin. Tax equalization also provides insurance against reductions in tax revenue. Losses of tax revenue due to economic shocks are compensated in the tax equalization. A high level of compensation means high insurance, but also a small incentive. The Nordic countries have chosen different solutions to the tradeoffs involved.

The role of tax equalization is to make per capita tax revenues more comparable for local governments using the same tax rate. The scheme may be designed in different ways. A rather general formula is the following:

$$TE^j = a \cdot t^* \cdot (TB^R - TB^j) \quad t^* = t^j, t^R \qquad (1)$$

where TE^j is the tax equalization grant to local government j, TB^j is its per capita tax base, TB^R is the reference tax base, t^* is a tax rate, and a the rate of compensation. The reference tax base is typically defined as the average tax base or a fraction thereof. The tax rate t^* could be either the local government's own tax rate (t^j) or a standardized tax rate (t^R) determined by the national government.[65] The Nordic countries use standardized tax rates for tax equalization. The rate of compensation determines the fraction of the difference in (calculated) tax revenues that are equalized.

A first alternative is to raise the bottom level by providing grants to local governments with a per capita tax base below the reference level and to set the tax equalization grant equal to zero for those with a tax base above that level. The tax equalization is asymmetric in the sense that equation (1) only applies to local governments with a per capita tax base below the reference level. Another alternative is a more symmetric tax equalization scheme where equation (1) applies to all local government. Local governments with a per capita tax base above the reference level will then be contributors, i.e. they receive negative grants. For a given rate of compensation, a symmetric equalization will be more ambitious than an asymmetric one.

Tax equalization raises several problems that may distort efficiency. As mentioned above, tax equalization weakens the incentives for local de-

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[65] The standardized tax rate could for example be the average tax rate in the country.

velopment policy by weakening the relationship between the local tax base and the local government revenue. It evident from equation (1) that the national government will "punish" a successful development policy.[66] The impact of a change in the tax base on local government revenue (the sum of taxes and tax equalization) can be calculated as follows:

$$\frac{\partial (TR^j + TE^j)}{\partial TB^j} = t^j (1-a), t^* = t^j \qquad \text{(2a)}$$

$$\frac{\partial (TR^j + TE^j)}{\partial TB^j} = t^j - at^R, t^* = t^R \qquad \text{(2b)}$$

It follows from equations (2a) and (2b) that the increase in local government revenue, following a successful local development policy, is lower the higher the compensation rate. When the equalization is based on the local government's own tax rate, local government revenue will always increase as long as there is less than full tax equalization ($a < 1$). However, when a standardized tax rate is applied, revenues may be reduced for local governments with a low tax rate. If $t^j - at^R < 0$, the increase in tax revenues will be smaller than the reduction in the tax equalization grant.

The possibility of a negative relationship between tax base and revenues is often considered a disadvantage of using a standardized tax rate in the tax equalization. However, the implicit assumption underlying this argument is that the only objective of local development policy is to increase local government revenue. If private income is also of importance to policy makers, it is less clear that the use of a standardized tax rate in tax equalization is particularly harmful for economic development. If we assume that the local tax is an individual income tax, the effect of a change in the tax base on net community income per capita, defined as local government revenue and net private income ($PI^j = (1-t^j)TB^j$), can be calculated as follows:

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[66] A successful development policy is a policy that increases the per capita tax base (TBj). A successful policy could alternatively be defined as a policy that increases the population size without affecting the per capita tax base. It should be emphasized that tax equalization does not provide weaker incentives for this type of policy.

$$\frac{\partial(TR^j + TE^j + PI^j)}{\partial TB^j} = 1 - at^j, t^* = t^j \qquad (3a)$$

$$\frac{\partial(TR^j + TE^j + PI^j)}{\partial TB^j} = 1 - at^R, t^* = t^R \qquad (3b)$$

It is evident from (3b) that with a standardized tax rate, the effect on net community income is independent of the local government's own tax rate. A low (own) tax rate may create a negative effect on local government revenue, but this is counteracted by larger positive effects on the private sector (only due to the low tax rate). As long as there is less than full tax equalization ($a < 1$), a successful development policy will increase net community income.

It is important to emphasize that it is the interplay between tax equalization and the degree of tax financing that determine the incentives for local economic development. It is evident from equations (2a), (2b), (3a), and (3b) that the incentive effect depends on both the tax rate and the rate of compensation in the tax equalization scheme. The incentive effect is stronger the higher the tax rate and the lower the rate of compensation. An immediate implication of this result is that systems with very different degrees of revenue decentralization may have similar incentive effects. A country with a low tax share[67] and a low rate of compensation may experience the same incentive effect as a country with a high tax share and a high rate of compensation. Sweden is an example of the latter. It is one of the OECD countries with the highest share of taxes in local government revenue, but because of a very ambitious tax equalization scheme, the incentive effect as captured by equation (3a) and (3b) is rather low.

In addition to equalizing tax revenues, tax equalization also provides insurance. A negative shock to the local tax base is (partly) compensated for by grants from the national government. The quantitative importance of the insurance mechanism can be illustrated by utilizing equation (1) to calculate the sum of tax revenues and equalization grants:[68]

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[67] For given responsibilities a low tax rate will be associated with a low tax share.

[68] For simplicity it is assumed that the tax rate t* in equation (1) is the local government's own tax rate.

$$TR^j + TE^j = t^j[(1-a)TB^j + aTB^R], t^* = t^j \qquad (4a)$$

$$TR^j + TE^j = t^R[(1-a)TB^j + aTB^R] + (t^j - t^R)TB^j, t^* = t^R \qquad (4b)$$

It is evident from equation (4a) that the effective tax base with tax equalization based on own tax rate is a weighted average of the local government's own tax base (TB^j) and the reference tax base (TB^R). With a standardized tax rate, the same is true only when the local government uses the standardized rate. In both cases the insurance against shocks to the local tax base is higher the higher the rate of compensation. If the rate of compensation is high, the tax equalization scheme in effect creates a national insurance pool. The revenues of an individual local government are primarily affected by the national tax base, while the development of its own tax base only plays a minor role.

When the national government provides insurance through the tax equalization scheme, the need for precautionary actions by local governments is reduced. In particular the incentives to build up rainy-day-funds to handle periods of low tax revenues are reduced.

4.5. Incentive issue II: Tax equalization and distorted tax decisions

Tax equalization can be interpreted as a subsidy on local tax increases which may lead to too high tax rates. The key concept in understanding these incentive effects of taxation is the marginal cost of public funds (MCPF), which measures the direct and indirect social costs of taxation. MCPF provides a measure of how the marginal cost of a public project is affected by the financing. In a first best situation (head tax) the MCPF is 1. Social costs of tax financing raises MCPF above 1.

We use this concept in a simple model to discuss the effects of tax equalization. The role of MCPF is analyzed by Dahlby (2002, 2008) and Smart (1998). We follow the discussion of Dahlberg and Rattsø (2010). The incentive effects of tax equalization depend on the response of the tax base to changes in local taxes. The model includes the local government tax base (TB), tax revenue (TR), and tax rate (t), and superscript j refers to a particular local government. With no tax equalization, local government revenue is determined by the tax rate and the tax base. The standard formula of marginal cost of public funds with no tax equalization is:

$$MCPF^j = \frac{TB^j}{\dfrac{\partial TR^j}{\partial t^j}} = \frac{TB^j}{TB^j + t^j \dfrac{\partial TB^j}{\partial t^j}} \qquad (5)$$

The social cost of increasing the revenue is determined by the response of the tax base to the change of the tax rate. As seen from equation (1), any fall in the tax base due to a higher tax rate increases MCPF to above 1. If the tax base response is strong enough, the local government tax revenue may even go down (ref: the Laffer curve).

The tax equalization influences the change in local government revenue following a change in the tax rate. With tax equalization the expressions for MCPF are modified to:

$$MCPF^j = \frac{TB^j}{\dfrac{\partial (TR^j + TE^j)}{\partial t^j}} = \frac{TB^j}{TB^j + t^j \dfrac{\partial TB^j}{\partial t^j} + a(TB^R - TB^j) - at^j \dfrac{\partial TB^j}{\partial t^j}}, \quad t^* = t^j \quad (6a)$$

$$MCPF^j = \frac{TB^j}{\dfrac{\partial (TR^j + TE^j)}{\partial t^j}} = \frac{TB^j}{TB^j + t^j \dfrac{\partial TB^j}{\partial t^j} - at^R \dfrac{\partial TB^j}{\partial t^j}}, \quad t^* = t^R \qquad (6b)$$

When equalization is based on own tax rate, the tax equalization affects MCPF in two ways (the final two terms in the denominator in equation (6a)). The first term captures the fact that the tax equalization grant (for a fixed tax base) depends on the local government's tax rate. If the tax base is low ($TB^j < TB^R$), a higher tax rate will increase the tax equalization grant. Such subsidization of a local tax increase works to reduce MCPF for the local government, and will lead to too high taxes. If the tax base is high ($TB^j > TB^R$), the effect is the opposite. In this case a higher tax rate is "punished" through increased contribution to the equalization system. The second term captures the fact that the tax equalization compensates for the reduction in the tax base associated with a tax increase. This effect reduces MCPF and leads to too high taxes.

Equalization based on a standardized tax rate removes the first of these distortions since the tax equalization grant (for a fixed tax base) is in-

dependent of the local government's own tax rate. However, the second distortion remains (see the last term in the denominator in equation (6b)), implying that compensation based on a standardized tax rate reduces MCPF and leads to too high tax rates.[69]

In the aggregate, both equalization schemes will lead to higher tax rates, and the effect is stronger with equalization based on own tax rate.[70] The higher the compensation rate, the more of the tax base reduction is compensated for, and the lower is the marginal cost of financing as seen from the local government. Our normative assessment that tax equalization leads to too high tax rates implicitly assumes a first best economy that is distorted by tax equalization only. In other situations, when imperfections in the economy already exist, the evaluation of tax equalization may be different. Smart (2009) shows the possibility of an improvement in the social resource allocation with tax equalization when there is tax competition. Tax competition represents a pressure downwards in local tax rates, and tax equalization may counterbalance this tendency towards a too low tax level.

The hypothesis that tax equalization leads to higher tax rates has been investigated in a number of studies, notably Buettner (2006) for Germany and Smart (2009) for Canada. The main finding from these and other studies is the existence of a positive relationship between tax equalization and local tax level.

Buettner (2006) studies tax equalization in German local governments where the grant can be described by an inverse relationship to the tax base of a local tax base. The tax base is defined by national rules, and tax collection is national. It follows that the local tax decision concentrates on the size of the rate. Buettner calculates a variable that measures how much the tax equalization grant is reduced when the tax base increases. He finds a positive and statistically significant relationship between this variable and the rate of the local business tax. The more local governments are compensated for loss of tax base, the higher the local tax rate is set. The size of the effect is of economic importance.

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[69] In principle the second distortion can be removed by basing the equalization on calculated tax bases, assuming that all local governments use the same standardized tax rate. We are not aware of any real world equalization schemes with such a design.
[70] Assuming that the tax equalization is not fully symmetric.

Smart (2009) analyzes the effects on several different taxes in the 10 Canadian provinces over a period of 30 years (1972-2002). The most important tax in terms of revenues is a personal income tax, but the study also includes a business tax, a sales tax and various alcohol taxes. To identify the incentive effect, Smart exploits reforms of the equalization system that change the degree of compensation and uses a difference in difference model. He shows that an increase in the compensation leads to an increase in the tax rate level and concludes that tax equalization implies subsidization of tax increases.

4.6. Alternative tax financing regimes

We summarize the paper by discussing three alternative designs of tax regimes. The three models displayed in Table 4.1. differ with respect to degree of tax financing and degree of tax equalization, and consequently they perform differently with respect to revenue dispersion, vertical fiscal imbalance, tax rate distortions, and incentives for economic development. The first model is a decentralized model characterized by a high degree of tax financing and little tax equalization. The advantage of the model is that it provides vertical fiscal balance, strong incentive for economic development, and small tax rate distortions, while its disadvantage is substantial variation in revenues.

Table 4.1. Alternative tax financing regimes

	Decentralized model	Nordic model	Centralized model
Tax financing	High	High	Low
Tax equalization	Low	High	Low
Revenue dispersion	High	Low	Low
Vertical fiscal imbalance	Low	Medium	High
Tax rate distortion	Low	High	High
Incentives for economic development	High	Low	Low

Local governments in the Nordic countries are responsible for redistributive services such as education, health, and social services. Moreover, it is widely agreed that the variation in the provision of these services should be reduced to the widest possible extent. The Nordic model thus

combines substantial tax financing with ambitious tax equalization schemes. The tax equalization contributes to relatively low revenue dispersion, but comes at a cost in terms of tax rate distortions, weak incentives for economic development and a higher degree of vertical fiscal imbalance than does the decentralized model. Both the tax rate distortion and the weak incentives for economic development are caused by tax equalization. The tax base distortion reflects the fact that the tax base loss of a higher tax rate is compensated for, and the weak incentives for economic development reflect that successful policies are punished by a reduction in the tax equalization grant.

The third alternative in Table 4.1. is a centralized model with a low tax share and less ambitious tax equalization. In the Nordic context, this model could be achieved by replacing most of the local income tax with a central government income tax, and using the increased central government tax revenue to finance intergovernmental grants. Although local governments become more grant dependent in this model (a high degree of vertical fiscal imbalance), it can be made (almost) identical to the Nordic model in terms of revenue dispersion, tax rate distortion, and incentives for economic development. For revenue dispersion and incentives for economic development this is quite obvious; the effects of less tax financing and less tax equalization cancel each other out (see section 4 for incentives for economic development). With respect to tax rate distortion, one first impression may be that the distortion is reduced because less ambitious tax equalization means that tax increases are subsidized to a less extent. However, the tax rate distortion remains more or less the same. The reason is the vertical fiscal externality (Hansson and Stuart, 1987; Johnson, 1988) that arises when local and central governments tax the same base. Because the local governments do not take into account the reduction in the central goverments tax base caused by a higher local tax rate, the vertical fiscal externality contributes to too high tax rates. The externality and the tax rate distortion are larger the higher the central government's tax rate. Consequently, a move from the Nordic to the centralized model means that reduced subsidization of local tax increases is replaced by a larger vertical fiscal externality.

The centralized model can be improved with respect to tax rate distortions through a reform of tax assignment. Instead of relying on income tax, local governments could be assigned a (small) tax where the verti-

cal fiscal externality is less severe. One candidate is the property tax, which may be an exclusive local tax in the sense that it is not shared with the central government. Although some vertical fiscal externalities will persist, it is not unreasonable to assume that a shift from a shared income tax to an exclusive property tax will reduce the vertical fiscal externalities.

The choice between the Nordic model and the highly decentralized model (or a move in the direction of the highly decentralized model) involves a familiar trade-off between efficiency and distribution. More tax financing and/or less tax equalization will reduce tax distortion and improve incentives for economic development, however at the cost of increased variation in revenues and service provision. Moreover, in the Nordic context a move to a highly decentralized model would be in conflict with preferences for equal service provision. It is not unlikely that these preferences would then come into effect in other parts of the system (e.g. earmarking and more detailed regulation of services), and possibly create a more distortive system of financing.

The choice between the Nordic model and the centralized model is less straightforward. From a narrow economic perspective that focuses on incentives on the margin, the Nordic model (with substantial tax financing and ambitious tax equalization) seems unnecessarily complicated. The same marginal incentives (regarding tax rate distortion and incentives for economic development) can be achieved by a combination of less tax financing and less ambitious tax equalization. Moreover, tax rate distortion may be reduced by proper tax assignment. On the other hand, the centralized model increases vertical fiscal imbalance and reduces local autonomy.

4.7. Concluding remarks

The general trade-off between efficiency and distribution occurs in complicated ways in the area of fiscal federalism. Locally funded local governments can arrange efficient allocation under the supervision of own taxpayer-voters. This is the textbook model, and distribution issues are excluded from theory. In practice, the income basis of local governments varies between regions, and modern states must have systems to redistribute revenue among them. Even more so when local governments are responsible of welfare services that are instruments in national redistribution policy and go beyond efficient local revenue sources, like in the

Nordic countries. The solution is to establish linkages to a large income pool, the income tax, and equalize the revenues. The incentives involved in this design of income tax revenue sharing and tax equalization have been addressed in this article, in particular incentives to develop the local tax base and tax distortions. The Nordic model has been compared to more decentralized and centralized alternatives. The future performance of the model will be determined by its ability to control incentive problems in equalization and to avoid strategic interaction in a situation with large dependence upon central government grants.

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Chapter 5

Charging for local services: why and how? A critical assessment of Swiss practices in the last two decades
Bernard Dafflon

5.1. Introduction

In Switzerland, the local public sector has for many decades applied the basic rule "*wherever possible charge*"[71]: public utilities (such as the delivery of drinking water, the maintenance of access roads to resident areas and commercial zones, urban public transportation) have traditionally been financed by user charges, and administrative services by fees. In the late seventies, the introduction of additional user charges to finance environmental services (solid waste collection and disposal, sewage and waste water treatment) was on the agenda. But it turned out to be possible only where and when it was balanced with the equivalent reduction in personal income taxation. This revelation resulted in a new apportionment between individual taxpayers and service beneficiaries, without any additional tax burden and with no increase of resources in local budgets. It was a question of efficiency and equity, not an ideological issue of "how much State". Recently, user charges and pricing have been introduced in education and social services partly to respond to the "politically correct" view of outsourcing or privatizing services as much as possible in order to have "less" State, disregarding the collective nature of those services.

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[71]   Historically, this move to the Wicksellian connection took place at the time of R. Bird's seminal book on Charging for Public Services (1976). Economic novelties and econometric analyses have been produced since, but the essential issues analyzed there remain topical. See also the chapter by R. Bird and E. Slack in this volume.

This paper looks at the political economy of this trend and its consequences. Section 2 examines the evolution of user charges and taxation during the last two decades. The third section analyses the "public-private" characteristics of services financed through user charges. The institutional manner in which user charges are secured to finance specific public services influences the perception of taxpayers-users of the service and the "value-for-money" return. Thus, the fourth section proposes a selection of laws that introduce user charges and explains the position of the Federal Court on this matter[72]. Section five turns to the accounting issue: user charges are correctly set only if the public accounts are transparent and respect the rules – which is not self-evident. Section six looks at statistical problems which throw a veil on the adequate quantitative estimation of the move from taxation to user charges. Section seven concludes: what next?

But first, let us consider some characteristics of the fiscal institutions at the cantonal and local levels in Switzerland that have influenced the development and orientation of charging for and pricing local public services:

- Cantonal and local budgets have to be financed by own resources. At the cantonal level, grants-in-aid, revenue sharing and fiscal equalization represented 21% of total resources in 1990 (Table 5.1.), 14% in 2000 and 7% in 2010 after the reform of equalization and the re-assignment of federal-cantonal functions introduced in 2008.[73] At the local level, these figures follow the same trend: 14% in 1990, 13% in 2000 and 8% in 2010 (Table 5.2.).
- In the 1990s, all (25) cantons, except Appenzell Inner-Rhodes, have introduced budget constraints that limit deficits and debt brakes at the cantonal and local level (Novaresi, 2001; Kirchgässner, 2013; Yerly, 2013). In many cantons, these rules were reinforced in the 2000s. At the federal level, the deficit and debt brake was introduced in 2003.

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[72] Debtors can challenge taxation and user charges and fees to the Federal Court. Decisions of the Federal Court make case law that subsequently apply to all local governments and cantons. The basic doctrine of the Federal Court on user charges and on the user-pays and polluter-pays principles has been fairly constant for the last three decades.

[73] On this reform, see Dafflon 2004.

- In all cantons and communes, direct popular rights in the form of financial referendum, mandatory or optional, give citizens the last word on investment projects and new recurrent expenditures above a certain level. Referenda can be used only to reject the voted expenditure, not to increase it (Kirchgässner, 2013: 143). But it can also be used informally by anticipation to put political pressure on projects that are considered too expensive or would need a tax increase.
- Tax competition limits the capacity of cantons and communes to resort to tax increases in order to balance their budgets and accounts (Feld and Kirchgässner, 2000; Feld and Reulier, 2005).
- Amendments to individual cantonal tax legislation or local regulations on the implementation of the user-pays (or polluter-pays) principle, including tariffs, require a decision by the legislative assembly, in many cases subject to a referendum.
- Note that functions paid through user charges are not included in expenditure needs equalization, and the yield from user charges is not included in RTS for revenue equalization.
- Finally, reforms of existing functions and introduction of new ones in the social, health[74] and education sectors[75] at the canton-

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[74] From 2012 onwards, hospital financing has changed radically. Following years of political debate, the federal government imposed on the cantons and hospitals a funding system based on federally set unit costs for each medical act (Swiss DRG for "Diagnosis Related Groups"). Prior to 2012, individual hospital activities were given a number of points in the federal medical tariff (TARMED), but the value of each point was negotiated between the hospital and health insurance operators – in the case of public hospitals, in negotiations between the canton and the insurance operators in that canton. Health insurances paid 50% or the recognized costs; the hospital supported the other 50% and the remaining non-recognized costs – for public hospitals, the final shares were 55% public and 45% private (insurances, for the patients). With DRG, each medical or surgical act belongs to groups of pathology; it is paid as a lump sum according to a catalogue of criteria. The DRG tariff applies to all hospitals, public or private, throughout the country. It is up to the hospital to be as efficient as possible given the tariff. Also new is that, at least on paper, the patient can choose the hospital – cantonal and district hospitals have lost their territorial monopoly. The objective is to increase competition between establishments and, through competition, to increase efficiency and lower hospital current costs per medical act and thus per patient. Also, according to the new law, the cantons will have to cover at least 55 per cent of the hospital costs, current and capital. From 2000 to 2007, hospital costs have increased by 7% per year on average in the cantons.

[75] In May 2006, 86% of the national voters and all 26 cantons accepted a constitutional new article authorizing the federal government to harmonize and coordinate the public education system, from kindergarten to Universities. In June 2007, the cantons adopted their own national harmonization program in compulsory education, the so-called "con-

al-local level have required additional financial means – difficult to obtain within the institutional framework described above.

The consequences of these fiscal institutions have been that confronted with higher expenditure needs, under the constraint of balancing their budget, with reduced transfers and the difficulty of convincing taxpayers to accept more taxation, and the fear that tax competition would price them out of the market, cantons and communes have resorted to other more discrete, step-by-step increases in their financial resources. User charges and pricing would do the job.

5.2. Evolution of user charges and fees 1990-2010

For the last twenty years, user charges and fees for public services provided to individual consumers have increased in proportion to the cantons' and communes' own tax revenues from 25.6% in 1990 to 31.7% in 2005. Lower figures for 2010 are due to changes in the accounting system. Sources of public revenues for the cantons are given in *Table 5.1.* and in *Table 5.2.* for local governments (communes).

Three items in the Tables are remarkable:

- First, the share of subnational public revenues in GDP has remained relatively stable and in international terms low throughout the period: it was 19.5% (11.6% + 7,9%) in 1990 and around 22-23% in the following years.
- Second, the relative weight of user charges and fees in comparison to own taxation follows the same pattern: it was around 26% in 1990 for both layers and increased to around 31%, respectively 34%, in 2005. These increases show that the growth rate of revenues from user charges and fees is slightly higher than that of taxation, although the proportion was already significant in the first reference year, 1990. This is due to the historical fact that public utilities had been financed through user charges since the sixties for drinkable water, and since the eighties for environ-

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cordat Harmos", a binding inter-cantonal agreement. Compulsory education is organized on a 2+6+3-year system for kindergarten, primary and secondary education. The cantons had six years, starting in 2008, to comply with the agreement. The new educational system implied that, at the cantonal level, in many cantons a second kindergarten year had to be introduced and parallel services had to be introduced: in particular school meals, homework assistance, and out-of-school tutored activities (social, cultural and sports). Pre-school education had to be adapted. Communes are charged with the responsibility of these new services and have to find the necessary financial resources.

mental facilities such as sewage, waste water purification sys-
tems and household garbage collection and disposal. This is fur-
ther detailed in section 4.

- Third, the percentages in 2010 are not directly comparable in the statistical series due to changes in the public sector accounting system (from 2008 onwards in Switzerland). This is evidenced by line 422 in *Tables 5.1.* and *5.2.* Since those changes concern all European Union members, this issue is presented in section 6 below.

Table 5.1. Revenues of the Cantons, 1990-2010, in 1'000 CHF

Sources		1990	1995	2000	2005	2010
4	Current revenues					
40	Own taxation	21'120'065	24'736'383	28'511'515	33'650'644	39'353'699
400	*of which on households*	*13'995'287*	*17'573'286*	*19'536'314*	*23'689'650*	*27'881'670*
401	*on corporate firms*	*3'317'314*	*3'430'893*	*4'741'618*	*5'531'581*	*6'291'176*
41	Patents and concessions	462'449	729'356	1'702'789	2'721'216	2'527'343
42	Fees and user charges	5'377'836	7'440'139	8'758'084	10'357'343	6'605'563
420	*Payment for services (also 424, 426)*	*1'530'159*	*2'002'016*	*2'454'961*	*2'814'656*	*3'080'025*
421	*Administrative fees*	*877'669*	*1'184'270*	*1'371'821*	*1'635'834*	*1'760'377*
422	*Hospitals and homes for the elderly*	*2'286'265*	*3'377'385*	*3'873'625*	*4'599'293*	*264'068*
423	*School fees*	*77'353*	*146'746*	*205'203*	*373'937*	*542'222*
425	*Sales*	*456'721*	*546'609*	*583'016*	*572'400*	*457'214*
427	*Miscellanous*	*149'669*	*183'113*	*269'459*	*361'223*	*501'658*
43/48	Various non-classifiable revenues	33'991	48'829	71'702	85'000	65'028
44	Revenues from financial assets	1'252'203	1'721'165	2'484'119	2'149'129	2'969'579
46	Grants, rev.-sharing, equalization	8'555'809	12'020'186	16'420'300	18'497'333	22'866'350
4	TOTAL current revenues	36'802'354	46'696'058	57'948'510	67'460'665	74'387'562
6	Revenues from investment	2'461'784	3'450'976	4'853'951	3'132'928	2'496'598
4+6	Total revenues, current and investment	39'264'137	50'147'034	62'802'461	70'593'593	76'884'159
	Total revenues in % of GDP	11.6%	13.1%	14.5%	14.7%	13.4%
	42 in proportion to 40	*25.5%*	*30.1%*	*30.7%*	*30.8%*	*16.8%*
	42 (-422) in proportion to 40	*14.6%*	*16.4%*	*17.1%*	*17.1%*	*16.1%*

Source: Federal Administration of Finance, Bern; F40.7.4_Einnahmen
          _Kantone_KK_insg_f (refresh: 20.08.2012). Numbers in the first column cor-
          respond to the nomenclature of the Swiss Public Sector Accounting System.

Table 5.2. Revenues of Local Governments, 1990-2010, in 1'000 CHF

Sources		1990	1995	2000	2005	2010
4	Current revenues					
40	Own taxation	14'763'647	18'052'913	20'225'698	21'089'313	24'324'958
400	*of which on households*	*11'274'893*	*14'518'288*	*16'006'477*	*16'975'922*	*19'030'831*
401	*on corporate firms*	*1'925'930*	*2'110'830*	*2'835'613*	*2'756'746*	*3'631'947*
41	Patents and concessions	70'107	98'882	124'977	126'662	289'651
42	Fees and user charges	3'820'355	5'652'752	6'017'209	7'216'854	1'735'849
420	*Payment for services (also 424, 426)*	*2'731'600*	*4'192'320*	*4'743'114*	*5'625'630*	*6'225'367*
421	*Administrative fees*	*246'630*	*351'651*	*390'164*	*532'916*	*513'651*
422	*Hospitals and homes for the elderly*	*2'962'772*	*4'625'790*	*4'841'483*	*5'836'903*	*55'118*
423	*School fees*	*69'449*	*111'865*	*136'042*	*130'003*	*140'732*
425	*Sales*	*470'219*	*473'016*	*478'071*	*505'244*	*811'348*
427	*Miscellanous*	*71'285*	*90'431*	*171'449*	*211'787*	*214'999*
43/48	Various non-classifiable revenues	21'640	26'310	36'331	45'675	55'329
44	Revenues from financial assets	1'881'730	2'581'810	3'000'435	3'046'255	3'167'279
46	Grants, rev.-sharing, equalization	4'474'814	5'205'942	6'352'918	7'330'581	5'341'641
4	TOTAL current revenues	25'032'292	31'618'609	35'757'568	38'855'341	34'914'706
6	Revenues from investment	1'656'718	1'776'127	1'566'901	1'358'500	1'387'782
4+6	Total revenues, current and investment	26'689'010	33'394'736	37'324'470	40'213'841	36'302'488
	Total revenues in % GDP	7.9%	8.7%	8.6%	8.4%	6.3%
	42 in proportion to 40	*25.9%*	*31.3%*	*29.8%*	*34.2%*	*7.1%*
	42 (-422) in proportion to 40	*5.8%*	*5.7%*	*5.8%*	*6.5%*	*6.9%*

Source: Federal Administration of Finance, Bern,
           F23.7.4_*Einnahmen_Gemeinde*_insg (refresh: 20.08.2012).

5.3. Collective and marketable characteristics of services financed through user charges

Services financed through user charges and fees must at the same time display both "public-private" characteristics of joint production. Each service must present one part which is collective with non-rival non-excludable characteristics and another "marketable" part which is rival and excludable so that beneficiaries can be identified and the service can be individually billed.

One immediately sees the difficulty: how much of a "collective" service is also marketable – or the inverse? If it was only marketable, there would be no reason for the public sector to deliver the service. If it was only collective, it could not be charged. If both, once the collective part has been recognized and evaluated, then the remaining part of the cost must be paid through user charges. Based on the benefit principle, the current and capital costs of a public service must be apportioned between economic agents according to the benefit each of them receives from the consumption of the service (Buchanan, 1968; OCDE 1998, Dafflon, 1998). The remaining costs (total minus the collective part) of the service have to be totally financed by the yield of the charges (full cost coverage). Thus the more user charges finance specific public services, the less such services absorb ordinary tax resources.

Three categories of public services have at the same time collective and marketable characteristics: public utilities traditionally belong to the historical category, and were later followed by social and health services. *Table 5.3.* summarizes the three categories and outlines the collective and marketable parts of each service. One example is detailed below in each category.

Table 5.3. Domains of possible application of the benefit principle

	collective	marketable
1 *public utilities*		
drinkable water	general municipal development, avoid disease due to bad water	private household or industrial consumption
sewage and waste water treatment	protection of the eco-system	production of household and industrial waste water
garbage collection and disposal	protection of the eco-system, clean air and landscape	collection of individual household garbage
urban transport	less air pollution, less city traffic jam	private travel from one place to another
2 *social services*		
nursery kindergarten	enlarge the female labour market female labour market, socialisation of children	time for individual professional work, social inclusion of one's child
out-of-school services	school meals, homework surveillance, prevention of social disturbance	individual service
family aid	insurance value against risk and temporary difficulties	individual service
medical aid at home	insurance value against risk and temporary difficulties	individual service
3 *health care*		
hospital care	insurance value against risk and uncertainty, network ready to accept emerging individual situations without announcement or pre-selection	individual service
home for elderly people	insurance value against risk and uncertainty, network ready to accept emerging individual situations without announcement or pre-selection	individual service

Sources: author. References: for 1: Dafflon, 2010, 2013; Dafflon and Daguet, 2013 ; for 2 : Blum, 2008, Dafflon 2009; for 3: Blum, 2008; Dafflon and Vaillancourt, 2013. The references give further bibliography for each function

Let us consider the case of drinkable water in the first category. The marketable part is clear and explicit: it is the consumption of water by households or enterprises that can be measured with meters. The collective dimension is given by the service to the local society: in Switzerland, land and urban planning, local development of housing and activity zones cannot be realized without road communication and the guar-

antee of access to clean water, sewage and waste water treatment, refuse collection and disposal. Clearly, local development – be it quantitative or qualitative – is a common good to the local society: it is non-rival, and no one can be excluded from the consequences of local development. If there is a collective interest in development, then part of the investment in infrastructure should be paid by local government out of its own tax revenues. In less developed economies, there is an additional public interest that each resident has access to clean drinking water in order to reduce disease: this is also a collective good that should not be charged to individual consumers.[76]

In the second category, nursery schools (daycare facilities for preschool-aged children) and kindergarten (preschool institution for children) have the characteristics of joint production. The marketable part is the services given to individual families who use the daily services for their children. Beneficiaries can be identified; the nature of the services can be determined and billed. The collective part is composite. First, the transmission of social rules and habits to the children facilitate their inclusion in the civil local society; it is a private good in that "my" child can easily interiorize the local social rules and habits for better inclusion, but it is also a collective good since the collectivity has an interest in well-integrated youngsters. Second, it facilitates the return of women to the labour market – which is also collective in nature (non-rival, non-excludable).

In the third category, Dafflon and Vaillancourt (2013) considered that individual health is comprised of both universal on-demand access and curative services. "On-demand access means that potential users know that there is a network of (public) hospitals/clinics always available to them and ready to provide curative services in case of accidental or emergency need. It is a pure public good (non-rival and non-excludable): everyone benefits from the same quality and quantity of potential access to health (usually hospital) care. Curative individual health services are offered to specific sick individuals with the aim to restore or maintain the health of individuals through drugs, surgery and other interventions (speech therapy…). They are private or individual services (i.e. *private goods,* rival and excludable). Decisions must be made on the

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[76] On pricing environmental services, and the apportionment between the collective and the marketable parts of production, see Dafflon 2013 and the references mentioned therein.

quantity and quality of services provided including their accessibility (age, location…), on the quantity and quality of the human and physical capital inputs used to provide them, and thus on their remuneration and on the financing of these services". Note that the private portion of hospital care is difficult to measure and data often not accessible (see section 5).

For all joint "collective-marketable" services enumerated in Table 5.4., the core difficulties are: first, to accept and identify the collective part of the service; second, to recognise that the circle of collective beneficiaries is not the same as the circle of users; third, to give the monetary measure of the "collective" portion, which has to be financed through taxation from the general budget, distinct from the private portion submitted to the user-pays principle. This apportionment requires a democratic debate for defining what and how much is collective, transposed into clear and explicit legal rules. It also requires a precise public accounting system in order to report who is paying for which service. These issues are discussed next.

5.4. User charges and fees under the law

In Switzerland, taxes and user charges are decided by a legislative assembly, cantonal or local parliament or landsgemeinde, subject to referendum. Services delivered under payment of user charges must be described in a cantonal law and details prescribed in a local implementation decree. However, legal rules for the implementation of user charges have largely been decided by the Federal Court when debtors challenged the bill they received. The local act must state explicitly (i) the service delivered, (ii) the circle of beneficiaries, (iii) the criteria for the calculation of specific charges in the tariff; (iv) the maximal amount which could possibly be billed. (v) The criteria of full cost-coverage should be respected (not "must": less is possible): an annual yield in excess of the total outlays is accounted for in a fund specific to this service; it cannot spill over into the general budget of the commune. If only one of the five criteria is not respected, the bill can be challenged in the administrative court.

Yet, several laws open the road for the privatization of services, and that raises analytical difficulties. With public production, the local government bears full responsibility and can be easily controlled since public accounts contain all functional details about expenditures and re-

ceipts. But not with privatization. In this case, the organization of the law is that the public sector retains the responsibility of the offer, but can externalize the production and delivery of a service. In this event, it will subsidize the collective part of it, but no longer control the private share. Expenditures and receipts, including "user charges", of the service provider are not consolidated into the public accounts.

Besides the usual "principal-agent" problems, it will not be possible to evaluate is the importance of the move toward the user-pays system since individual payments to external providers are no longer traced. This explains the low ratio of user charges relative to taxation from 5.8% in 1990 to 6.9% in 2010 shown in Table 5.2. (bottom line). Social services have been largely externalized to NPOs, which are not accounted for in the *Table 5.1.* and *Table 5.2*.

The discussion above can be informed by two recent cantonal laws (canton of Fribourg). The first one relates to the production and delivery of drinking water, which is almost exclusively communal throughout the nation. The other law concerns the provision of daycare facilities for preschool and primary school children outside the family, which can be externalized and too a large extent is. In this case, we call the payment of users to external institutions "pricing", and not "user charge". "Pricing" can take the form of "administrative prices" when the institution has to submit its tariff to a public authority and obtain its authorization.

5.4.1. Production and delivery of drinking water

The historical sequence of cantonal laws governing the production and delivery of drinking water points out a succession of objectives. The 1943 law on public health fixed sanitary norms for the delivery of water. Water networks were organized in "consortage" or private cooperative, first for agricultural purposes, later for households. This production corresponded to a club good.[77] The 1979 law on drinking water took up two issues: public health and basic requirements for the management of water resources. Health and management rules were extended to all producers, without changing the actors (individual, consortage and com-

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[77] On this, Ostrom Elinor (1990) , Nobel Price in Economy, 2009. Governing the Commons: The Evolution of Institutions for Collective Action, Cambridge University Press, 1990.

munes, Art. 2). It gave to the communes only the capability to introduce a unique connection charge (Art. 13). Water delivery could be "free" or "charged" (Art. 1). Articles 1 and 13 were insufficient in the eyes of the Federal Court, so in 1981 the organizational law on the commune reconsidered the issue and determined that the five obligations mentioned above should be detailed in the local implementation decree.

The 2011 law[78] changes the objectives: health is no longer an issue except for the fact that the water should be drinkable. A new issue is the preservation of natural resources and the water quality, determining priorities in the access to water, which at the federal and cantonal level required arbitrage between drinking water, water for agriculture, hydraulic energy, industries and leisure. At the local level, two collective goods are maintained. One is fire defence, which is a joint production: with sufficient pressure, the water distribution network can also be used for fire defence – which has the characteristics of no-rivalry and no-exclusion within the service precinct. Thus, part of the investment costs must be assigned to this function and not paid through the water tariff. The other is the capacity reserve taken into account in water network investments. Village or urban development is a collective good. In the 2011 law, potential beneficiaries (owners of the land in the zone reserved for development) pay up to 70% of their share of the investment costs. The commune has to support by 30% in the meantime (mainly the interest of the capital or the loan that served to finance the investment). The 30% portion will be repaid in time by the owners with the realization of the zone. The law also distinguishes the financial costs of investment (or servicing of the debt) from the current production cost: the tariff is binomial owing to the fact that effective consumption can be different from the potential capacity of access.

5.4.2. Daycare facilities for preschool and out–of-school activities

The first law on daycare for children was introduced in 1995. It contains the obligation for communes to offer access to daycare facilities to the parents who demanded aid. Communes had the choice to provide the service themselves or to externalize it. The service is paid for by the parents, but the communes have the obligation to subsidize beneficiar-

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[78] Fribourg cantonal Law of October 6, 2011 on the production and delivery of drinking water; Law 821.32.1 introduced January 1, 2012. Source: http://bdlf.ch.fr updated August 15.2013.

ies with low financial capacity. How to decide the "low" capacity threshold is left to the communal legislative and may require previous negotiation with private institutions. These points remain in the 2011 law. In the 1995 law, the collective part of the function was not identified.

Remarkable points in the 2011 law[79] are the recognition of the joint public-private nature of the service delivered and the funding arrangement. The conciliation of family life and professional activities (recognized in the law and in the implementation act) and the socialization of pre-school children (mentioned in the implementation act only) qualify the collective part of the service.[80]

Neither the explicative message of the government which accompanied the draft law nor the debate in Parliament or the final version of the law give any information on how to measure the collective part of the service. Our estimation is that the political (direct) monetary valuation of the collective part in the 2013 (first implementation year) current budget is approximately 17%,[81] which leaves it to the parents to finance the 83% "marketable" part of the services. Also the partitioning of the collective part is much differentiated: it corresponds to 80% towards facilitating family life and professional activity and to 20% towards socialization.[82] Of the 83% portion, communes have to subsidize families with low economic capacity; the public aid decreases with increasing family

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[79] Fribourg cantonal law of June 9, 2011 on daycare facilities for preschool and out of school activities (Law 835.1, introduced January 1, 2013) and Implementation Act of September 27, 2011. Source: http://bdlf.ch.fr updated August 15.2013

[80] The "Message Nr 238, March 1, 2011" of the cantonal executive to the Parliament focuses on the family-profession argument (6 pages) and only marginally on the socialization argument (7 lines) as if this argument was self-evident. www.fr.ch/sej/files/pdf36/Message_mars_2011_f.pdf

[81] Our estimation is the following. The cantonal contribution is 3'850'000 CHF (2013 Budget, pos. 3665.3636.117). It corresponds to 10% of the average cost for a recognized (public or private) institution (art. 9 of the law). Thus the total accepted expenditure is 38'500'000 CHF. The employers' contribution (0.4% of the wage bill – art. 10) is estimated at 2'550'000 CHF (2013 Budget pos. 3665.3706.010). Total cantonal and employers' money: 6'400'000 CHF. That is 6400/38500 = 16,62%. www.fr.ch/AFin > Publications > Budget 2013, consulted August 31, 2103.

[82] For the canton: 2'550'000 CHF out of 3'850'000 CHF. This makes a total of 5'100'000 CHF for the first collective part and leaves 1'300'000 for the second part of the collective goods; thus the 80-20% proportions in the total external funding of these facilities. Do these proportions mirror the importance of the two as evidenced in the Message (see footnote 3)?

income up to the fixed threshold (this relates to the public redistributive policy in Musgrave's classification).

5.5. Accounting problems

The two previous analytical pieces can now be brought together. On the one side, the user-pays principle commands that services should be paid by beneficiaries in proportion to the services obtained. On the other hand, the rules given by the Federal Court and the (cantonal) laws ensure fairness and accountability in the financial management of functions paid according to the benefit principle. Yet, these are just nice declarations of what should be done for the "efficient and equitable" delivery of local public services according to the benefit principle. But how do we get from principle to tariffs? Past experiences and the author's expertise[83] in implementing tariffs according to the user-pays principle indicate that the following sequence is unavoidable:

A. Determine the inclusive total capital costs of the investment: gross expenditure, external finance or subsidies, if any, net expenditure.

B. In the case of joint production (drinking water and fire defence, for example), distribute A accordingly. Intermediate and final demand must be considered under separate account heads.

C. Calculation of the "collective" part of the production capital in order to differentiate the pricing: general budget for the collective part, user-payment for the marketable part.

D. Calculation of financial costs (interest and amortization). This must be done whether the investment is financed by own capital or by loan. This implies that the amortization policy is clearly set out: amortization based on the probable duration of the infrastructure, amortization on the gross value if the external source of finance (for example an incentive grant from the higher government level) is not recurrent, reimbursement of the debt or restoration of capital parallel to booked amortization.

E. In the presence of a physical network for the delivery of the service, such as water and wastewater, decision on the financing

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[83] Domains in which the author has been and is active in effective multi-tariff systems (1977-1990 as chief economist in the ministry of interior; since 1991 as a consultant): drinking water, sewage and wastewater treatment, household solid waste collection and disposal, preschool daily care, kindergarten, preschool care, school meals.

        policy: unique connection charges and /or annual payment for interest and amortization.

F. Budgeting current production cost in such a way that fixed and variable costs may be distinguished between.

Clearly, it is not pertinent to debate about the divisors (which determine "who pays"?) as long as the various sums to be divided are not first clearly estimated, then calculated into the accounts (how much?) Also, when deciding the divisors, it has to be considered that access to a service and effective use of the service may not be symmetrical, which means that a multi-part tariff is necessary. In practice, this means that clear accounting rules have to guarantee correspondence between payments and expenditures. It is absolutely necessary to establish the true costs of the production functions, distinguishing between its collective and private shares, in order to calculate the true activity-based costs, the average and marginal costs, and to distinguish between fixed and variable costs (Dafflon, 1998 and 2010; Cokins, 2007).

Accounting rules are not often discussed in political economy; but when charges are imposed on beneficiaries, whether as individuals or as members of specific groups, organizing and understanding local public sector accounts is essential. When calculating the sums of capital or current costs to be covered through user charges, the analyst faces four difficulties:

- Does the chapter for one specific function in the account include all entries, that is all expenditures and revenues that pertain to the function, including subheads of that function in case of joint production?
- How does one calculate the cost-coverage ratio, ideally 1, if total accounted expenditures are financed through user charges?
- What is the time horizon for this calculation? It is understood that current production costs should be covered through revenues during the same exercise; but what about investment?
- Owing to the fact that user charges cannot fuel the general local public budget but must be strictly earmarked to the specific function they finance, and owing to the fact that annual imbalances may occur, how to smooth the balance over a longer period, and for how long?

These are not trivial issues. In political economy, efficiency in the production and delivery of services financed by user charges, and equity in the distribution of the costs are explicit objectives. In a Wicksellian world, proper and comprehensive accounting has two fundamental virtues: it provides the transparent information necessary for participative democracy and accountability; it allows performance measurement and benchmarking, both necessary for achieving productive efficiency. In Switzerland, in addition, fiscal institutions give users the possibility to contest the bill if they believe that it is not equitable or not proportional to their individual benefit. Court decisions are made on the basis of principles and are informed through figures and data in the accounts – nowhere else.

Dafflon and Daguet (2012) verified in two tests (accounting accurateness and performance) the implementation of the user-pays principle at the local level in the 168 communes of canton Fribourg for three specific environmental functions: clean water supply, sewage and wastewater treatment, and household solid waste collection and treatment.

5.5.1. Accounting accurateness
Accurateness of the accounts was tested by controlling whether the following items were correctly recorded in the relevant heads: (*a*) wages and social insurance contributions, (*b*) interest and (*c*) amortization of capital investment written in the balance sheet; (*d*) interest yield on the earmarked reserve written in the balance sheet.

We call "virtuous communes" those which in their accounts have included the control criteria for the relevant year. Take the first figure top left: 90% of the virtuous communes means that, inversely, 10% of the communes have not recorded labour costs under this head, whereas they used manpower for that function. The reason is mainly that labour forces are time-sharing activities in various functions, and labour costs are recorded in the more important function without apportionment through internal accounting. Debt interest and amortization for past investments are correctly recorded in more than 80% of the communes (respectively 88% and 83%). The weakest point is that in the three functions, the interest yield on the reserve fund is not attributed to the specific function (only 29%, respectively 45% and 66% on average over five

recent years); which signifies *a contrario* that it falls into the general budget: users are cross-subsidizing taxpayers, which is not correct!

Table 5.4. Percentage of virtuous communes

Function main head	Control criteria	Average 2005-9	2005	2006	2007	2008	2009
Clean water supply	*a* wage	90%	88%	88%	92%	88%	92%
	b interest	88%	92%	85%	88%	88%	85%
	c amortization	83%	77%	77%	88%	85%	88%
	d interest on the reserve fund	29%	19%	23%	31%	38%	35%
Sewage and wastewater treatment	*a* wage	63%	62%	65%	65%	62%	62%
	b interest	83%	85%	81%	85%	85%	81%
	c amortization	78%	85%	69%	73%	81%	81%
	d interest on the reserve fund	45%	38%	42%	46%	50%	50%
Solid waste collection and disposal	*a* wage	79%	73%	77%	77%	85%	85%
	b interest	86%	88%	88%	85%	85%	85%
	c amortization	87%	92%	88%	88%	81%	85%
	d interest on the reserve fund	66%	62%	65%	62%	69%	73%

Source: Dafflon and Daguet, 2012: 80

5.5.2. Performance

The benefit principle is correctly applied if the cost coverage ratio equals 1 for each of the three functions [CCR = revenues/expenditures; without accounting for double entries]. With CCR=1, the revenues exactly cover expenditures: the function is self-financed via the corresponding user charges. The requirement of cost coverage corresponds to the logic of the user-pays principle in political economy and to the legal requirement.

Figure 5.1. confirms that water supply has traditionally been financed by user charges. The main reason is historical: water supply was organized in clubs, or consortage, without external financing. Beneficiaries had to share the costs. The practice remained when communes replaced private forms of organization. Not so for the other two functions: federal and cantonal laws that fixed the objective and organizational forms of

several environmental policies and set the reform for an effective polluter-pays principle were introduced later in the 1990s.[84]

Figure 5.1. CCR for functions [71], [72], [73] in 168 communes, 1996-2009

5.5.3. Overall results

The overall results approximate the objective set by law. In the first test, 80% or more of the communes adequately recorded the environmental costs covered by user charges. There is no behavioural strategy of underpricing; it is rather a question of information to be given to the "non-virtuous" communes about the accounting system.

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[84] For wastewater treatment, the old 1971 federal law was replaced in 1991 (law January 24, 1991), modified in 1997 and 2006 (RS 814.20); the 1974 cantonal law in Fribourg was replaced in 2009 (RF 812.2). The 1972 federal law on the disposal and treatment of solid waste was replaced in 1983 (law October 7, 1983), modified in 1997 and 2005 (RS 814.01); the FR cantonal law dates from1996 (RF 810.2).

The second test, over the period 1996-2009, shows a clear trend towards full cost coverage. The reason may be twofold: first, the federal and cantonal laws clearly laid the road to the polluter-pays principle; second, under fiscal stress, hard budget constraints and tax competition, communes were looking for alternative financing: one method was clearly user charges.[85]

5.6. Statistical problem

Tables 1 and 2, line 422 "Hospitals and homes for the elderly" show an important drop in the amount of user charges in 2010 due to changes in the way the public sector is measured in the international accounting system. Box 5.1. summarizes the problem, which is of much more concern than the present case study.

Eurostat classifies hospitals that obtain more than 50 per cent of their revenues from billing their patients as market enterprises and not as part of the public sector, even if they are publicly owned and have their deficits paid by government while their patients' bills are covered by insurance schemes mandated by the government. Since 2009 and 2010, the public hospitals of five Swiss cantons (Basel-Stadt, Basel-Land, Fribourg, Glarus and Zürich) were classified as belonging to the private sector.[86]

Similarly, when services that are the responsibility of local governments are externalized and produced by private institutions and NPOs, the total cost of the function is no longer recorded in the public accounts and, in consequence, neither is the service pricing. Let us return to the example of pre-school daycare facilities. Once the collective part of the service (an estimated 17%) is paid though public funds and firms' contributions, the remaining costs (83 %) are paid by the parents; but that information does not appear in the public accounts. The sequence is that

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[85] In 2010, user charges represented 6.9% of local own taxation (see Table 2, last line). The average local tax coefficient was 90 points (in the law, the tax rate schedule is given at 100 points). In other word, user charges were equivalent to 7.7 points of local own taxes. One sees the importance of a CCR =1 to alleviate the local tax burden.

[86] Source: Statistique financières 2010 de la Suisse, Rapport Annuel, Administration fédérale des Finances, OFS, Neuchâtel 2012, Série 18, pages 17-19. www.bfs.admin.ch> office fédéral de la statistique>thèmes>18>finances publiques> publications. Despite the fact that the all cantons have hospital networks, some publicly-owned hospitals are taken out of the public sector statistical data, in compliance with the SEC95 statistical system.

specific functions can be assigned to the local government → local government units may decide to externalize the production and delivery of the service → if the collective part of the joint production is estimated below 50% of the total cost → the remaining part is admittedly rival and excludable, thus it is priced. In these circumstances, it is no longer possible to trace the beneficiaries' contributions through the statistical data of local public finance.

Box 5.1. Eurostat and the definition of the public sector

The European System of Integrated Economic Accounts, ESA, serves to ensure that the Maastricht criteria are respected. It rests on a logic initially developed by the IMF in the mid-1980s, which led to the first international system of national accounts (SNA 93), which was subsequently adopted by the European Commission, the IMF, the OECD, the UN and the WB. It is a global statistical system which divides national economies into six institutional sectors. The "general government" is one of them (S.13), divided into central (S.1311), State (S.1312), local government (S.1313) and social security funds (S.1314), which at their respective levels include all administrative departments and other public agencies. The public sector is defined by the enumeration of its institutional constituent units.

An institutional unit is "public" as long as it is controlled by the public sector. "Control" is defined as the power of deciding the general, as well as the corporate policy of the unit, for example in the form of special legislation that empowers the government to determine the corporate policy or to appoint the directors. In order to clarify the notion of "control", Eurostat illustrates its point with the example of two schools: one controlled by the general government, the other not. The general government controls the school if its approval is needed to create new classes, make significant investments or take out loans. On the contrary, the school does not belong to S.13 if the general government just finances the school or supervises the general quality standards or the teaching programmes.

The institutional unit must also satisfy the so-called "non-market rule" in order to belong to S.13. The respect of this criterion requires the assessment of the main functions exercised by the entity. When the entity exercises the function of income or wealth redistribution, which comprises levying taxes, paying grants or providing social benefits, the unit

is classified under S.13. When a public entity performs mainly the function of financial intermediation, such as health insurers or some pension funds, the unit does not belong to the public sector since, in the sense of ESA 95, they are market oriented. If the function of the unit is neither redistribution nor intermediation, it is then necessary to determine if its output is being sold at "*economically significant prices*". The boundary between market and non-market producers being potentially thin, Eurostat calls for the implementation of the so-called "*50 percent criterion*". An output is sold at economically significant prices when more than 50 per cent of the production costs are covered by sales. Eurostat defines that "all payments linked to the volume of output are included, but payments to cover overall deficit are excluded."

Sources: SCN 2008, p.640, paragraphs 22.28 et 22.29 ; also IMF 2001, p.12 ; Eurostat 2013, p.14; *Manual of Government Deficit and Debt, Implementation of ESA95*, Eurostat Methodologies and Working Papers, European Commission, Luxembourg, 2013, 5th edition, pages 14-16). Berset S., 2013, pages 93-99

5.7. Conclusion: what next?

The conclusions of this essay can be summarized in a few points open to debate. The fiscal institutions and architecture of cantonal and local public finance are characterized by low dependence on financial transfers: fiscal choices and expenditures must be totally assumed by local actors. Debt brakes and rules of balancing the budgets and accounts do not allow transferring the fiscal burden onto future generations. Under fiscal pressure, cantons and communes must find their own solutions. Local tax coefficients cannot be increased for fear of tax competition. One issue has been to resort to benefit financing of specific functions when these functions include a marketable component. The user-pays principle was first adopted for public utilities and later extended to social services. Recent laws allow that production and service delivery can be externalized and priced to beneficiaries.

This paper introduces a distinction between user charges when the supply and production are in public hands, and pricing when the production and delivery are externalized. With user charges, it is possible to measure efficiency and equity. Efficiency is measured through CCR. With transparent and true accounting, beneficiaries are sensitive to the

charges they pay for the service and react accordingly. The equity objective is satisfied because the details of the local regulation and tariffs are debated in local assemblies and must be accepted by a majority. Also, a majority cannot impose unconsidered rules since beneficiaries can contest the resulting individual bills.

For externalized services which are no longer in the S.13 general government statistical category, the conclusion is different: we do not know! Our intuition is that this part is increasing, but no one really knows at what rate. Surprisingly, there is not much public resistance to this trend despite the fact that it corresponds to the privatization of education and social services that traditionally were in public hands in order to promote equal access and quality without regarding the beneficiaries' financial capacity. Local government seems satisfied that some services are accessible somewhere somehow, even if not in adequate quantity, without charging public budgets. The private sector is happy to develop activities promised to big business, notably in health and education. The ESA supports this position. What next? Take just one example: difficulties of various natures (legal, contractual, technical, sustainability) in externalized water distribution have multiplied in recent years. Our contention is that with clearly stated objectives and well-designed accounting systems, the responsibility, production and delivery of such services could be left in public hands and be correctly financed by user charges. Local efficiency can certainly match externalization; and this would leave to democratic debate the equity issue of equal access at acceptable prices.

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Chapter 6

Property Tax Reform in Germany: Eternally unfinished?
Gisela Färber, Marco Salm and Stephanie Hengstwerth

6.1. Introduction

For many years, the German property tax in its current form has been exhibiting increasing problems and, therefore, increasingly does not fulfill the requirements necessary to be a good local tax. For this reason, three reform models are currently being discussed. Municipalities are entitled to property tax revenue which amounted to 11.6 billion Euro in 2012, accounting for about 14 % of total local tax revenue. The property tax constitutes an important and steady source of local income. It holds the enormous advantage – similar to the trade tax – of providing municipalities with a right to set their own multiplier on a nationwide determined tax base, which guarantees a minimum of tax autonomy to the municipalities.

The reform discussion is proving to be extremely difficult because there are expectations of interpersonal redistributive effects not only between richer and poorer property owners and users, but also between different municipalities, notably between core cities and surrounding municipalities. Due to the fact that property tax revenue is credited against the fiscal capacity of a state in the context of the fiscal equalization among the federal states, there are also expectations of redistributive effects between "rich" states with high property values and "poor", sparsely populated states with lower property values. In general, the states are very heterogeneous: On the one hand, rising real estate prices can be found in prosperous regions. On the other hand, regions that are suffering from population decline are often characterized by stagnating or even declining real estate prices, high vacancy rates, and shrinking in-

vestments in the existing housing stock. Based on those facts, a state's possible preference for or against certain reform models can be deduced.

Currently, three reform models are being discussed and evaluated by a task force set up under the auspices of the Federal Ministry of Finance and North Rhine-Westphalia[87]. There are other approaches to reform in addition to these three models, but they are not supported by any state. Therefore, our analysis is limited to the three models examined by the task force.

Against this backdrop, this paper analyzes the effects of the three property tax reform models with respect to their anticipated redistributive effects, as well as their budgetary effects on the local and on the state level (through the fiscal equalization scheme). Although the three models differ in design and features, higher individual tax burdens can be expected for certain households and enterprises on the local level for certain groups of property owners or users. Even more importantly, there will be a shift of burden between different economic units: single family houses, duplexes, residential properties for letting, commercial real estate, undeveloped land, and developed land. The different reform models will cause a change in the allocation of transfer payments within the fiscal equalization system among the states. In particular, this could be a possible explanation for the states' preferences for or against the proposed reform models. Likewise, this could be the reason for the duration and difficulty in reaching a consensus among the states.

The following sections exclusively focus on property tax B (developed and undeveloped land). Property tax A (agricultural and forestry businesses) plays a minor role in the local tax system and will not be considered, also because the required statistics on agricultural and forestry buildings/premises are not available.

6.2. Property Tax in Germany

6.2.1. Current Design and Significance for Local Finance in Germany

The current property tax distinguishes between two categories of land. Firstly, municipalities levy **property tax A** on land and property that is being used for agricultural businesses and forestry. Secondly, **property**

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[87] Bericht der länderoffenen Arbeitsgruppe (2011).

tax B uses developed and undeveloped properties for a tax base. Thus, property tax belongs to the category of impersonal taxes on objects. In its current form, it is designed as a tax on projected income based on the capitalized value. Therefore, the potential fiscal capacity of the property owner is currently only "theoretically" included. Property tax A and B both involve a calculation based on assessed values.

The determination of the **assessed values** is regulated by the Valuation Tax Act, which includes 205 articles. Single family houses, duplexes, residential properties for letting, properties for mixed use, and commercial properties are valued by a method using the gross annual rent (based on prices from 1964 and 1935), which is multiplied by a set multiplier (Valuation Tax Act, Appendix 3-8). If it is not possible to determine a gross annual rent, then the property is valued by a different method. This method is based on the intrinsic value, i.e. values for buildings are determined using average production costs. It is evident that the described methods to determine the assessed values are administratively and financially burdensome.

Current calculation for undeveloped/developed land:

Property tax = assessed value [EUR] x **base rate** [‰] = **standard tax** [EUR] x **multiplier** [%]

Example:
Property tax = 10,000 [EUR] x 3.5 [‰] = 35 [EUR] x 370 [%] = 129,50 Euro p.a.

The calculation process above is technically administered by the state and the municipality[88]. The state administration is responsible for assessing the value of a property and determining the appropriate base rate. The state administration uses the following base rates for calculating the standard tax[89]:

- for single family homes 2.6 ‰ or 3.5 ‰

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[88] In reality the federal government is also involved, providing the law and the calculation method. The assessment of the property tax involves the interaction of the three government levels.

[89] The base rates are defined in federal law (Grundsteuergesetz). For agricultural businesses and forestry, 6 ‰ apply.

- for single family homes in the form of residential property ownership 3.5 ‰ and for duplexes 3.1 ‰
- for commercial and other properties 3.5 ‰

Fiscal equivalence follows from the principle of flexibility. Municipalities are able to set multipliers themselves. As a result, different multipliers in different municipalities represent different supplies of public goods and services. This becomes evident when comparing differences in multipliers between urban and rural municipalities (490 % in Munich compared to 240-350 % in rural regions). Also, the entire property tax revenue belongs solely to municipalities.

Municipalities then use the **standard tax** provided by the state to apply their individual local multiplier. The reason why local multipliers differ is that the property tax burden varies strongly, even when assessed values may be the same. Table 6.1. shows the average annual multiplier for property tax and trade tax. While multipliers of property tax A and the local trade tax have grown by more than 30 % since 1970, multipliers of property tax B have risen by 70 % on average, partially in order to compensate for the fact that assessed values have remained unchanged for the last 50 years.

Property tax B constitutes a large component of local government own-source revenue (ca. 12 billion Euro in 2012). Table 6.2. shows these most important local own-source revenues (property tax and trade tax) besides the local share of personal income tax and a local share of sales tax (VAT).

Table 6.1. Average local multiplier of local taxes 1970-2011

	Property tax A	Property tax B	Local trade tax
1970	219%	245%	287%
1980	250%	274%	330%
1990	263%	306%	364%
2000	279%	367%	389%
2010	302%	410%	390%
2011	306%	418%	392%
	in % of 1970		
1970	100.0%	100.0%	100.0%
1980	114.0%	111.9%	115.0%
1990	119.7%	125.1%	126.8%
2000	127.0%	149.8%	135.5%
2010	137.4%	167.2%	136.0%
2011	139.4%	170.7%	136.7%

Source: Authors; Federal Statistical Office.

Property tax has great significance for local financial planning because property tax revenue is a reliable local tax income. According to Fischel (2001), municipal services are capitalized in a property's value. Increasing investments in infrastructure (e.g. connecting properties to a public transport system) raises the monetary value of properties. This "unearned" economic rent from which land owners benefit, called "getting richer while sleeping", should be absorbed by property tax[90]. Property tax is, therefore, at least in theory perceived as fair because the tax is offset by local government goods and services.

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[90] Harriss (2001), p. 15.

Table 6.2. Local tax revenues 1970-2012

	Property tax A	Property tax B	Trade tax (net revenue)	Local share of income tax	Local share of VAT	Total local tax
in Mio. Euro						
1970	227.7	1,143.8	3,270.2	3,523.8		8,165.5
1980	216.4	2,751.1	10,558.7	11,375.7		20,734.3
1990	236.1	4,226.1	17,012.1	16,420.9		37,895.2
2000	332.8	8,516.1	21,502.5	22,193.7	2,927.7	55,472.9
2010	361.0	10,953.6	29,826.4	24,954.9	3,592.2	70,442.5
2012	375.0	11,641.6	35,245.0	29,060.0	3,892.8	81,251.4
% of total tax revenue						
1970	2.8%	14.0%	40.0%	43.2%		100%
1980	0.9%	11.0%	42.4%	45.7%		100%
1990	0.6%	11.2%	44.9%	43.3%		100%
2000	0.6%	15.4%	38.8%	40.0%	5.3%	100%
2010	0.5%	15.5%	42.3%	35.4%	5.1%	100%
2012	0.5%	14.3%	43.4%	35.8%	4.8%	100%
% of GDP						
1970	0.07%	0.33%	0.95%	1.02%		2.36%
1980	0.03%	0.37%	1.40%	1.51%		2.75%
1990	0.02%	0.33%	1.35%	1.30%		3.00%
2000	0.02%	0.42%	1.05%	1.08%	0.14%	2.71%
2010	0.01%	0.44%	1.19%	1.00%	0.14%	2.82%
2012	0.01%	0.44%	1.33%	1.10%	0.15%	3.07%

Source: Authors; Federal Statistical Office.

6.2.2. The Need for Reform

A reform of the property tax has been a matter of discussion in Germany for more than 35 years. In particular, the use of outdated **assessed values** for the **tax base** has been heavily criticized. The assessed values reflect historical property values from 1964 (or 1935 in the former East Germany). By law, property values were supposed to be re-assessed every 6 years since 1964 in West Germany. However, this has never been done due to heavy administrative costs. The costly and time-consuming procedure is reflected in the annual update rate of only 7 % of 35 million properties, despite 4,000 employees being assigned to update property values[91]. The assessed values from 1964 (resp. 1935) are now far from reflecting the current true property values. On average the

[91] Arbeitsgruppe der Länder Bremen, Berlin, Niedersachsen, Schleswig-Holstein und Sachsen (2010).

1964 value reflects only 1/20 of the current value of properties[92]. This leads to the bizarre result that a house built in 1964 which has since then barely been renovated is subject to the same multiplier (and the same gross annual rent from 1964/1935) as a newly constructed modern building from 2012. Moreover, the discrepancy between values from 1964 (1935) and current market values varies greatly between the different types and uses of land and buildings.

The assessed values thus reflect neither the level nor the ratio of the actual property values, which is a violation of the "principle of equality". Severe differences in the actual value development are reported even within the same municipality:

- Properties, whose values have been positively affected by local infrastructure measures benefit from a decline in the effective tax burden by remaining at their historical values.
- Properties, whose values have not been positively affected are still taxed with the same multiplier by their respective municipality. Due to the outdated assessed values, they are charged with multipliers that are "too" high, resulting in a higher effective tax burden.

In the past, the assessed values also used to form the assessment base of the former wealth tax and inheritance tax. In both cases, using outdated assessed values has since been declared unconstitutional. Wealth tax and inheritance tax could not be compared any more to other types of assets[93] because they were heavily underpriced. However, the conformity of assessed values with the constitution is uncertain to this day. But the mills of politics and judicial authorities grind slowly, and what is now a widely shared doubt – as to whether the current property tax corresponds to the "principle of equality"[94] – has not found sufficient expression in judicial decision-making. On the other hand, judicial decisions have been held back because politicians themselves have made reform proposals (see reform models in section 1.3), as they realize the need for reform.

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[92] Wissenschaftlicher Beirat beim Bundesministerium der Finanzen (2010).

[93] For example, the inheritance of an investment, since capital has an actual fair market value.

[94] Properties of equal value are to be subject to the same amount of tax. Article 3, sec. 1 of the German Basic Law provides for a "uniform and equal basis of valuation and rate of taxation of all property subject to taxation."

6.3. The Reform Proposals

To date there has been no progress in introducing a modern property tax. Against this backdrop, the finance ministers of the 16 states established a task force in 2010 to work out the details of three reform possibilities. The three reform models differ in their justification of the tax burden (ability-to-pay principle vs. benefit principle) and in their determination of the tax base:

- **Fair market value Model** – proposed by the states Bremen, Berlin, Lower Saxony, Schleswig-Holstein, and Saxony[95] (**model A**)
- **Value-independent Model** – proposed by the states Baden-Württemberg, Bayern, and Hesse[96] (**model B**)
- **Combined Model** – proposed by the state Thuringia[97] (**model C**)

The three models differ fundamentally in their respective assessment bases (tax base). While model A uses a market value-based assessment base, model B simply applies the size of buildings and land area without any valuation and model C applies a combination of value-based area assessment and value-independent size of buildings. A detailed description of the model's methodology can be found in the annex (see A1) while the models main features are summarized in the following section.

6.3.1. Fair Market Value Model (A)

Model A uses the fair market value to assess a value of a property in order to capture land values as close to reality as possible. The reform model reacts to a recommendation of the OECD, which demands stronger consideration of market value when setting the assessment basis[98].

The fair market value represents a mathematical figure that cannot be accurately determined. Therefore, the valuation is based on significant features: location, land size, land/building type, floor space (gross), usable area (gross), year of construction. Other features, like the condition

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[95] Arbeitsgruppe der Länder Bremen, Berlin, Niedersachsen, Schleswig-Holstein und Sachsen (2010).
[96] Arbeitsgruppe der Länder Baden-Württemberg, Bayern, Hessen (2010).
[97] Thüringen (2011).
[98] OECD (2012).

of a building, are not considered. Rather, an average condition is as-
sumed.

To determine its market value, a property's individual data is linked to
comparative data from the real-estate market based on actual sales.
This method includes a multiple regression analysis that is able to ex-
plain the differences in purchasing prices based on the land value, size
of floor space, and other indicators. The results of the regression are
comparison factors, which quantify the effects of the most important
value-determining characteristics.

The designated task force did not provide any information on whether
this model would continue to use the current figures: base rate and
standard tax. Therefore, our analysis in section 1.4 applies a base rate
using one single rate (3.5 ‰) without any differentiation between types
of property.

6.3.2. Value-Independent Model (B)

The basic idea of model B is to simply apply land size and building floor
space. It does not include any kind of valuation like in model A. Sup-
porters of this model argue that when it comes to the benefits land own-
ers (of the same category) get from municipal services, the size rather
than the value of a property matters. Therefore, model B is supposed to
be based on an "equivalence" principle. The property tax is then consid-
ered a price for local public goods provision, i.e. tax payments are equiv-
alent to the land owner's benefit from local services. That is why model
B provides different **equivalence numbers**[99] for residential and commer-
cial properties:

- 0.20 €/m²: buildings for residential purposes (gross building ar-
  ea[100])
- 0.40 €/m²: buildings for non-residential/commercial purposes
  (gross building area)
- 0.02 €/m²: for land area

Land without any buildings is charged at 0.02 €/m². Because commer-
cial properties demand more local infrastructure, they are charged a
higher rate than residential properties. Basically it is assumed that the

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[99] The same equivalence numbers apply across the whole country.
[100] Refers to a building's total floor space, not only ground area.

larger a property (land and building), the higher the municipal infrastructure burden. Unfortunately, there is no information provided as to why those exact figures (0.02; 0.20; 0.40) have been chosen and how they relate to each other. Different local provision can still be applied through different local multipliers.

6.3.3. Combined Model (C)

Model C is based on a separate calculation for **value-dependent** land and **value-independent** building. The model assumes that local public infrastructure measures can only be reflected in the land value, while the value of a building depends only on the owner's effort. Consequently, the value-based formula is used for land, while for buildings only the size counts.

As in model A, land is valued using standard land values (SLV) gathered mostly from local purchasing databases, in order to determine the value/price per square meter. Buildings, on the other hand, are defined as residential or commercial. Two equivalence numbers are intended to reflect the proportional degree of local infrastructure utilization, as in model B, and assume that commercial buildings (0.40 €/m²) demand more local infrastructure than residential buildings (0.20 €/m²). The actual extent of infrastructure utilization is simply measured proportionally by size.

6.3.4. Comparison of the Models regarding a "good" Property Tax

First, the three models vary significantly when compared to the current property tax design that uses assessed values. Basically all three models would mean a shift of burden between property owners compared to the current system, due to outdated assessed values from 1964/1935 that do not reflect current market values. Fair market values would be applied in model A and partially in model C (only for land). Model B, however, involves a complete system change from assessed values to no values, which leaves no doubt that a major shift of burden between different types of properties will result. Overall, an extra, above average burden can be expected for old residential properties from before 1964/1935. In addition, it is important to point out that the current property tax takes the year of construction more heavily into account than any of the discussed reform models.

Additionally, models B and C do not refer to different base rates like the current property tax[101], but instead use equivalence numbers, which results in less inequality between different types of buildings (single family homes, residential property ownership, and duplexes). However, model A does not provide any information about base rates.

Second, we compare the three models concerning their potential impact on property owners in different locations.

Prime vs. normal locations: For model A and C (only partially) the price or value of a property will be determined by its location via fair market values. As such, higher prices or values will be found in prime locations.

Urban vs. rural locations: The fact that properties in rural areas are generally larger than those in urban areas does not imply a higher tax burden for rural property owners, given the higher market values in urban regions. Higher market values in urban regions are in accordance with better local infrastructure in urban than in rural areas. Yet, model B obviously discriminates against larger properties (land and homes) in rural areas, since only size is taken into consideration for taxation purposes.

As a third and final point in this section we want to draw conclusions with respect to the principles of local taxation. Some argue in favor of a complete abolition of the property tax[102]. However, from a public finance perspective, property tax needs to be retained in order to guarantee the "balance of interest" between user groups of local public services. All three models retain local autonomy ("flexibility"), providing municipalities with the right to set their own local multipliers. With regard to the principle of "proportional growth sensitivity", only models A and C guarantee gradual revenue growth through developing market values. "Ease and cost of administration" is economically more efficient in all three models compared to the current property tax collection procedure. Regarding the property owners' "acceptance" of the three reform models, model B would clearly be preferred due to its simplicity and thus transparency. Unlike model A, which is not at all transparent due to its re-

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[101] The current property tax calculation involves different base rates (single family homes 2.6 ‰; residential property ownership 3.5 ‰, duplexes 3.1 ‰) for different types of properties.

[102] Schulemann (2011).

gression analysis, all necessary figures in model C (SLV, equivalence numbers) are provided by municipalities. The applied market value per square meter in models A and C represents a perfect indicator for the "ability to pay".

Table 6.3. Public finance comparison of the reform models

	A Fair market value model	B Value-independent model	C Combined model
Ability-to-pay principle	+++	---	+/-
Low assessment costs	++-	+++	++-
Acceptance	+--	+++	+++
Proportional growth sensitivity (revenue growth)	+++	---	+/-
Flexibility	+++	+++	+++
Conformity with constitution	+++	?	?

Source: Authors.

6.4. Effects of the Reform Models

6.4.1. The Data
Much of the data required to exactly calculate the effects of the three reform models is unavailable. Official statistics provide data on land size and how it is used, i.e. for living or commercial purposes. Furthermore, living areas for each state are available. Official statistics do not provide buildings' ground areas and heights. Also data on commercial buildings are completely missing.

Regional price data (see table A2) are supplied by a number of committees of land valuation experts for the 16 states. They derive standard land values (SLV) and other property market data from actual property sales. Unfortunately, there are 1367 committees which do not readily provide their data for free. Also, the data includes only prices for single family homes.

Two statistical sources provide per square meter prices for residential land but diverge strongly from each other. The values of the Real Estate Market Report (REMR) only show land prices for single-/multi-family homes; as the medians of those values lie very close to each other, the

average was used for the calculations. The second source provides the annually published land prices of the Federal Statistical Office (FSO) covering all types of land. Those diverge strongly from the values of the REMR, so both data sets were used to calculate a variance of taxable values. The values of building areas are only available as data combining land and housing areas in one value, and only for the abovementioned two types of single-family homes. The prices of commercial land and building areas are derived from the data on residential land and living spaces using national averages.

In general, the sources do not provide sufficient information for an exact calculation of the property tax revenue effects for each model. Therefore, an approximation model has been applied based on statistics on living area (residential buildings) and land size. Commercial areas (buildings) had to be derived as a proportion from the available data using a ratio of residential area relative to commercial area. Table A3 provides information on the size of residential and commercial properties (m^2 per capita) for the 16 states.

The 16 states show different endowments regarding land and building size for residential and commercial purposes. Considered in light of the different population sizes of the states, the average size of apartments spreads in a way similar to the average apartment space per citizen and the average residential land size per capita. The average size of apartments is much bigger in the West German 'spatial states' than in the so-called 'new states' in East Germany, as well as in the city states. The latter is an apparent result of higher land and building prices in agglomerations. As a result, the differences of commercial building prices per square meter (derived from commercial land data) are much higher per capita. Particularly the East German states of Brandenburg (BB), Mecklenburg-West Pomerania (MV), and Saxony-Anhalt (ST) contain commercial land sizes between 77 and 119 m^2 per capita, which is a result of local economic policies after the German reunification. In East Germany, local governments have attracted private enterprises by developing areas of inexpensive commercial land. However, those differences in land size, as well as the prices per square meter, have direct effects on the three reform models.

It is for political reasons[103] that the state equalization scheme results are currently only available for 2010. Therefore, we calculate our models for the year 2010.

6.4.2. Effects on the Aggregated Local Level

Standard taxes and local multipliers are important figures for local governments. The information on size of building, size of land, as well as the corresponding standard land values makes it possible to approximate the **standard tax** for all three models and the resulting **multipliers**. Table A4 represents the stylized formulas, which have been modified but relate to the three models presented in the annex A1.

Table A5 and table A6 show the results for standard taxes and local multipliers after application of the formulas.

To calculate the **local tax capacity** of the reform models, the weighted (national) average of the local multipliers is required to obtain the same tax revenue as in 2010. This average is therefore applied to the calculated standard taxes. The results for each state's local tax capacity can be seen in table A7.

All three models provide highly diverging standard tax values. As expected, both A models have the highest values due to the market price base, while model B offers standard taxes that are far below even the actual standard taxes of 2010. This occurs because the tax rates applied to land and building areas do not cover the existing tax rates applied to the real asset values of 1964. As anticipated, the standard tax values of the combined models C1 and C2 lie between the results of model A and B.

Corresponding with the levels of the standard taxes, diverging local multipliers need to be applied to obtain the same amount of tax revenue as in 2010. In model A the local multipliers can be considerably reduced,

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[103] After a census in 2011, which has only recently been published, the the population numbers of the states has to be adjusted significantly. The fiscal equalization among the states is based on the population figures resulting in considerable gains and losses of transfer payments. Therefore the Federal Ministry of Finance has not yet published data for 2011 and 2012.

even to below 100 %: in model A1 to 70 % on average, and in model A2 to 64 %, due to higher land prices.

In contrast, model B requires dramatically increased multipliers: on average 777 %. Berlin, Hamburg, and Bremen even reach 2069 %, 1899 %, and 1494 % respectively. Such local multiplier values cannot be expected to receive a political majority. They can be reduced by, for example, doubling the 'equivalence numbers', but even then would still remain high. For both models C1 and C2 the local multipliers are about 100 %, for C2 almost exactly 100 % and for C1 about 120 %. Because of the diverging tax bases for land and building areas, however, the difference here is larger than that between models A1 and A2. For models C1 and C2, the average local multiplier obscures the fact that the differences for average municipalities in the states are much higher, which again results from the diverging weight of the market prices of land compared with the building spaces, which are taxed uniformly per square meter.

The best method to compare the reform models with regard to their inter-state effects on local tax revenue is to use tax capacities as a basis and apply the respective nation-wide average local multiplier on the standard taxes. This indicator reflects the ability of the municipalities, aggregated at their state level, to cover their budgetary expenditures through revenues from the property tax. Table A7 shows the results under the existing law (2010) and the reform models, adjusted by the size of population and compared to the average tax capacity, which – following the construction of our model – is equal to 134 Euro for all models, the realized value of 2010.

Astonishingly, the market price basis of both models A1 and A2 provides tax capacities (per capita) that are the closest to the existing property tax. However, the city states Hamburg and Berlin, as well as the 'rich' states Bavaria (particullary in model A2) and Hesse, and the sparsely populated but spacious states Brandenburg and Mecklenburg-West Pomerania could expect higher tax capacities. Other states in eastern Germany and the states with prolonged problems of economic change (North Rhine-Westphalia, Saarland, and particularly Bremen) would go below their current actual tax capacities. Baden-Württemberg remains more or less close to their current tax capacity.

Model B considerably reduces the tax capacities of all rich states and agglomerations: Baden-Württemberg, Berlin, Bremen, Hamburg, and Hesse. Even North Rhine-Westphalia loses tax capacity per capita while all poorer states, particularly the states in eastern Germany, have their tax capacities increased the higher the relation of land to building areas is. Bavaria, Schleswig-Holstein, and Rhineland-Palatinate 'conserve' their position in relative tax capacity.

The combined models C1 and C2 have diverging, and with regard to some states, rather unexpected results for local tax capacities. The more moderate REMR price-based model C1 is close to the existing property tax. The more wide-spread prices for land in the FSO data bring about more significant changes. Change can occur in both directions, up and down, depending on the dominance of land or building sizes in the respective state. The major winners in model C1 are Baden-Württemberg, Hesse, and North Rhine-Westphalia, while Berlin, Bremen, Saarland, Saxony, Saxony-Anhalt, and Thuringia would be the main losers. In model C2, Bavaria, Hamburg, Baden-Württemberg and Hesse would gain property tax capacity against Berlin, Lower-Saxony, Rhineland-Palatinate, Saarland, Saxony, Saxony-Anhalt, Thuringia, and especially North Rhine-Westphalia on the losing side.

Further changes from the property tax reform are to be expected to arise in the inter-local variations of fiscal capacities. In general, tax capacities in agglomerations will increase due to the higher land values in models A and C, while cities and villages in peripheral regions would lose. However, a certain part of these changes will be equalized by **local fiscal equalizations** schemes[104]. But from the perspective of local fiscal equalization models A and C are preferable, as they establish higher tax bases for the agglomerations where the financial needs are higher. Therefore, a property tax reform based on market values would help reduce the gaps between financial needs and fiscal capacities in general and would reduce the re-distributional tasks of local fiscal equalization in all 13 spatial states.

The fact that Thuringia has introduced the combined model C into the political discussion, even though its municipalities would be losers from

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[104] Only 13 out of 16 German states execute a "local fiscal equalization" among their respective municipalities which the 3 city states (Berlin, Hamburg, Bremen) do not require.

the reform, is rather surprising. For model B, two of the proposing states – Bavaria, Baden-Württemberg and Hesse – are among the major losers. The promoters of model A – Bremen, Berlin, Lower Saxony, Schleswig-Holstein, and Saxony – are, in contrast, more or less comparative winners in both statistical versions of the model.

Municipalities losing average property tax capacity after a reform may thus increase their local multiplier in order to compensate for their losses of tax capacity. The local multipliers, however, are important for the competition between cities, and after a reform they would probably influence also the other local multipliers, particularly for the local business tax. This means that from the perspective of the municipalities, a high tax capacity would be preferable. To this extent, Thuringia, Bavaria and Hesse are suspected of acting against the interest of their own municipalities. Nonetheless, a clear political rationality can be observed here, as it appears there are other effects of the reform models that some of the states wish to promote. This idea directly leads to the effects on the fiscal equalization among the 16 states.

6.4.3. Effects on the Fiscal Equalization among the States

Changes in local tax capacities represent the interface between the effects of a property tax reform on the local level and the effects on the financial equalization among the 16 states. First, the standard taxes determine the size of the multipliers subject to revenue neutrality. Second, the relative weighting of tax capacities (including property tax revenues) determines the payments and transfers within the financial equalization among the 16 states.

German federalism specifies that municipalities are constitutionally part of their respective state. For this reason, local tax revenues are credited against state revenues within the framework of financial equalization among the states. The complicated fiscal equalization system comprises five steps for organizing the vertical and horizontal distribution of shared taxes among the states. Only steps 4 (horizontal transfer payments) and 5 (vertical payments) deal with the actual redistribution of tax revenue[105]. Those are the two parts of the fiscal equalization system in which a property tax reform probably will have an effect on the

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[105] The first 3 steps (primary equalization) comprise tax distribution between the three federal levels and partial horizontal distribution between the states.

tax capacity of each state, and which would thus change the redistribution between the states. Step 4 includes a redistribution mechanism where fiscally strong states make payments to fiscally weak states. Step 5 calculates vertical federal supplementary grants to all states that remain under the average tax capacity after step 4.

In order to determine a state's eligibility to receive payments, its total tax revenues are compared to the average[106] of all 16 states. Only states that fall significantly below the state average are eligible to receive payments. If a state's financial power is larger than its financial requirements, then it has the duty to make payments. This means that "paying" states have a relative financial power above 100 %, and "recipient" states below 100 %. To calculate the effects on the horizontal equalization, step 4 requires consideration of the financial power as well as the financial requirements of the municipalities. The sum of local and state financial power defines the total financial power of a state.

However, municipal tax revenues are applied at only 64 %, although there is no reasonable argument for this statutory fixed percentage. This only partial inclusion of municipal tax capacity is mathematically to the benefit of payer states within the horizontal equalization and reduces their transfer payments.

Table A8 documents the differences to the actual 2010 property tax system. In the first two lines of each model, the changes of local tax capacity (total and per capita) as calculated and documented in section 1.4.2 are shown, which constitutes the basis for the horizontal equalization among the 16 states.

The first line shows the total amount in thousands of Euro, and the second line shows it in Euro per capita. The next two lines give the results of the simulation of the horizontal fiscal equalization transfer payments, again in thousands of Euro and in Euro per capita (as with all the following figures). Lines 5 and 6 indicate the changes in the vertical Federal Supplementary Grants, which are given only to those states that remain below 99.5 % of the average fiscal capacity after the hori-

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[106] Financial needs, expressed as a ratio to the average fiscal capacity, is valuated higher than average only for the city states and the three sparsely populated states in East Germany.

zontal fiscal equalization. Lines 7 and 8 show the total amount of change for a state and its local authorities after fiscal equalization.

The simulation indicates that all states in which the municipalities lose tax capacities receive higher transfer payments (horizontal and vertical) if their fiscal capacity is below average, or that they pay less horizontal transfers to the poorer states if they are above average. Those states for which the reform provides growing tax capacities at the local level lose transfer payments or pay more. The amount of changes to the state budgets is considerable. In the case of Bavaria, they reach up to 158 million Euro in model A2 or even 396 million Euro (31.65 Euro per capita) in model C2 in higher transfer payments, this being in addition to the 3.5 billion Euro Bavaria actually paid to other states in 2010. For Hesse, models A and C mean higher transfer payments of up to 46 million Euro (7.55 Euro per capita). In model C2, Hamburg would have to pay 49 million Euro (27.69 Euro per capita) more than the city-state actually did in 2010.

With regard to model B, Bavaria would reduce its equalization transfer payments by 27.3 million Euro, Hesse by 96.2 million Euro, and Baden-Württemberg, the third promoter of this model, by 86.8 million Euro. Meanwhile poorer states like Saxony, Brandenburg, Mecklenburg-West Pomerania, and Lower Saxony would lose up to 46.32 Euro per capita (BB) in horizontal transfers, plus 15.04 Euro per capita (37.7 million Euro in total) in Federal Supplementary Grants. In models C1 and C2 Thuringia would win considerable amounts of both horizontal and vertical transfer payments: in model C1 61.8 + 18.5 million Euro, in model C2 70.1 + 20.9 million Euro.

As vertical grants from the federal budgets are also affected by changes in local fiscal capacity, the reform models lead to changes in their total amount: Both models A (1 and 2) and model C2 would increase the volume of the Federal Supplementary Grants by as much as 243 million Euro (C2); model B would bring a reduction of vertical grants of about 60 million Euro (and model C1 of only 8 million Euro).

The fact that the (associations of) municipalities do not negotiate the property tax reform, but rather the states, indicates why Bavaria, Hesse and Baden-Württemberg are fighting for model B and why Thuringia supports model C. A compromise does not in the end provide for more

balanced tax capacities, but rather for very uneven results. The perspectives for the future development of the German States – particularly regarding demographic change – give way to the expectation that migration will shift the remaining population more to the agglomerations, while sparsely populated and rural regions will shrink and age more strongly than average. That will increase land prices in the West German agglomerations and Berlin and at the same time result in a further decline of real estate values in the other regions. Hence, it can be expected that the fiscal equalization transfers will increase in all models based on market prices of land and consequently increase payments for Bavaria, Hesse, Baden-Württemberg and Hamburg. In contrast, Model B will freeze the fiscal equalization effects until a point when the shrinking population will surrender today's urban areas to other purposes or even return them to nature.

6.5. Summary

A reform of the property tax has been discussed for almost 35 years. The current property tax is based on outdated assessed values from 1964 in West Germany and 1935 in the former East Germany. Updating those values within the current system is considered to be too expensive and time-consuming. Furthermore, the current assessed values have lost their function of serving as an assessment basis for other taxes. Hence, Germany is in urgent need for a property tax reform.

Yet, the reform turns out to be extremely difficult due to the heterogeneous development of land values in the 16 states. Although the database is rather weak with regard to detailed local effects, the presented calculations show inter-state distortions which can be explained by economic arguments. The demonstrably higher land values in the prosperous southern states and the prosperous agglomerations lead them to have higher tax bases and standard taxes. The higher land values also explain these regions' or states' rejection of value-based reform models, as they would imply higher payments for them due to fiscal equalization between the states. The current ignorance of possible distortions is due to poor or even non-existing data. Thus, the impact of a reform affecting the local level, as well as the state level, cannot currently be precisely determined. Our calculations provide information on the probable effects of the three reform models and give some insight into the problems and conflicts of intergovernmental negotiations.

The three reform models being discussed at this moment differ with respect to their assessment bases. While the market value model (A) uses actual market values for land and buildings, the value-independent model (B) applies only value-independent land and building areas along with equivalence numbers. The combined model (C) is, as the name implies, a combination of models A and B. It uses market values for land evaluation and does not evaluate buildings, but instead applies equivalence numbers that refer only to a building's size.

We reviewed the reform models from a public finance perspective. The value-independent model B seems convincing at first sight with respect to its enormous simplicity and its transparency. However, it should be rejected because it does not fulfil the ability-to-pay-principle (is not equitable) and lacks history in legal practice. The combined model C, however, might fail a constitutional evaluation. From a municipal perspective, the market value model A is clearly favorable. The evaluation is cost-effective, it can be used for other taxes, and increasing tax revenue is automatically generated. Especially since it provides a fair valuation basis for other asset values (esp. capital assets), this model is the preferred solution from a municipal and legal perspective.

In general, tax burdens between different types of property owners will shift. In the end, the two value-based models refer more strongly to properties' actual features, especially their location. The property tax in each city would closely follow divergences in the values of land and areas for housing and commercial estates. Municipalities would then just determine a 'small local wealth tax' by setting the local multiplier of the property tax. The value-independent model, in contrast, would lead to relatively higher burdens on poorer households, because property tax can be passed onto the tenants while sparing the rich, which makes it a doubtful construction of an important tax in the German national tax system.

The market price models also create higher standard tax values, possibly leading to smaller multipliers (under revenue neutrality) than the value-independent model B. It turns out that using standard land values in models A and C automatically reduces the currently high multipliers. Since the values have not been adjusted in the last 50/80 years, multipliers would inevitably have to decrease drastically. It is only be-

cause model B does not refer to any market values that it creates higher multipliers than the current property tax, on average.

From the perspective of the federal financial equalization scheme, municipalities are constitutionally part of their respective state, which implies financial shifts between the states. Municipal tax revenues affect the results of the financial equalization between the states due to the fact that they are credited against the state revenues at 64 %. We were able to show that 11 billion Euro of property tax revenue cause significant financial shifts in the fiscal equalization between the states with respect to the three different models. The results basically reveal that the "rich" southern states (BW, BY, HE) and the city state of Hamburg would have to make higher payments within the fiscal equalization scheme if the value-based models are applied. Thuringia, with respect to the combined model C, would also be a stable recipient of higher fiscal equalization payments not only horizontally, but also vertically, i.e. through transfers from the federal government. The increasing Federal Supplementary Grants (see results of model A1, A2, C), however, should not be regarded as an insurmountable barrier, because the applicable amounts are not so high when compared to other expenditures of the federal government in favor of the states.

Lastly, all three reform models have significant effects on the local and state levels. The value-independent model has to be rejected in terms of the discussed principles for a "rational" property tax reform. While the market value model seems to be the most favorable solution from the point of view of tax construction, it is more expensive with regard to administrative costs, particularly with regard to determining appropriate values for building areas designated for housing purposes. Commercial areas are easier to evaluate according to their market value because the lease is a good basis for determining the capitalized value. Therefore other approaches to the evaluation of the building areas than just taxing 0.20 or 0.40 €/m^2 should be feasible.

However, the crucial question is whether a stable majority in favor of one of the preferable market price models is possible, as the southern states will not accept these reform proposals since they could then expect even higher equalization payments to "poorer" states. Given that they include important economic locations, these states also seem to have more luxury private homes and commercial buildings within their

territory. With regard to the fiscal equalization effects, the negotiations on property tax reform could be integrated into discussions on the inter-governmental financial relation rearrangement beyond 2020 (Federal-ism Commission III), which are intensified now that the latest federal elections have taken place. In the meantime the current coalition part-ners have started debating on the issue of restructuring the tax alloca-tion between the three federal levels.

ANNEX
A1: Property Tax Models

1) Fair Market Value Model (A)

Property tax (A) =
undeveloped land:
land [m²] x **standard land value** [€/m²]
developed land:
space/usable area [m²] x **correction factor for land size OR comparison factor** [€/m²] x **base rate** [‰]
= **standard tax** x **multiplier** [%]

If a property consists only of undeveloped land, the calculation requires only the size and the standard land value. The standard land value (SLV) is an average local ground value based on purchasing price data collected from different databases across the country. Since the SLV is only an average value of a number of purchasing transactions, the market value of a property needs to be estimated using the specific characteristics of the object. On the other hand, the formula for developed land includes the size of land and other indicators using correction factors or comparison factors.

Example:

year of construction: 1975
land size: 800 m²
gross floor space (residential): 140 m²
standard land value: 150 EUR/m²
correction factor year of construction: 0.95
correction factor land size: 1.06
comparison factor depending on floor space and standard land value: 1,167 €/m²
base rate: 3.5‰
multiplier: 370%
Property tax (A) = 140 [m²] x 0.95 x 1.06 x 1,167 [€/m²] = ca. 165,000 Euro x 3.5[‰] x 370[%] = 2,130.58 Euro p.a.

2) Value-Independent Model (B)

Property tax (B) =
land:
land [m^2] x **equivalence number** [Cent/m^2]
building:
building ground area [m^2] x **equivalence number** [Cent/m^2] x **height number =**
standard tax x **multiplier** [%]

While model A does not require a separate calculation of land and buildings because characteristics of land are included in the formula for developed land, model B calculates each of the components (land and building) separately. Furthermore, the formula requires the height of a building be included in order to estimate its gross building area (residential and commercial). Unlike model A, the building area is multiplied by the number of floors using the following "height numbers":

Building height	Number of floors (= height number)
≤ 5 m	1
> 5 m ≤ 10 m	2
> 10 m ≤ 15 m	3
> 15 m ≤ 19 m	4
> 19 m ≤ 22 m	5
every 3 m that exceed 22 m	+1

Example:

land size: 800 m^2
building area (residential): 140 m^2
building height: 8 m
multiplier: 370%
Property tax (B) = 800 [m^2] x 0.02 [€/m^2] + 140 [m^2] x 0.20 [€/m^2] x 2 x 370[%] = 266.40 Euro p.a.

3) Combined Model (C)

While the current method includes the two figures 'base rate' and 'standard tax', model C applies a **conversion factor** of 0.5 ‰. As a result, calculating the standard tax becomes unnecessary.

Property tax (C) =
land:
land [m²] x **standard land value** [€/m²] x **conversion factor** [0.5 ‰]
building:
gross floor space/commercial space [m²] x **equivalence number** [€/m²] =
standard tax x **multiplier** [%]

Example:

land size: 800 m²
gross floor space (residential): 140 m²
standard land value: 50 €/m²
conversion factor: 0.5 ‰
multiplier: 370%
Property tax (C) = (800 [m²] x 50 [€/m²] x 0.5 [‰] + 140 [m²] x 0.20 [€/m²])
x 370 [%] = 177.60 Euro p.a.

In order to calculate the 3 models using the formulas in Table A4 we collected data on property sizes and prices in the 16 states:

Table A2. Regional prices in €/m² (standard land values)

| | Residential properties | | | Commercial properties | | |
| | land* | | building | land* | | building |
	REMR	FSO	REMR	REMR	FSO	REMR
BW	160	195	735	80	98	368
BY	115	223	698	58	112	349
BE	175	241	963	88	121	481
BB	45	52	838	23	26	419
HB	120	154	680	60	77	340
HH	255	489	1,045	128	245	523
HE	150	190	855	75	95	428
MV	45	62	718	23	31	359
NI	75	73	663	38	37	331
NW	170	151	620	85	75	310
RP	105	115	778	53	58	389
SL	75	79	650	38	39	325
SN	40	38	745	20	19	373
ST	40	24	510	20	12	255
SH	85	109	843	43	54	421
TH	40	33	635	20	17	318
	116	**130**	**714**	**58**	**65**	**357**

Source: Own calculations; Real Estate Market Report 2011 (REMR); Federal Statistical Office 2010 (FSO).

* Both sources, REMR and FSO, provide different data.

Table A3. Size of residential and commercial properties (2011)

	Residential properties				Commercial properties			
	living area		land size		commercial** building area		land size	
	in 1,000 m²	m² per capita	in 1,000 m²	m² per capita	in 1,000 m²	m² per capita	in 1,000 m²	m² per capita
BW	464,938	43.2	1,447	134.6	150,667	14.0	452	42.0
BY	567,075	45.2	1,951	155.6	140,333	11.2	421	33.6
BE	134,514	38.9	210	60.7	11,667	3.4	35	10.1
BB	101,336	40.5	607	242.5	74,250	29.7	297	118.7
HB	27,381	41.4	64	96.8	8,333	12.6	25	37.8
HH	65,084	36.4	162	90.7	14,000	7.8	42	23.5
HE	265,652	43.8	910	150.0	50,333	8.3	151	24.9
MV	66,069	40.2	335	204.0	42,333	25.8	127	77.3
NI	367,427	46.4	1,972	249.1	142,667	18.0	428	54.1
NW	735,387	41.2	2,253	126.3	188,667	10.6	566	31.7
RP	194,567	48.6	602	150.3	46,667	11.7	140	35.0
SL	50,330	49.4	115	113.0	14,333	14.1	43	42.2
SN	163,535	39.4	390	94.0	64,667	15.6	194	46.8
ST	98,199	42.1	367	157.2	62,333	26.7	187	80.1
SH	124,291	43.9	665	234.7	35,667	12.6	107	37.8
TH	90,403	40.4	117	52.3	27,333	12.2	82	36.7
	3,516,188	43.0	12,167	148,8	1,074,250	13.4	3,297	40.3

Source:　　Authors; Federal Statistical Office.
** Data was derived from available statistics.

Table A4. Stylized formulas for calculating standard taxes

Model A (value based):
$\left[\left(A_L^{Res} \cdot SLV_L^{Res}\right) + \left(A_B^{Res} \cdot SLV_B^{Res}\right) + \left(A_L^{Com} \cdot SLV_L^{Com}\right) + \left(A_B^{Com} \cdot SLV_B^{Com}\right)\right] \cdot 0,0035$ L=Land, B=Building, Res=Residential, Com=Commercial, A=Area
Model B (size based):
$\left(A_L^{Res} \cdot EN_L\right) + \left(A_B^{Res} \cdot EN_B^{Res}\right) + \left(A_L^{Com} \cdot EN_L\right) + \left(A_B^{Com} \cdot EN_B^{Com}\right)$ EN=Equivalence Number (Land: 0.02 €/m², Residential buildings: 0.20 €/m²; Commercial buildings: 0.40 €/m²)
Model C (combined):
$\left(A_L^{Res} \cdot SLV_L^{Res}\right) \cdot 0,0005 + \left(A_B^{Res} \cdot EN_B^{Res}\right) + \left(A_L^{Com} \cdot SLV_L^{Com}\right) \cdot 0,0005 + \left(A_B^{Com} \cdot EN_B^{Com}\right)$ Land is multiplied by a conversion factor of 0.5 ‰

Source: Authors.

The standard taxes of the three models are the basis used to calculate the subsequent multipliers for each state and each model.
Because of the diverging price data base we present two results for the value-based models A and C:
- model A1 and C1 using land prices of the REMR,
- model A2 and C2 based on the land prices by the FSO.

Table A5. Standard taxes (Mio. €)

	2010*	A1 (REMR)	A2 (FSO)	B	C1 (REMR)	C2 (FSO)
BW	396,4	2,327	2,327	187	1,492	1,788,3
BY	407,6	2,450	2,426	213	1,412	2,584,8
BE	92,3	615	612	36	231	306,1
BB	60,6	530	525	65	220	247,4
HB	27,0	109	107	10	55	67,5
HH	78,3	430	427	22	252	466,1
HE	222,0	1,407	1,388	93	812	1,009,9
MV	39,2	285	282	38	120	153,6
NI	289,1	1,603	1,591	174	950	930,5
NW	598,7	3,363	3,309	273	2,378	2,135,9
RP	130,1	851	840	71	410	445,5
SL	31,9	169	167	19	67	69,4
SN	95,7	582	579	68	156	151,4
ST	53,6	298	295	54	137	99,7
SH	101,3	639	633	53	344	430,5
TH	50,5	256	253	32	61	55,1
	2,674,3	**15,914**	**15,761**	**1,409**	**9,097**	**10,941,7**

Source: Authors.
* Data from actual property tax system in 2010.

Since all three models require revenue neutrality, we apply actual property tax revenue from 2010 in the following formula:

$$Multiplier = \frac{Tax\ Revenue_{2010} \times 100}{Standard\ Tax}$$

Table A6. Local multipliers (state average)

	2010	A1 (REMR)	A2 (FSO)	B	C1 (REMR)	C2 (FSO)
BW	376%	64%	59%	798%	100%	83%
BY	379%	64%	48%	725%	109%	60%
BE	810%	122%	112%	2069%	324%	244%
BB	379%	44%	42%	353%	105%	93%
HB	572%	144%	133%	1494%	282%	229%
HH	540%	99%	73%	1899%	168%	91%
HE	333%	53%	48%	795%	91%	73%
MV	371%	52%	48%	381%	121%	95%
NI	388%	70%	71%	643%	118%	120%
NW	444%	80%	85%	972%	112%	124%
RP	343%	53%	52%	628%	109%	100%
SL	347%	66%	66%	597%	165%	159%
SN	450%	74%	75%	631%	276%	285%
ST	380%	69%	76%	379%	149%	204%
SH	336%	54%	49%	637%	99%	79%
TH	346%	69%	70%	543%	288%	317%
	410%	**70%**	**64%**	**777%**	**120%**	**100%**

Source: Authors.

Table A7. Local tax capacity (€ per capita)

	2010	A1 (REMR)	A2 (FSO)	B	C1 (REMR)	C2 (FSO)
BW	151.0	150.4	151.4	135.0	167.1	166.5
BY	133.2	134.5	166.3	131.9	135.7	206.4
BE	109.2	122.9	123.4	81.1	80.3	88.6
BB	99.3	145.8	139.7	202.1	105.8	99.0
HB	167.5	112.8	112.9	121.6	99.7	102.3
HH	179.7	166.2	207.5	97.0	169.9	261.3
HE	149.9	159.0	161.6	119.1	161.3	166.7
MV	97.8	119.3	119.5	180.5	87.9	93.7
NI	149.6	139.7	128.0	171.1	144.5	117.7
NW	137.4	128.9	113.1	119.1	160.5	119.9
RP	133.1	145.8	138.7	137.9	123.4	111.4
SL	128.3	113.8	106.3	141.5	79.2	68.4
SN	94.5	97.0	89.2	128.0	45.3	36.5
ST	94.0	87.9	74.2	179.1	70.5	42.8
SH	146.4	155.2	157.1	146.8	146.4	152.1
TH	92.5	78.8	71.7	111.9	32.7	24.7
	134.0	**134.0**	**134.0**	**134.0**	**134.0**	**134.0**

Source: Authors.

Table A8. Effects on local fiscal capacities and fiscal equalization transfer payments

	NW	BY	BW	NI	HE	SN	RP	ST	SH	TH	BB	MV	SL	BE	HH	HB	GER
A1																	
LTC*	-152	16	-7	-78	55	10	51	-14	25	-31	116	35	-15	48	-24	-36	0
p.c.	-8.53	1.31	-0.63	-9.87	9.12	2.47	12.67	-6.00	8.84	-13.66	46.43	21.42	-14.49	13.82	-13.51	-54.83	0
HT*	49	6	10	27	-19	-4	-20	6	-9	14	-53	-16	6	-23	8	17	0
p.c.	2.73	0.49	0.90	3.37	-3.10	-1.14	-4.89	2.76	-3.02	6.29	-21.01	-9.92	6.11	-6.63	4.52	26.32	0
VT*	38	0	0	18	0	-1	-10	2	-6	4	-17	-5	2	-6	0	4	24
p.c.	2.11	0.00	0.00	2.28	0.00	-0.35	-2.49	0.83	-2.04	1.90	-6.74	-2.93	2.45	-1.71	0.00	6.80	0.30
A2																	
LTC*	-435	416	4	-171	71	-22	22	-46	30	-46	101	36	-22	49	50	-36	0
p.c.	-24.38	33.20	0.39	-21.55	11.73	-5.36	5.58	-19.72	10.74	-21	40.34	21.63	-21.99	14.32	27.99	-54.64	0
HT*	141	-158	15	59	-16	10	-9	21	-10	21	-46	-17	9	-24	-16	17	0
p.c.	7.91	-12.60	1.36	7.43	-2.62	2.46	-2.17	9.09	-3.66	9.55	-18.27	-10.02	9.32	-6.87	-8.88	26.23	0
VT*	107	0	0	39	0	3	-4	6	-7	6	-15	-5	4	-6	0	4	133
p.c.	5.97	0.00	0.00	4.93	0.00	0.75	-1.09	2.74	-2.49	2.88	-5.85	-2.96	3.68	-1.78	0.00	6.78	1.62
B																	
LTC*	-328	-16	-173	170	-187	139	19	199	1	43	258	136	13	-97	-148	-30	0
p.c.	-18.39	-1.25	-16.05	21.48	-30.76	33.45	4.75	84.76	0.35	19.35	102.69	82.41	13.17	-28.20	-83.00	-45.95	0
HT*	106	27	87	-57	96	-64	-7	-91	-0,3	-20	-116	-63	-6	47	46	15	0
p.c.	5.93	2.18	8.08	-7.16	15.86	-15.34	-1.84	-38.82	-0.12	-8.90	-46.32	-38.04	-5.46	13.53	25.90	22.06	0
VT*	81	0	0	-41	0	-20	-4	-28	-0,2	-6	-38	-19	-2	12	0	4	-60
p.c.	4.52	0.00	0.00	-5.11	0.00	-4.70	-0.93	-11.96	-0.08	-2.70	-15.04	-11.39	-2.30	3.50	0.00	5.70	-0.74
C1																	
LTC*	411	31	172	-40	69	-204	-39	-55	0,0	-134	16	-16	-50	-100	-17	-45	0
p.c.	23.05	2.49	16.03	-5.04	11.39	-49.19	-9.70	-23.37	-0.01	-59.69	6.57	-9.93	-48.97	-29.08	-9.80	-67.93	0
HT*	-128	-41	-91	14	-46	94	15	25	0,0	62	-7	8	22	48	5	22	0
p.c.	-7.18	-3.31	-8.48	1.71	-7.55	22.68	3.80	10.78	0.00	27.57	-2.98	4.61	21.12	13.96	2.93	32.60	0
VT*	-105	0	0	9	0	28	7	8	0,0	18	-2	2	8	12	0	6	-8
p.c.	-5.87	0.00	0.00	1.17	0.00	6.82	1.86	3.24	0.00	8.23	-0.95	1.35	7.92	3.61	0.00	8.42	-0.09
C2																	
LTC*	-314	918	167	-253	102	-241	-87	-120	16	-152	-0,7	-7	-61	-71	146	-43	0
p.c.	-17.58	73.29	15.50	-31.85	16.82	-57.91	-21.70	-51.00	5.73	-67.65	-0.27	-4.18	-59.85	-20.74	81.98	-65.31	0
HT*	101	-396	-61	88	-33	111	34	55	-5	70	0,3	3	26	34	-49	21	0
p.c.	5.67	-31.65	-5.63	11.07	-5.44	26.71	8.58	23.55	-1.96	31.27	0.12	1.94	25.98	9.95	-27.69	31.35	0
VT*	77	0	0	57	0	33	16	17	-3	21	0,1	0,9	10	9	0	5	243
p.c.	4.33	0.00	0.00	7.22	0.00	8.02	4.11	7.04	-1.32	9.32	0.04	0.57	9.55	2.57	0.00	8.10	2.97

LCT: Local Tax Capacity; HT: Horizontal Transfers; VT: Vertical Transfers
* in Mio. EURO; Source: Authors.

Abbreviations

BW	Baden-Württemberg
BY	Bavaria
BE	Berlin*
BB	Brandenburg
HB	Bremen*
HH	Hamburg*
HE	Hesse
MV	Mecklenburg-West Pomerania
NI	Lower Saxony
NW	North Rhine-Westphalia
RP	Rhineland-Palatinate
SL	Saarland
SN	Saxony
ST	Saxony-Anhalt
SH	Schleswig-Holstein
TH	Thuringia

*city states

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Chapter 7

Fiscal Illusion over National Mandates
Junghun Kim

7.1. Introduction

National mandates are popular fiscal tools employed by the central government in Korea to pass on public program costs to local governments. At an initial stage, the central government appears to succeed in forcing local governments to adjust the composition of local expenditures by using national mandates. But over time, local governments do not fully comply with the conditions of national mandates, and after a few years, they start to demand full compensation for the costs incurred by national mandates. Parliamentary members tend to support local governments, because having their constituencies rooted in local jurisdictions, they have more incentives to represent the interests of local governments than to fully take into account the fiscal burden associated with politically popular government expenditures. As a result, a transfer of the national tax revenue, usually in the form of intergovernmental grants or revenue sharing, is eventually introduced to compensate local governments for their increased expenditure responsibilities caused by national mandates. Having transferred a part of its tax revenue to local governments, the central government then finds it necessary to increase its own revenue either by increasing national tax rates or by accumulating national debt. In sum, the fiscal burden of national mandates is initially underestimated by the central government on the basis of the assumption that part of it would be passed onto local governments, but over time a major part of it ends up being borne by the central government. The problem of this budget process is that national mandates give rise to a fiscal illusion as to who bears the tax burden for the public expenditures required by national mandates.

The cumulative effect of the budget process involving national mandates is effectively irreversible because, although veiled by the effect of fiscal illusion, increased public expenditures are public benefits for citizens and therefore difficult to downsize. The end result of the fiscal illusion and irreversibility caused by national mandates is an over-expansion of the local public sector and fiscal deterioration.

Not much literature deals with the interaction between national mandates, expenditure assignment between levels of government, and intergovernmental transfers. Among the few studies on this issue, Lotz (2009) conducted a survey study on subnational expenditure responsibilities that are mandated by central governments in Europe. He reports that it is not common for local governments in Europe to be tasked with a so-called "agent function" in which they are given no discretionary role. Lotz goes on to point out that even in cases when such functions exist, in most cases general grants rather than earmarked grants are used to cover the costs of agent functions.

In a study into the effects that norms and standards in the federal government have on local government budgets in Germany, Spahn (2013) reports that in Germany, there are indeed many types of mandate functions, especially in the area of social spending. However, he notes that in Germany, conditional matching grants are not common fiscal tools for implementing federal mandates, and instead intergovernmental dialogue is used to improve the situation.

A recent paper by Baicker et al. (2012), which looks into the long-term trend of US state budgets, argues that federal mandates and the use of matching grants are more important factors than the Tiebout mechanism in explaining the evolution of the US state budgets over the past 50 years. It is worth noting that in response to the expanding expenditure responsibilities for education, health, and social welfare, which are mandatory expenditures, the US states have significantly increased the size of their own-source revenue.[107] This is in contrast to what is the case in Korea, where the fiscal burden of local governments incurred by national mandates has been almost exclusively met by an increase in

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[107] Between 1952 and 2006, state own-source revenues increased from 4.1% to 10.4% of GDP (Baicker et al., 2012).

intergovernmental grants and revenue sharing rather than an increase in the revenue from existing local taxes.

Compared with the European countries and the US, the problem of national mandates in Korea is most problematic because it is accompanied by fiscal illusion, which masks the long-term tax burden on the central government. Because of this, change is needed in Korea's fiscal institutions to force both the central and local governments to recognize and reveal the correct tax burden of national mandates. Once the full fiscal burden of national mandates are recognized, the manner in which to split the fiscal responsibilities between the central and local governments needs to be decided on before the introduction of national mandates. Otherwise, the rapidly increasing public expenditures involving national mandates could become a structural problem and lead to sustained fiscal deterioration.

7.2. Overview of local public finance in Korea

7.2.1. Structure of local revenue and expenditures

The size of the local revenue in 2014 was 163.6 trillion Won, or about 11.6% of GDP.[108] Out of this total budget, the shares of own-source revenue and intergovernmental grants were respectively 57.7% (94.3 trillion Won) and 42.3% (69.2 trillion Won). The issue of local bonds is tightly controlled by the ministry responsible for local affairs, the Ministry of Security and Public Administration (MoSPA), so it is small in size. In 2014, it was approximately 4.9 trillion Won or about 3% of the total local budget.

The largest expenditure item in local budget is social protection, which was about 24.5 percent of the total budget in 2014. Expenditure shares on environment, transportation, general administration, and regional development were respectively 9.94%, 9.28%, 8.46%, and 7% of the total budget. Health is mainly the responsibility of central government, so its share in the local budget is very small (1.48%). It is noteworthy that the local budget share of education spending is also very small (5.92%). This is because the public expenditures for primary and secondary education

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[108] The GDP of Korea is around 1,400 trillion Won in 2014. As of April 2014, 1 USD is about 1,050 Won.

are managed by local education offices, entities that are separate from local governments.[109]

Table 7.2. Local revenue and expenditures (2014 budget)

Local Revenue	Share (%)	Local Expenditures	Share (%)
Local tax	33.30	General administration	8.46
Non-tax revenue	12.60	Education	5.92
General grants	19.32	Environment	9.94
Conditional grants	23.02	Social protection	24.50
Local bond	2.98	Health	1.48
Carry-over	8.78	Agriculture	6.84
		Transportation	9.28
		Regional development	7.01
		Others	26.56
Total (₩163.6tn)	100.00	Total (₩163.6tn)	100.00

Source: Ministry of Security and Public Administration.

Due to the considerable size of intergovernmental transfers, the size of local expenditures in Korea is quite large, almost as large as that of the central government. In 2014, the expenditure shares of central government, local governments, and local education offices in general government budget, after transfers were made, were 42.3%, 42.8%, and 14.9% respectively.[110]

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[109] The heads of local education offices are elected by popular vote, but local education offices do not have the power of taxation. So, except for a small amount of fees, education expenditures are mainly financed by transfers from central government and from local governments. Education fees and transfers from central and local governments were respectively 8.8%, 18.0% and 73.2% of the total local education budget in 2014.

[110] Social insurance expenditures on health care and pensions are off-budget items in Korea.

Table 7.3. Revenue of central and local governments (2014)

	Central Gov.	Local Gov.	Local Education Office
Before transfers	274.7 (73.5)	94.3 (25.2)	4.9 (1.3)
After transfers	158.0 (42.3)	160.0 (42.8)	55.9 (14.9)

Source: Ministry of Public Administration and Security

7.2.2. Local tax

There are eleven local taxes in Korea (Table 7.3.). The standard structure of the rates and bases of local taxes is stipulated in the Local Tax Act passed by the Parliament. Apart from the stipulations on the standard structure, the Local Tax Act has additional clauses that allow local governments to apply tax exemptions or to set their own tax rates within certain boundaries – usually within plus/minus 50 percent – of the standard tax rates. However, since the start of local autonomy in 1995, no local governments have yet exercised any such taxing power. Thus, according to the OECD criterion that categorizes sub-national taxes according to the taxing power of local governments[111], most of the local taxes in Korea belong to, *de jure*, type *b*, but, *de facto*, type *d*.[112]

Among the eleven local taxes, the Property Acquisition Tax, which is levied on transactions of properties such as real estate, cars, ships, etc., is the most important, providing 26.5 percent (13.8 trillion Won) of revenue in 2012. The Local Income Tax is the second largest with a reve-

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[111] In the studies by OECD (1999) and Blöchliger and King (2006), the types of local taxing power are categorized as follows: (i) subnational government can change the rates and bases of local taxes (type a); (ii) subnational government can change the rates and bases of local taxes within boundaries (type b); (iii) subnational government sets tax relief (type c); (iv) there is a tax sharing arrangement between central and local governments (type d); the central government sets the rate and base of the subnational tax (type e).

[112] It is beyond the scope of this paper to fully analyze the reason why local governments in Korea do not exercise their taxing power. But, apart from the economic incentive related to intergovernmental grants, this phenomenon is historical. The Local Tax Act and the Local Public Finance Law existed for a long time during the era of centralization (1961~1994). During this period, these laws were used as a means of dictating the fiscal behavior of local governments. Due to this legacy of centralization, local governments and local citizens both tend to regard the revenue from local taxes as a kind of fiscal resource granted by the central government. At the same time, the central government considers it as its right to dictate local expenditure responsibilities by numerous mandates and national laws.

nue share of 19 percent (10.26 trillion Won). The Local Education Tax, whose revenue share was around 9.4 percent (5 trillion Won) in 2012, is a piggy-back tax on six local taxes.[113] The Local Consumption Tax, which was introduced in 2010, is really an intergovernmental grant, since 5% of the VAT revenue is distributed to 17 upper-level local governments by a central government ministry (MoSPA), based on a distribution formula that applies different distribution weights to the share of final consumption expenditures in each jurisdiction.[114] Thus, according to the OECD categorization of local taxes, the Local Consumption Tax in Korea is not even type *d*. However, according to the Local Tax Act, it is legally a local tax. Its revenue share was about 3% (2 trillion Won) in 2012, but it will be more than 6% from 2015, as it has been decided that the share of Local Consumption Tax in VAT revenue will be increased from 5% to 11% from 2015.

Table 7.4. Local taxes in Korea (2012, ₩tn, %)

Item	Jurisdiction	Amount	Share
Acquisition Tax	Province	13.8	25.58
Registration and License Tax	Province/District	1.25	2.32
Leisure Tax	Province	1.13	2.09
Local Consumption Tax	Province	3.03	5.62
Local Education Tax	Province	5.08	9.42
Regional Development Tax	Province	0.88	1.63
Residence Tax	City[1]/County	0.3	0.56
Local Income Tax	City[2]/County	10.26	19.02
Property Tax	District/County	8.05	14.92
Automobile Tax	City/County	6.6	12.24
Tobacco Consumption Tax	City/County	2.88	5.34
Carry-over	-	0.68	1.26

Notes: 1 Local Income Tax consists of tax on income and tax on employee payroll. The latter is collected by districts. 2. Residence Tax consists of a poll tax and a tax on workshop premise. The latter is collected by districts.

[113] These are: Acquisition Tax, Registration and License Tax, Local Income Tax, Property Tax, Automobile Tax, Leisure Tax, and Tobacco Consumption Tax.
[114] The weights are: 100% for local governments in the Seoul capital region; 200% for six metropolitan cities, and 300% for the provinces outside the Seoul capital region.

The Automobile Tax, which collected 6.6 trillion Won in 2012, consists of two parts: a tax on car ownership and a tax on gasoline and other petroleum-product sales. Under the Local Tax Act, local governments may raise the car tax rate by 50 percent, but the tax structure of the gasoline tax is determined by the central government. The Leisure tax has an attractive, but elusive name – it is a tax levied on tickets issued for horse and bicycle races. It is an important source of revenue for the local governments, which hold the facilities for races for gambling purposes, but such facilities are tightly controlled by the central government.

The fact that the rates and bases of local taxes are de facto fixed by the Parliament has an important implication for who eventually bears the fiscal burden of national mandates. When the central government attempts to share its fiscal burden with local governments by imposing national mandates on local budgets, it wants an adjustment process that shifts local fiscal resources from non-mandated to mandated expenditure areas. However, this process can be only partial at best, because local governments are unwilling to cut their own priority spending, and lobby vigorously for a transfer of fiscal resources from the central government. The politicians in Parliament, whose constituencies are rooted in local jurisdictions, tend to side with the local governments. Moreover, a deliberate increase in the local tax burden – an increase in the rates and bases of local taxes by local governments – has never happened in Korea, as noted above. Therefore, there is certainly a limit to the efforts of the central government to shift its own tax burden to local governments, and the main part of the fiscal burden of national mandates is ultimately borne by the central government in one form or another.[115]

7.2.3. Intergovernmental grants

There are three types of intergovernmental grants in Korea: general grants for local governments, the "Local Allocation Tax" (LAT)[116]; general grants for local education offices, the "Local Education Grant"

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[115] This is in contrast to the experiences of the US. Baicker et al. (2012) reports that state own-source revenues as a share of GDP increased by more than 6%p over the last fifty years (between 1952 and 2006) to meet state expenditure responsibilities, including federal mandates on education, health, and social welfare.

[116] From 1991 to 2004, there was a kind of block grants called "Local Transfer Fund" (LTF). It was distributed to local governments based on a formula for local loads and environmental facilities, but it was absorbed into the LAT and NS in 2005.

(LEG); and conditional matching grants, the "National Subsidy" (NS).[117] As can be seen from Fig. 1, the sizes of the three types of intergovern-mental grants have been roughly similar for the past two decades, each being around 30 trillion Won in 2011. However, if the LTF that existed between 1991 and 2004 is counted as a general grant, then the size of general grants for local governments was larger than that of conditional grants up until the mid-2000s, when the size of conditional grants over-took the size of general grants. This reflects the fact that recent increas-es in welfare expenditures have mainly been financed by conditional matching grants.

Figure 1.1. Intergovernmental grants (1990-2011, trillion Won)
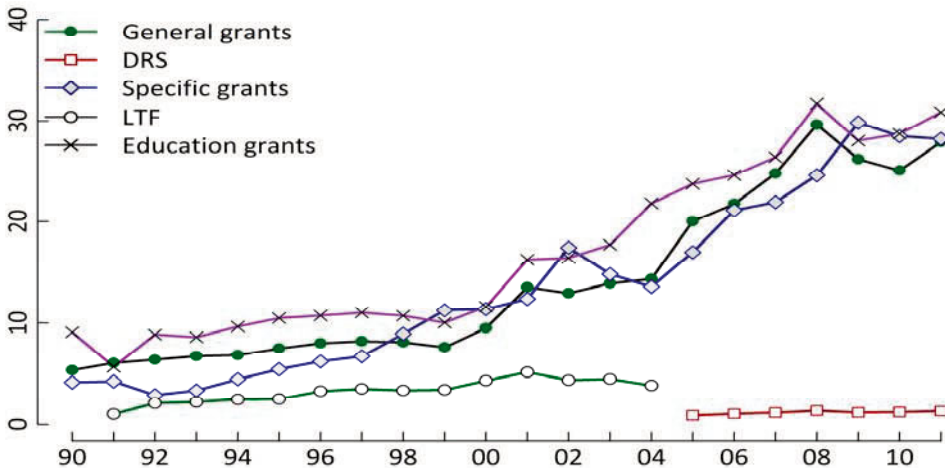
7.2.4. Conditional matching grants
As discussed in Kim, Lotz, and Mau (2010), conditional grants played a significant role in many OECD countries in Europe until the 1990s, but their role is now much smaller than that of general grants. An exception is the United States, where the size of federal conditional grants was as large as 3.5 % of GDP in 2011.[118] As discussed before, Korea and the US

[117] In 2005, national subsidies for many social services (facilities for the disabled, elderly, children, etc.) were consolidated into a single block grant termed "Decentralization Revenue Sharing" (DRS), but the size of this block grant is relatively small.
[118] The GDP and federal grants in the US in 2013 were 16.6 trillion dollars and 546 billion dollars, respectively (Office of Management and Budget, White House).

are countries where national/federal mandates are widely adopted. As a result, conditional matching grants play an important role in these countries.

In theory, the main role of conditional grants is to stimulate the local provision of public goods that have spill-over effects. Conditional grants in Korea operate quite differently. There are some conditional grants for national public services which are provided to local governments with full funding. But almost all conditional grants are given to local governments by central government ministries with a conditional requirement for local matching funds. Due to the prevalence of such requirements, the National Subsidy Act does have a clause which says that conditional matching grants should be based on "the principle of request". However, this is not effective in practice because of the close ties between sectoral ministries and local governments. Expenditure areas such as transport infrastructure, agriculture, and culture have typically met with this problem.

Since the late 1990s, however, the composition of government expenditures started to shift toward welfare expenditures, and a more serious problem began taking shape. The benefit levels and eligibility criteria for important welfare programs such as cash and medical assistance to the poor, the disabled, families with children, etc. are all determined by law. When laws on these sorts of welfare programs are enacted, they effectively stipulate not only the benefit levels and eligibility criteria, but also the fiscal responsibilities of local governments. The exact amount of local matching rates is usually stipulated in the Regulation on National Subsidy, administered by the Ministry of Finance, but they are sometimes included in the laws that govern specific welfare programs.

The growth of conditional matching grants for mandated welfare programs since the late 1990s has been quite fast and large. In 1997, before the Asian financial crisis and the start of a rapid increase in social safety net spending, the share of conditional grants given by the Ministry of Health and Welfare was around 25%. It then rose to 36% in 2001, the year when the system of cash and medical assistance to the poor was significantly expanded. The rapid pace of increase in the conditional grants for welfare programs continued in the 2000s due to increasing expenditure on the elderly and a political demand for welfare expenditures. In 2005, the share of conditional grants given by the Ministry of

Health and Welfare was around 42%, and it rose to 45% in 2010, and to 47% in the 2013 budget.

Given the fact that conditional grants for welfare programs are accompanied by central government mandates for matching local government funds, it should come as no surprise that the tension between the central and local governments has increased. In a sense, such tension is inevitable because governments at both central and local levels are forced to quickly adjust the expenditure composition in response to a rapidly increasing welfare expenditure, which is the most politically popular expenditure item in Korea at present.

Against this background, it will be argued in the next section that part of the reason why a strong tension between the central and local governments has built up in the process of expanding welfare expenditures is that decision-makers in both the executive and legislative branches are affected by a fiscal illusion that hides the true fiscal burden of expanding welfare expenditures. This fiscal illusion is the result of decision-makers' failure to consider the real costs of demands for matching local funds. To a certain extent, there is room for local governments to increase welfare expenditure by reducing other expenditure items such as transport infrastructure, cultural facilities, etc. However, there is a limit for how much local governments can adjust the local expenditure composition in order to meet the requirement of matching funds for rapidly increasing welfare expenditures. Given the fact that local tax rates and tax bases have never changed and are not likely to change in the near future, the fiscal burden of local matching funds ultimately has to fall back on the central government. A more detailed discussion of this process follows below.

7.3. National mandates, fiscal illusion, and fiscal rigidity

7.3.1. National mandates on local expenditures

After a long period of rapid economic growth, Korea faced a sudden economic shock in the late 1990s. To overcome the economic crisis, the government pushed for economic reform measures that strengthened the competitive market forces of the economy. At the same time, in order to lessen the widening income gap, the government started to introduce social safety net programs. In the 2000s, it also became evident that a low fertility rate and a rapidly aging population would add to the de-

mand for welfare expenditures. As a result, many types of welfare pro-
grams for the poor, the elderly, the disabled, and families with children
were introduced starting in the late 1990s. In 2001, benefits for the poor
(in the form of the Basic Livelihood Security Program) were introduced,
and health benefits for the poor were also significantly expanded in the
same year. In 2008, cash benefits to the elderly were introduced, while
childcare support and cash benefits to families with children have in-
creased significantly from 2011 to 2013.

Table 7.5. Major mandatory expenditures

Program	Year of in-troduction	Amount (₩tn, 2013)	Matching rates
Cash Benefits to the poor	2001	3.16	80% (50%)
Health benefits to the poor	2001	4.25	80% (50%)
Cash benefits to the elderly	2008	3.20	70% (50%)
Childcare	2011~2013	3.50	50% (20%)

Note: The rates in parentheses apply to Seoul city.

In the 2013 budget, the total amount of these four programs was 14.1
trillion Won, about 38.4 percent of the total conditional matching grants
in 2013 (36.7 trillion Won). Beside these welfare programs, there are
several other mandatory expenditure programs provided by conditional
matching grants, such as subsidies to rice growers and benefits to the
disabled. Altogether, the share of mandatory expenditures in total con-
ditional matching grants is close to 45 percent. This is likely to exceed
50 percent in the near future.

With respect to these mandatory welfare expenditures, it should be not-
ed that the central government and Parliament unilaterally decided to
introduce them without consulting local governments or even inquiring
into the expected expenditure increases in local government budgets.
There is some reason for this. In Korea, a sizable amount of general
grants is given to local governments without any specifications as to
which expenditure categories the grants should be spent on.

This may sound somewhat confusing to outsiders, since the Basic Ex-
penditure Needs (BEN) of general grants is calculated on the basis of
four major expenditure categories, one of which is "social expenditure".
In the sub-category of the social expenditure category, all the major wel-

fare programs listed in Table 7.4. – benefits to the poor, benefits to the elderly, childcare, and for the disabled – are included as a basis for calculating BEN. However, the calculation of BEN is only for distribution purposes, and there is no monitoring mechanism to keep track of the link between the expenditure categories of BEN and the actual local government expenditures. Not knowing exactly how local governments will spend their revenues from local tax and general grants, both of which have been decided by Parliament, the central government and Parliament feel free to push the expenditure programs they regard as having high national priority onto local budgets.

7.3.2. National mandates on local revenue

Unilateral decision-making by the central government and Parliament takes place not only on the expenditure side, but also on the revenue side. As described in the previous section, the tax rates and tax bases of local taxes in Korea are determined by Parliament, and local governments do not deviate from the standards set by Parliament. In the sense that local tax revenue is determined in Parliament, local taxes are per se national mandates.[119] The difference is apparently that the mandates on local expenditures are more discretionary than are the mandates on local taxes. As mentioned, local governments are given the power to change local tax rates through by-laws, which implies that the independence of local government tax policy is honored. In this sense, it can be said that there is a consensus that the central government and Parliament do not unilaterally change local taxes for national policy purposes. In other words, local taxation is supposed to be more protected than local expenditures from the intervention of the central government and Parliament.

In reality, despite this interpretation, there is hardly any effective separation of national tax policy and local tax policy. In fact, they are automatically linked in a very significant way. Above all, general grants for local governments and local education offices are all automatically linked to national tax policy, as they are fixed proportions of the national tax revenue. Local income tax, the second largest local tax, is also a

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[119] In the case of the US, the term preemption is used to describe the federal government's legal intervention that preempts sources of state tax revenues or bases. In the case of Korea, the central government in effect determines local tax revenue. This means that the situation is closer to mandate than to preemption.

piggy-back tax on the national income tax, and as such automatically linked with the national income tax policy.

In this way, local revenue is significantly affected by national tax policies, and the close link between the two has been a continuous source of conflict between the central and local governments. However, more serious types of national mandates on local tax policy have been implemented recently. Since the start of the economic crisis in 2008, housing prices in Korea has been declining, the same as in many other countries. Moreover, due to demographic changes, the number of households entering the housing market is declining. To *revive* the housing market, Parliament decided, unilaterally, to reduce the tax rate of the Property Acquisition Tax, which is a local tax. There have been two interim changes since 2011, and a third change – a permanent one – took place in September 2013.

This episode clearly shows the scope of the national mandates that dominate intergovernmental fiscal relations in Korea. The central government and Parliament have unilaterally changed local tax rates in order to meet an obviously national policy objective, amid controversies over the effectiveness of this policy. It is therefore not surprising that this decision has been followed by heated debates between central and local governments as to how this loss of local tax revenue should be compensated for.

Table 7.6. Changes in Property Acquisition Tax

Dates	Rates on housing purchase
2011. 3~2011. 12	Above 9 billion Won: 4% → 2% Below 9 billion Won: 2% → 1%
2012. 9~2013. 6	Above 12 billion Won: 4% → 3% 9 ~ 12 billion Won: 4% → 2% Below 9 billion Won: 2% → 1%
2013. 9	Above 9 billion Won: 4% → 3% 6 ~ 9 billion Won: 4% → 2% Below 6 billion Won: 2% → 1%

7.3.3. Fiscal illusion

A notable feature of the process by which national mandates are introduced in Korea is the fact that neither the central government nor Parliament pays close attention to the long-term fiscal impacts of such

measures on central government budgets. In a legal sense, it can be argued that the fiscal implications of national mandates are clearly understood by policy-makers: the regulation on National Subsidies (NS) administered by the Ministry of Finance has a table that shows matching rates of different types of public services provided by conditional matching grants. For example, as seen in Table 7.3., the matching rates of "assistance to the poor" are 50 percent for Seoul city and 80 percent for other local governments. For childcare, the matching rates are 20 percent for Seoul city and 50 percent for other local governments. Therefore, based on the table in the National Subsidies Regulation, the central government and Parliament may simply assume that the fiscal burden of central government for, e.g., childcare, is about 44 percent of the total expenditure.[120]

An underlying assumption in this process is that local governments will be able to adjust their budgets to absorb the expenditure increases imposed by mandates. However, once the unique structure of intergovernmental fiscal relations in Korea is taken into account, it becomes clear that this is effectively impossible. To make the discussion more concrete, let T, E, and B denote, respectively, tax revenue, government expenditure, and debt issue. Let superscripts C and L denote, respectively, central and local governments, and Z denote tax revenue transfers from central to local governments. Let superscript M and O denote, respectively, mandated and own expenditures. Finally, let θ denote a matching rate for mandated expenditure. Then the budget constraints of central and local governments can be expressed as follows:

$$T^C + B^C - Z = E^{CO} + \theta \times E^M \qquad \text{(central government)}$$

$$T^L + B^L + Z = E^{LO} + (1 - \theta) \times E^M \qquad \text{(local government)}$$

As discussed above, local tax revenue in Korea grows only by its *natural* growth rate, since local tax rates are in effect fixed. Therefore the yearly change in T^L is exogenously determined at a low level due to the prevailing low rate of GDP growth. Therefore ΔT^L barely equals the *natural* in-

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[120] Applying a weight of 20 percent, the share of Seoul's population to Seoul city, an average matching rate for childcare is 44 percent (0.5 x 0.8 + 0.2 x 0.2).

crease in local expenditure, ΔE^{LO}. In Korea, local debt issue is tightly controlled by the central government and is basically not allowed except in exceptional cases such as natural disasters ($\Delta B^L = 0$). Thus, when there is a marked increase in the size of the mandated expenditure ($\Delta E^M > 0$), local governments are forced to maintain balanced budgets either by reducing their own expenditures ($\Delta E^{LO} < 0$) or by receiving more revenue transfers ($\Delta Z > 0$) from the central government.

Indeed, over the past decade, the composition of local expenditures has shifted significantly toward a higher share of welfare expenditures in order to satisfy mandate requirements. And it may also be true that there is still more room for adjustment of mandated expenditures, especially by more closely linking general grants and welfare expenditures. However, recent extensions of mandated expenditures have been met by strong local government resistance. As seen from Table 7.3., assistance for the poor, introduced in the early 2000s, requires a 50 percent matching rate from Seoul city and 20 percent from other local governments. However, recently introduced mandated expenditures, such as for cash benefits to the elderly and childcare require Seoul city and other local governments to take respectively 50 percent and 80 percent of the necessary expenditures. Therefore it is not surprising that, faced with the increasing fiscal burden caused by recently extended mandate programs, local governments make increasing demands for more tax revenue transfers from the central government.

For example, Seoul city has strongly resisted assuming the mandated share of matching funds for the newly extended childcare program, which was one of the campaign promises made by President Park, who was elected in December 2012. Perhaps because the mayor of Seoul city is from an opposition party, Seoul city has been running a media campaign arguing that the childcare program should be the responsibility of the central government, and has refused to adjust its budget to reflect increased childcare expenditures. Eventually, it was announced that Seoul city "will have to" issue a local bond of 0.2 trillion Won to cover the extra costs of childcare.[121] Considering the fact that Seoul city's local

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[121] Such a demand was also propelled by the loss of local tax revenue caused by the Property Acquisition Tax cut enacted by the central government.

tax revenue alone (i.e. excluding non-tax revenue) was more than 12 trillion Won in 2013, the claim that Seoul city was unable to adjust 1.7% of its budget was questionable. However, Seoul city's sentiment was shared by all other local governments. As a result, negotiations took place between the Ministry of Finance and the local governments on ways to compensate local governments for increased childcare expenditures as well as for the loss of local tax revenue resulting from the Property Transaction Tax cut. The result of the negotiations was that from 2014, the VAT share of the Local Consumption Tax would be increased from 5% to 11%. At the same time, it was decided that several key expenditure programs previously covered by Decentralization Revenue Sharing (footnote 11) should be provided by National Subsidies.

7.3.4. Tax revenue transfers

This recent episode of dispute between the central and local governments over national mandates and the resulting intergovernmental adjustment of fiscal resources is one among many similar disputes that have taken place since local autonomy was introduced in 1995. Such disputes seem to some extent inevitable because there is no formal channel for budget negotiations between the central and local governments that would allow them to take costs incurred by national mandates and medium-term budget projections into account. In any event, the result of such disputes is often tax revenue transfers from the central to local governments.

Table 7.6. Tax revenue transfers

Program	Change	Year
Local Gasoline Tax	3.2% of national gasoline tax	1999
Local Education Tax	Transfer of National Education Tax	2001
Increased share of general grants in Domestic Tax Revenue	13.27% → 15.0%	2000
	15.0% → 19.13%	2005
	19.13% → 19.24%	2006
Increased share of general education grants in Domestic Tax Revenue	11.8% → 13.0%	2001
	13.0% → 19.4%	2005
	19.4% → 20.0%	2008
	20.0% → 20.27%	2010
Local Consumption Tax	5% of VAT revenue	2010
Local Consumption Tax	5% of VAT → 11% of VAT	2014

For example, Table 7.6. shows the types of tax revenue transfers that have taken place since 1995. It should be noted that some of them are nominal in the sense that they replaced other local revenue items and did not really contribute to increasing local revenue: the Local Gasoline Tax replaced a reduction in the Car Tax at the time, and the Local Education Tax was introduced by transferring part of the national Education Tax. Also, increases made in 2005, 2006, 2008, and 2010 to the shares of LAT and LEG as part of Domestic Tax Revenue reflect the fact that these general grants absorbed other smaller grants. However, the increase of LAT and LEG in 2000 and 2001 had a real revenue effect, as did the introduction of the Local Consumption Tax in 2010 and its expansion in 2014.

An important aspect that does not appear clearly in Table 7.6. is the fact that quite sizable *implicit* tax revenue transfers are made due to the peculiarity of the manner in which general grants for local governments and local education offices (LAT and LEG) are determined. As Table 7.6. shows, the total amounts of LAT and LEG are currently fixed, respectively, at 19.24 percent and 20.27 percent of the Domestic Tax Revenue (DTR), which is defined as national tax revenue less revenues from custom duties and earmarked taxes such as the gasoline tax, liquor tax and national education tax. As a result, the ratio of DTR to the central government's total tax revenue, λ, depends on the relative growth rates of these two types of tax revenues.

Figure 7.2. Ratio of DTR to central government tax revenue (λ)

As shown in Fig. 2, the ratio λ is far from being constant and has for the past 14 years increased steadily by more than 10%p from 75% in 1997 to 85% in 2011. Since the combined size of general grants for local governments and local education offices is 39.5 percent of DTR, and since national tax revenue was 202 trillion Won in 2013, a 10%p increase in λ means about a 7.98 trillion Won increase in general grants.[122] This amount is as large as the combined amounts of national subsidies for the benefits to the elderly and benefits to families with children, which for the last six years have generated extensive controversy over how to split the related fiscal burden between the central and local governments.

7.3.5. Shrinking fiscal space and fiscal rigidity
The result of these various and persistent tax revenue transfers from the central to local governments is a shrinking fiscal space that the central government does not explicitly recognize. As shown in Fig. 3, the shares of gross and net (gross minus intergovernmental transfers) national tax revenue in GDP were respectively 14.4% and 9.2% in 1990. By 2011, the gross national tax revenue had grown to 15.6% of GDP, but

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[122] 0.395 x 0.1 x 202 trillion Won = 7.98 trillion Won.

net national tax revenue had declined to 7.0% of GDP. This means that the size of intergovernmental grants increased from 5.2 % of GDP in 1990 to 8.6% of GDP in 2011. This is among the highest in the OECD countries, while Korea's tax revenue (except social security contributions) is among the lowest in the OECD countries.[123] This indicates a long-term trend of shrinking net tax revenue of the central government and also indicates the degree of impact that the local public sector has on public finance in Korea.

A question with respect to the long-term trend is whether the central government is aware of it. As it has been discussed, the decisions on national mandates made by the central government and the parliament in Korea are myopic. In particular, the budgeting procedure in Korea remains mainly focused on the following year's budget, despite the introduction of a medium-term fiscal framework about 10 years ago. Additionally, budget officials tend to regard general grants and mandatory expenditures as expenditure items beyond their control. Consequently, they are not interested in analyzing the long-term implications of the current system of intergovernmental fiscal relations. In this sense, the consistently declining trend of net national tax revenue illustrated in Fig. 4 reflects the cumulative effects of the *ad hoc* approach taken by the central government toward the complicated issues of intergovernmental fiscal relations.

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[123] The share of intergovernmental grants in the GDP in 2010 was 11.5% in the Netherlands, 10% in the UK, 7.2% in Italy, and below 6% in most other unitary countries. The share of Korea's tax revenue (excluding social security contributions) in GDP was 19.34% in 2010. In the Nordic countries, it is higher than 30%. It is also higher than 25% in France, the UK, and Italy. In the US (18.47%), Japan (16.28%), Spain (20.1%), and Germany (22.0%), the tax burden is relatively low.

Figure 7.3. Trend of GDP shares of gross and net national tax revenue (%)
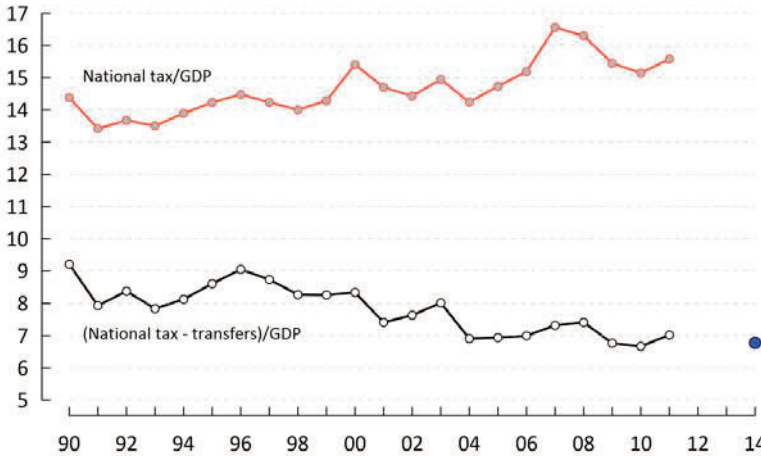

Note: For 2014, 11% of VAT share of Local Consumption Tax is assumed.

A good example that shows the rigidity of central-local fiscal relations in Korea is the dispute over education grants. Recently, the rigidity of the general grant for education has been criticized because its size, at 20.27% of DTR, keeps growing while the number of students has been noticeably declining due to demographic changes (Fig. 5). It is obvious from this trend that the share of education grants in national tax revenue needs to be adjusted to allow more fiscal room for other expenditure programs such as welfare expenditures, which are rapidly increasing. However, the education ministry, local education offices, and teachers regard education grants as a kind of fiscal right which needs to be protected from those who do not understand the importance of education. On the other hand, since the increasing fiscal surplus in education grants is so obvious, an interesting compromise has been developed. Until recently, the law on education grants dictated that education grants be used for students in primary school and junior high school. Faced with mounting criticism of the system of education grants, however, the ministry of education has agreed to expand the grants to also cover three- to five-year old children in kindergarten. Although this change reflects the fact that there is some degree of flexibility in managing intergovernmental grants, what needs to be noticed is that during negotiations over the use of education grants, its share in national tax revenue was regarded as something that could not be touched. Moreover, as the expenditure programs to be used with the extra fiscal sur-

plus in education grants have been used up within the education sector, efforts towards reducing education grants in order to increase other priority spending programs will be much more difficult.

Figure 7.4. Trends of education grants and number of students
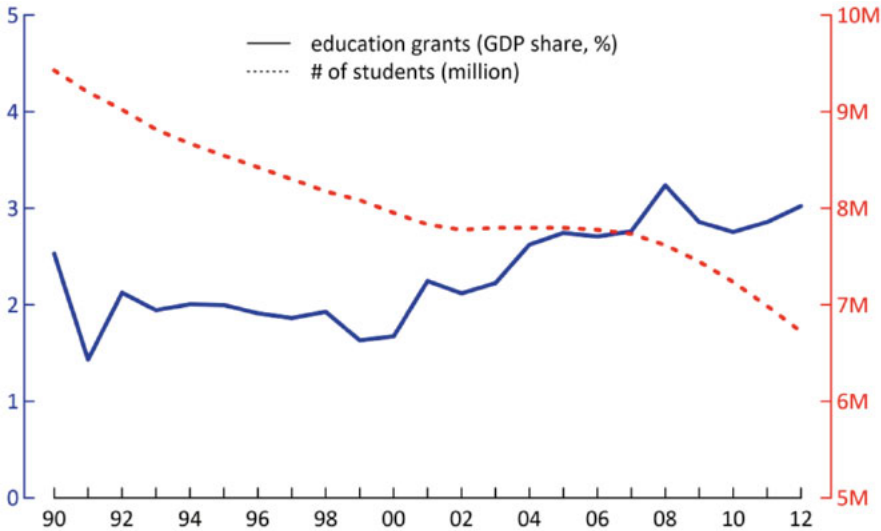
7.4. Literature on national mandates

In a study on the funding of new competencies for local governments in European countries, Lotz (2009) addresses many issues related to the transfer of government functions from central to local governments. Lotz notes that even in cases where local governments have their own financial means (local taxes) to finance new functions, intergovernmental grants are used to finance them in the majority of 23 surveyed countries. The reason, he notes, is that the use of grants makes the central government accountable for the new functions designed by the center and also makes it easier to decentralize new functions. With regard to the choice between general and earmarked grants, Lotz reports that as many countries use earmarked grants as use general grants.

These practices with regard to new functions for local governments in Europe seem quite similar to those in Korea: both in Korea and in many European countries, conditional grants are popular fiscal tools to finance new functions of local governments. There is a very important dif-

ference: Only eight countries in Lotz's study responded affirmatively to a question on the existence of an "agent function" in their country, where an "agent function" was defined as a function that left no freedom for local governments as to implementation. Out of these eight countries, five responded that such agent functions are financed by general grants, not conditional matching grants. So the type of mandatory expenditures found in Korea is not a common form of local function in most European countries.

In a study closely related to the issues discussed in this paper, Spahn (2013) discusses standards and norms imposed on local governments by the federal government in Germany. In Germany, a commission was established by the Federal government in 2010 to look into standards imposed by federal legislation that would have financial implications for local budgets, as well as to estimate the volume of such financial implications.[124] Through a survey of federal regulatory restrictions that affected local administrations and local budgets, the commission identified 300 norms, and out of those, 220 norms applying to mainly social and labor policies were investigated. Spahn's findings were as follows. Firstly, three quarters of the norms did not entail financial implications for other tiers at all (Category I). One quarter of the norms that entailed a fiscal burden on local governments were mainly related to the area of social spending. In particular, norms and standards set by federal laws and regulations on social spending, such as housing and heating support for the socially disadvantaged, childcare, support for adolescents, aid to families, institutional care, basic support for the elderly, etc. were found to entail fiscal burdens for local governments.[125]

Spahn notes that local governments tried to shift the fiscal burden onto federal governments, but the federal government rejected stipulations that would reduce local governments' spending at the expense of the federation, based on an argument that such problems can only be addressed as part of an overall package that also includes a reform of local revenues (Spahn, 2013, p. 141).

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[124] In the commission's investigation, a standard is defined as "a uniform or unified applicable or desirable way, fixed by federal regulations, as to how a political goal or task is to be fulfilled or performed" (Spahn, 2013, p. 138).

[125] For example, a federal act on childcare establishes that municipalities are to provide daycare for 35 percent of all children under the age of three until 2013, and from 2013, all children will be legally entitled to daycare from their first year (Spahn, 2013, p. 138).

So the situation in Germany with regard to central government mandates on social spending that create fiscal burdens for local governments is quite similar to that in Korea. This is perhaps because in both countries, tax sharing is a major source of sub-national government revenue.[126] When national tax revenue is allocated through a scheme of tax sharing to central and sub-national governments, much of the sub-national governments' revenue is determined by law or constitution, not by local residents. Under this circumstance, a kind of "expenditure sharing" established by law and regulations is inevitable, especially in the area of social expenditures, which are regarded as national interests rather than locally-decided issues.

However, there is still a noticeable difference between the two countries. In Korea, there is no formal dialogue channel between the central and local governments, such as an intergovernmental committee that looks into the fiscal implications of national mandates. Also, in the case of Germany, conditional matching grants are not as widely used as in Korea as a fiscal tool for expanding social expenditures.

A paper recently published by Baicker et al. (2012) addresses the issues of federal mandates in the United States. In analyzing the long history (1952-2006) of fiscal policies in the US, they argue as follows:

> "The greater role of states cannot be easily explained by changes in Tiebout forces of fiscal competition, such as mobility and voting patterns, and are not accounted for by demographic or income trends. Rather, we demonstrate that much of the growth in state budgets has been driven by changes in intergovernmental interactions. Restricted federal grants to states have increased, and federal policy and legal constraints have also mandated or heavily incentivized state own-source spending, particularly in the areas of education, health and public welfare." (Baicker et al., 2012, p. 1079)

According to Baicker et al., federal grants to states and localities rose from 0.8% of GDP to 3.3% of GDP between 1952 and 2006. At the same time, state own-source revenues more than doubled from 4.1% to 10.4%,

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[126] The local taxes in Korea are a de facto tax sharing arrangement, because their rates are in effect determined at the levels set by the central government.

and local own-source revenues increased from 4.0% to 7.1% during this period. On the other hand, federal own-source revenues declined as a share of GDP from 19.0% to 18.4%. Based on this observation, Baicker et al. argue that the classic Tiebout model – an emphasis on mobility and the aggregation of voter preferences – does not have a high explanatory power for the empirical facts of the structure of US state revenue and expenditures. Rather, they argue that state budgets can be mainly explained by changes in the nature of intergovernmental interactions over time. In particular, they argue that external forces such as federal mandates, court orders (e.g., school finance equalization), and matching funds have played an important role in shaping the size and composition of US state budgets.

From a theoretical point of view, this paper implies that there is not, ultimately, much difference between the US and European countries in terms of economic models for explaining intergovernmental fiscal relations. Many European scholars have argued that the model of administrative federalism has at least as much explanatory power as fiscal federalism to analyze intergovernmental fiscal relations in European countries.[127] The study by Baicker et al. shows that contrary to the traditional view that federal-state relations in the US is largely explained by the model of fiscal federalism, federal mandates play an important role even in the US.[128]

From a policy point of view, there is a close similarity between Korea and the US in that intergovernmental fiscal relations in both countries are heavily influenced by mandates and conditional matching grants. It is also notable that the two countries are among the few countries in the OECD which employ a presidential system.

However, there is an important difference between Korea and the US in the process of increasing the role of sub-national governments for providing such public services as education, health, and public welfare. In the US, an increase in sub-national expenditures for welfare programs has been matched by increases in sub-national tax revenue. That

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[127] For more detailed discussions on the issues of administrative federalism versus fiscal federalism, see Kim, Lotz and Mau (2013). See also Rattsø (2002) for a discussion on administrative federalism in the Nordic countries.

[128] It is worth noting that in extensive surveys on fiscal federalism, Oates (1999, 2005, 2008) never discusses the issue of federal mandates in the US.

way, the tax price signal of the burden of welfare expenditures is sent to local residents. At the same time, the tax burden imposed by the federal government in the US has, on the other hand, slightly declined as a share of GDP from 19.0% to 18.4% over the past 50 years.

The situation is completely different in Korea. Welfare programs in Korea are provided by local governments, but are mainly financed by intergovernmental transfers or increased tax sharing. Ideally, taxpayers should be aware of the cumulative cost effect of the central government's mandates for welfare expenditures. However, they do not fully understand the mechanism of mandates, but at the same time they express concerns over budget deficits and accumulating government debt. This creates a kind of vicious cycle in that the central government tends to rely more on conditional matching grants to shift the fiscal burden onto local governments. Unfortunately, this latter strategy does not work in the long run.

7.5. Conclusion

Public finance in Korea is going through structural changes. Until recently, both central and local governments in Korea enjoyed a buoyant tax revenue during a long period of high economic growth. This in turn provided a favorable condition for both tax revenue sharing and expenditures sharing between government levels. There have of course been some disputes between the central and local governments over how to share total tax revenue and how to divide expenditure responsibilities. However, such disputes were temporary rather than structural, in the sense that neither central nor local governments had to suffer from sustained budget deficits as a result of an unbalanced assignment of revenue or expenditures. However, the situation is rapidly changing now. Korea is facing a long-term trend of low growth rates, and moreover, tax revenue elasticity with respect to GDP has become noticeably smaller and more volatile. At the same time, the demand for government expenditures on social welfare programs is becoming ever more politically important.

Faced with the asymmetry between revenue conditions and expenditure demands, the central government tends to delay its fiscal responsibilities by taking advantage of national mandates. However, such measures only create confusion and controversies among both the central and local governments, and ultimately lead to budget pressures on

them. A better policy is to link the decision on increases in expenditures to the decision on tax burden, which is transparent at both the central and local levels.

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Chapter 8

The changing role of local income taxation in Denmark
Jorgen Lotz, Jens Blom-Hansen and Søren Hartmann Hede[129]

8.1. Introduction

The theme paper for the present workshop[130] asks the question: What are the driving forces behind the local tax structure? Does tax policy determine the local expenditure portfolio, or is the opposite the case? Is there a role to be played by a local desire for more municipal activity, and is it likely that the access to free rate setting for local income taxes[131] has played a role?

Historical data are not available for a quantitative analysis of this question in Denmark. This paper begins instead by briefly exploring the early historical development in Danish local finances.

The paper ventures the conclusion that the early growth in local government was caused by the central government delegating functions to the local level. This was financed partly by grants. The grants contributed to the financing and to equalizing the very uneven revenue potentials between the municipalities. At the same time, local income taxes increased as the grants assumed local co-financing. But the early income tax was of limited potential.

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[129] Marius Ibsen has made valuable contributions to the text.
[130] The Copenhagen Workshop 2013.
[131] The emphasis in this paper is on the buoyant and growing local income tax. Denmark has, like all other countries, also local property taxes, but they yield only 10 pct. of total local tax revenues, and their revenue growth has been modest compared to that of income tax revenues.

At the beginning of the last decades of the 20th century, the municipalities[132] were given responsibility for the delivery of services that were regarded as essential to households, in the areas education and social policy, with large, organized, vocal and demanding groups of employees and users, and with unlimited access to levying modern income taxes.

This cocktail resulted in increasing tax rates – from 15 in 1970 to 25 in 2014[133] – and a growing relative size of the local government sector. It seems unlikely that the growth of the local sector would have been so strong if the municipalities had had only the property tax to finance it; with the income tax, local expenditure pressures got ample fuel supply. The local expenditure pressure became an intrinsic part of the system, stronger than tasks delegated by the central government.

Over the years, the growing local expenditure and tax rates increasingly drew central government attention to the macroeconomic consequences of local budget policies. And distrust in local accountability was beginning to show.

During the 1960s and 1970s, local borrowing was gradually forbidden in order to rein in local investments. And in 1980, a system of annual negotiations between central government and the municipal association sought to limit the growth in current spending. However, the agreement system did not deliver, and a policy of ad-hoc sanctions was introduced in the beginning of the 1980s and has since developed into a legislative system of permanent sanctions.

Sanctions have frozen municipal tax rates at historical levels, resulting in systematic inequalities. The tax reductions in 2014 are not a convincing sign of defrosting. This leaves Denmark with problems without any obvious solution. The present paper discusses some options for the future development.

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[132] The treatment of both subjects concerns the municipal sector only. The counties have played a secondary role in these respects and are not discussed.
[133] About 4 percentage points of the increase was the result of the 2007 reforms.

8.2. The early history (to the mid-20th century)

8.2.1. Taxes, a brief survey of the early history[134]

In connection with the big reforms of social policy in 1803 (see appendix), a *local income tax* was introduced. It was based on local assessments of personal capacity to pay tax. The local revenue need was distributed among the citizens in relation to their estimated individual tax capacity. Property values were taken into account in such assessments. These assessments were not, particularly in the rural municipalities, handled satisfactorily, and the resulting injustices were probably accepted only because of the low tax rates[135].

But already in 1861, Copenhagen got a formal local tax on income and assets, the city being too big for people to know each other well enough for a discretionary assessment. Over the years, other cities also introduced rule-based assessments. The tax rate was limited to 3 per cent, and until 1880 it was even lower.

In the rural municipalities, the system of local assessments also became more and more bound by rules over the years, but elements of estimation were maintained in part until the 1960s.

The modern central government income tax was introduced in 1903. The 1903 legislation defined the basic principles for measuring income and assets that are still largely in use. It was decided that the local authorities should use the income as defined by the central income tax law as a starting point for the assessments, but the local income tax was still a feeble source of revenue.

For Copenhagen, the maximum rate was reduced to 2½ per cent, but Sørensen (1988) describes how growing expenditure in 1910 led to the replacement of the maximum rate by a progressive local income tax rate in the metropolitan municipalities. The size of the rate – but not its degree of progression – was free for the municipalities to decide.

Taxation in the rest of the country also had a certain progression element, because the municipalities had discretion to increase the taxable

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[134] For the historical developments of local income taxation and company taxation, see Birch Sørensen (1988).
[135] Ingvartsen (1991:12)

income for high-income earners before applying the flat income tax rate. The progressivity remained until the introduction of PAYE taxation in 1969, when the proportional tax we know today was introduced.

The 1903 legislation introduced a tax both to the municipality of residence and to that of business, as well as revenue-sharing with the municipality of any summer residence. Already many years before that, a tax on business had existed; this was collected from the municipality in which the income was earned without regard to where the taxpayers lived. The rules for allocation of the revenues were complicated and served two purposes; one purpose was to equalize between poor and wealthy municipalities, the other was to improve accountability by seeking to allocate revenue to the municipality responsible for the services received by families and businesses (including the municipal costs of fired workers (Vedel-Petersen 1952)).

These business taxes were abolished in 1956, when other equalization mechanisms were in place to take care of such aspects. The tax for municipalities of summer residence was abandoned in 1979.

A local *company tax* was also introduced in 1903 to supplement the local personal income tax. The idea was to get revenue for the municipalities where production took place, as an equalizing mechanism. The tax was levied at the same rate as the local individual income tax but could not exceed a rate of 5 per cent. When local income tax rates during the 1950s exceeded the 5 percent ceiling, the company tax became a uniform tax of 5 per cent, which in 1960 was replaced by a tax-sharing arrangement. The latest development has been that, because of equalization concerns, only half of the local company tax revenue is now shared with the municipality of origin, while the other half is allocated to other municipalities according to a measure of needs.

8.2.2. Expenditure delegation and grants, a brief early history[136]
At the roots of the division into municipalities in Denmark are the parishes formed in the 11th and 12th century. Their small size was determined by the distance the inhabitants had to go to church. After the Lutheran reformation, many parishes were amalgamated.

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[136] The main source for this section is Betænkning 471 (1968).

Until 1849, Denmark was ruled by absolute monarchs. However, given the technology of the time, many decisions had to be made locally. There were three categories of local officials: Professional administrators (prefects), landowners, and the clerical hierarchy, first of all the vicars. Agrarian reforms in the last decades of the 19th century turned peasants (who were tenants) into farmers owning their own land, which again necessitated a local administration reform.

The delegation of competences to the local level began in the early 19th century and is described in the appendix. It paints a picture of delegation of new functions in the areas of roads, social assistance and primary schools, partly financed by matching grants.

This development has been described as follows (Philip 1954): "the state has taken over more of the legislative power and financing" and "the state has withdrawn one task after another from the local government and taken them over." Philips described the development as an agent system placing important functions at the local level to the effect that the centre maintained the right of regulation and inspection of the local services.

This resulted in a growing expenditure pressure. To support the financial burden and to address the unequal financial capabilities of the municipalities, the government financing took the form of matching grants. However, the grants only financed part of the local costs; new competences were unfunded. This resulted in sizeable differences in tax rates. The development is not well documented, but in 1936-1937 a family with two children and a taxable income of DKK 2,200 paid DKK 36-62 in a low-tax municipality, and DKK 153-201 in a high-tax municipality (Henriksen 2000: 253).

The use of unfunded new local competences stopped – like in most other European countries – in the last part of the 20th century. Full compensation has been institutionalized through the annual negotiations between the central government and the local government associations. In these negotiations, an agreement is reached on the amount of local spending to be expected for the following year. The expected tax revenue with unchanged local tax rates is then calculated, and the missing local revenue – the residual – determines the size of the "neutral" general grant for the coming year.

8.2.3. Conclusions on early history, why did local government become so large in Denmark?

The historical explanation for the large local sector seems to be that the centre (i.e. the national population) wanted more government. But, as described by Philips, the centre realized, that administratively it was best to let the municipalities deliver the services – while keeping central control functions, however.

Some kind of equalization has always been needed, because some municipalities were too poor to finance the desired standards. Some equalization was attempted, as stated above, by using matching grants (until the 1980s). On the taxation side the idea was that part of the local personal income tax was to be paid to the workplace municipality, and part to the municipality of summer residence.

So towards the end of the first half of the 20th century, Denmark was left with a system of grants, both for financial and equalization purposes, but where local taxation was beginning to be regarded as important from a responsibility point of view.[137] In addition, local governments had access to borrowing for investment purposes.

But, as local governments grew in relative importance in the national economy, the centre increasingly came to question the "responsibility" of local governments in decisions on both taxation and borrowing.

8.3. The recent macroeconomic concerns

8.3.1. The recent role of the local income tax[138]

The situation at the beginning of the 1970s was very different from the historical framework described above. The decade opened with a large-scale municipal reform in which the previous more than 1,300 small municipalities were amalgamated into 277 new large municipalities.

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[137] Philip wrote in 1954 (pg.32): "The body which has the responsibility for a piece of public expenditure [ ] must also be responsible for collecting the necessary money from the citizens. This idea of responsibility has presumably been so obvious that it has hardly been referred to in the literature on the subject."

[138] This section draws on Lotz (1991)

The national political agenda focused on the expansion of the welfare state, and this was to be a local government phenomenon. The new municipalities were entrusted with the responsibility for the delivery of services that were seen as essential for the households in areas such as education, elderly care and childcare services. In the following decades, these functions were expanded and drove up public spending.

Expansion of local welfare was desired by the central government. However, the push for expansion also came from within the municipalities, where large, organized, vocal and demanding groups of employees emerged. Municipal employees developed into a group having vested interests in municipal service. This development is illustrated in Table 8.1.

The political influence of municipal employees and their organizations was further strengthened by the fact that their interests often coincided with those of the users of their services.

**Table 8.1. Growth in number of municipal politicians and employees**

	1966	1990	2010
No. of local politicians	10,005	4,677	2,468
No. of local employees	46,020	451,916	527,755
No. of local employees per local politician	4.6	96.6	213.8

Source: Blom-Hansen et al.

And with unlimited access to set the rates for the modern rules-based local personal income tax, this turned into a dangerous cocktail resulting in a growing relative size of the local government sector.

Although the central government tried to keep local taxation at unchanged levels since the 1970s, local taxes steadily increased, cf. figure 8.1.

Figure 8.1. Local income tax rate, 1976-2013[139]
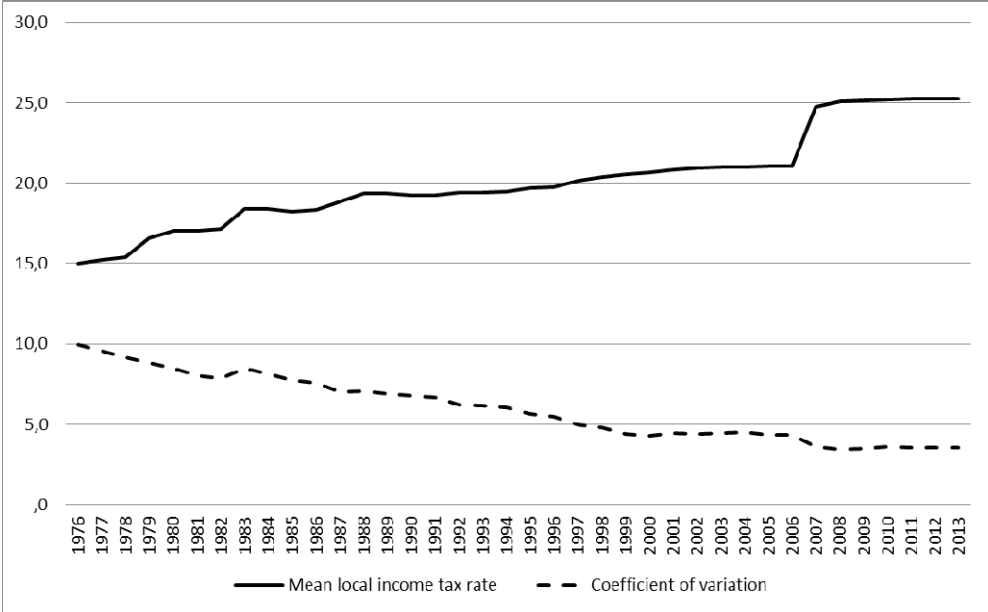
Source: Statistics Denmark.

The upper curve in the figure shows that local tax rates increased stead-
ily and incrementally during the 1970s and 1980s. From the 1990s, the
rate of increase declined[140], and since the 2007 amalgamation reform,
local tax rates have been almost constant due to a new system of sanc-
tions for tax increases, see the description of this system below.

The lower curve in figure 8.1. shows another remarkable trait, namely
that the spread around the mean local tax rate (measured as the coeffi-
cient of variation) narrows over time. This means that inter-municipal
differences in taxation slowly disappear. This trend had been underway
already before the municipal reform in 1970. Figure 8.2. shows a snap-
shot of local income taxation in the tax year 1965-66. It includes all

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[139] Until 2007 the figure includes 266 municipalities, i.e. all municipalities except the
five municipalities on Bornholm and the two municipalities on Ærø, which were amal-
gamated before 2007. After 2007 the figure includes all 98 new municipalities.

[140] In 2007, a new local government reform amalgamated the 271 municipalities into 98
new large ones. This reform transferred a number of welfare tasks from the counties to
the municipalities and abolished county taxes. The previous regional income tax was
divided between the central government and the municipalities, which were allowed to
increase their income tax rate by approx. four percentage points.

1,168 ordinary rural municipalities. The mean income tax rate was 15.3 per cent but, as the figure shows, the spread around the mean was considerable. The coefficient of variation was 19.9, almost twice as high as in 1976, the first year in Figure 8.1.

**Figure 8.2. Income tax rates in ordinary rural municipalities in 1965-1966**
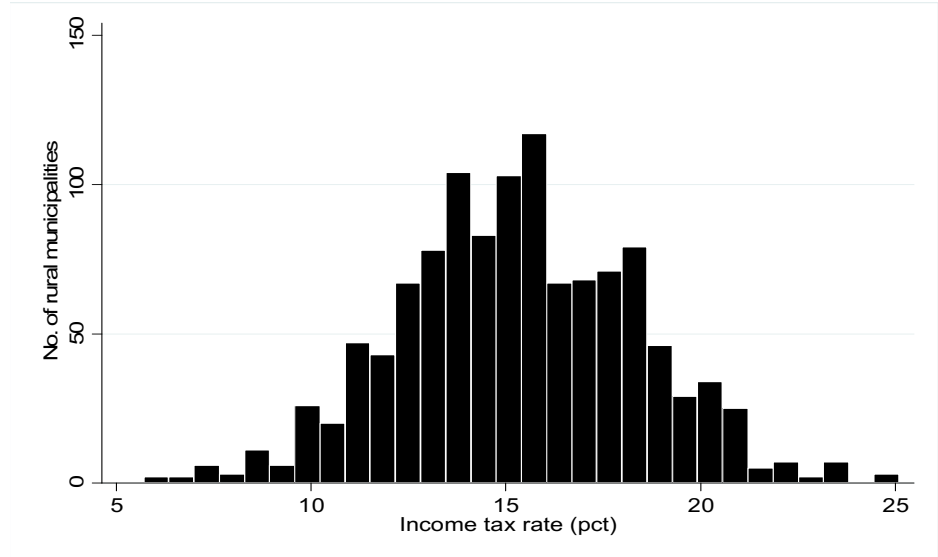
Source: Statistics Denmark

And it was no longer new functions that drove up taxes. Instead, the push for more spending came as a systematic feature of willingness to spend rather than to make savings and lay off staff.

The unlimited access to local income tax was part of the explanation. It seems unlikely that this growth in spending and taxation would have taken place if local finances had been limited to property taxes. The personal income tax provided the municipalities with a stable tax base that automatically increased in tandem with private incomes. Figure 8.3. confirms that the income tax base has developed in a much more stable pattern than has the property tax base, which suggests that reliance on property taxes would have reduced the capacity to raise more revenue. Add to this the global dislike of property taxation; very few countries raise more than 3 per cent of GDP from that source.

Figure 8.3. Municipal income and property tax bases, 1981-2012 (DKK per capita, current prices).
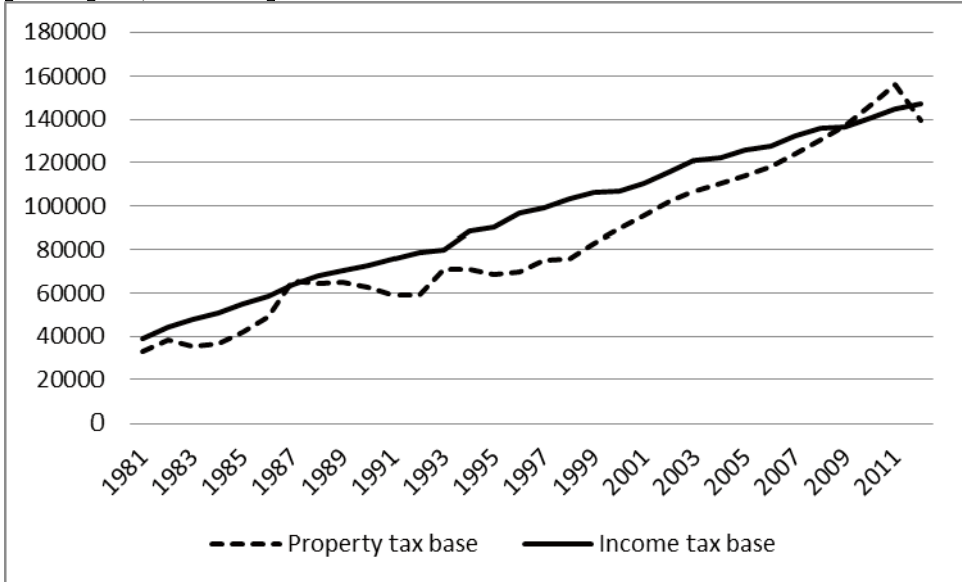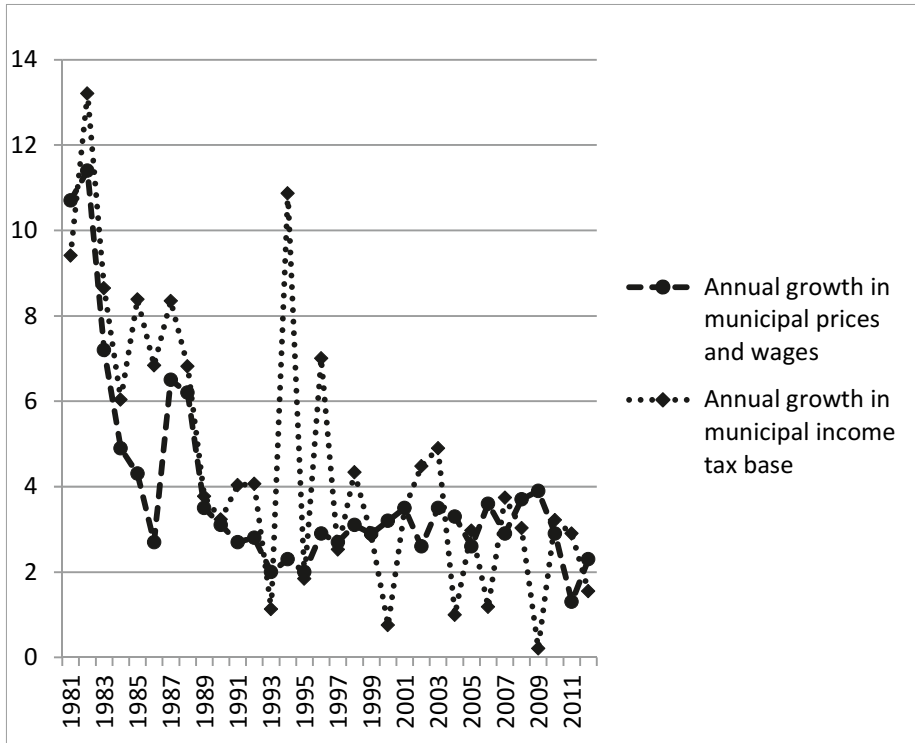

Source: Statistics Denmark and Ministry of the Interior

Another feature is that in most years since 1980, the municipal income tax base has increased at a faster rate than municipal prices and wages[141], especially in the beginning of the period (fig. 4). This probably allowed the municipalities to profit from a certain degree of fiscal illusion among the citizens – and thus less efficient voter control of taxation – since tax revenue increased without raising tax rates (cf. Oates 1975).

All this tends to support the hypothesis that the free access to the buoyant personal income tax played an important role in explaining the development.

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[141] In Denmark local expenditure is deflated by an index combining local wage increases and price increases in local purchases. In other countries deflation normally only takes price increases into account.

Figure 8.4. Annual increase in municipal income tax base per capita and municipal prices and wages, 1981-2012 (annual percentage increase).

Source: Statistics Denmark and Ministry of the Interior

The increases in local income tax rates increasingly frustrated the central government. The local development was against the central government's macroeconomic policies. A lack of trust in local accountability began to develop: Perhaps too many local councils found it less painful to raise taxes than to hold back service improvements and to lay off employees?

The concern was first expressed in restrictions on borrowing, and later in efforts to control increases in local expenditure and tax rates.

8.3.2. Borrowing restrictions
Already in the 1950s and 1960s, the government attempted to control local government sector growth by introducing a number of regulations

on local investment activity, mostly in the form of quantitative regulation of local construction. Nearly every year following the mid-1960s saw new regulations focused on local borrowing, and during the 1970s this led to annual negotiations resulting in the stepwise elimination of the municipal rights to borrow. In principle, local borrowing for investments in tax-financed functions has been prohibited in Denmark since 1980.

8.3.3. Control of current spending

In 1979, an agreement was reached between the national government and the local government association that better control was needed, not only of investments as before, but of the overall municipal economy and taxation. The focus changed from concerns of overheating the economy and wage-pressures to concern of the effects of the increasing tax rates. The result has been annual agreements between the two levels since then.

As stated above, these agreements concerned the size of the general grant for the following year. And in return for the right to reach an agreement on grants, the municipal association agreed to "recommend" to their members to stay below generally agreed ceilings for spending and taxation. The system of agreements seemed to be a perfect construction; the individual municipalities were free to make budget decisions reflecting their own situation, but the municipal sector as a whole would respect central government objectives. Over time, this came to imply that the local government association (KL) replaced the central government in the controlling function regarding the performance of the local government sector.

However, the system of agreements contained a number of paradoxes from the outset.

First, at the heart of the system is a collective action problem. The agreement covers all municipalities, but is not formally binding for individual municipalities. There is thus an incentive for the individual municipality to increase taxation and expenditure and to hope that other municipalities do the opposite, so that at the collective level, the agreement is adhered to. This is where the local government association over time came to play a coordinating role.

Second, when the agreement is broken, it is difficult to identify who are the real culprits to be blamed and sanctioned. Since the agreement is collective, the culprit is not necessarily the hard-pressed municipality which has increased taxation, but it may well be the well-to-do municipality that did not lower taxation.

Third, the collective nature of the agreements may lead to perverse incentives in a temporal perspective. There is a disincentive to lower taxation and expenditure at time t, even if the local economy allows it. Given the collective nature of the agreements, a municipality that lowers taxation or expenditure may be punished at time t+x, because it may then be caught at the lower level if sanctions for tax or expenditure increases were to be introduced.

Finally, the agreements contain clear signals from the government about appropriate local government behaviour. Given the hierarchical element in central-local government relations, municipalities may pay close attention to these signals. This again may introduce a homogenizing effect of the agreements. This may be part of the explanation of the continuing disappearance of inter-municipal differences discussed above in relation to Figure 8.1. Since the agreements were introduced as a means to uphold local autonomy while introducing central control, this may be considered a paradoxical effect.

8.3.4. Introduction of sanctions

In the first few years, the agreements were respected by the municipalities, but already in 1983 they were broken, and taxes and spending were budgeted to increase over the agreed levels.

The government responded to the 1983 budgets with cuts in the general grants, forcing the municipalities to reopen their budgets to find savings. Such sanctions were introduced again in 1985 and 1986. In 1986, there was a new development in that some of the sanctions were made individual. Since 1986 the sanction policy has followed these two methods, individual and collective cuts in general grants. The individual model ignores the fact that the agreements did not *ex ante* oblige any individual municipality. But *ex post,* the municipalities objected anyway against being penalized by collective sanctions when individually, through great local effort, they had "respected the agreement".

During the 1990s, local spending increased on average by 2 per cent annually against the government objective of an average of 1 per cent. Blom-Hansen et al. (2012) conclude about the 1990s that the decade contributed to the central government's conviction that the system of agreements was not sufficiently effective.

8.3.5. Permanent sanctions, the freeze of local tax rates

In 2009, the government consequently introduced a new, different sanction regime. Firstly, the new system is permanent. The sanctions are known in advance when the municipalities prepare their budgets. Secondly, the new system has a heavy weight of individual sanctions (see box 8.1.), which makes the sanctions directly operational for the individual municipalities, but maintains the collective idea of the negotiation system.

Box 8.1. The present system of sanctions (2014)

The present system of permanent conditional sanctions on the *taxation side* is as follows, if the overall tax recommendation is broken: The first year 75 per cent of the extra revenue from the tax increase is clawed back from the individual municipality, in the two following years it is 50 per cent, and in the fourth year 25 per cent. The rest of the revenue from the tax increase is deducted from the general grants (collective sanctions). After the fourth year, the entire amount is clawed back as a cut in general grants.

On the *expenditure side* the government reserves part of the general grant for the subesequent year as conditional grants to be released only if overall municipal current spending respects the agreed level, both in the municipal budgets and in their closed accounts.

The new kind of sanctions increased the inflexibility of the local tax policy that had already been noted for some time. Fewer and fewer municipalities dared reduce their tax rates for fear that they would not be allowed to increase taxes again later should the need arise. Some municipalities probably also feared demonstrating affluence in times when equalization reforms were constantly on the menu and several grants were becoming more discretional.

A few figures illustrate the problem (Lotz 2007): During the period 1985-91, the average number of municipalities which reduced their tax rates was 80, during the period 2000-06 the average number of tax reductions was 8.

As fewer municipalities dared reduce taxes, and the average level had to remain unchanged, few municipalities could be allowed to raise their tax rates. This has resulted in doubts as to the real freedom of local authorities to determine their own tax rates.

The government has tried to "unlock" the de-facto freeze in local taxation in different ways. Since 2008 it has allowed annual local sanction-free tax increases of a certain amount (financed by cuts in the general grants). The required permission[142] to increase tax rates is granted on application by the Ministry of the Interior. Tax increases exceeding the allowed amount are subject to sanctions. The annual rounds of applications for permission to increase taxes have amounted to much more than reserved for the purpose, which is a sign that tax increases are not seen as undesirable by all municipalities.

In a further attempt to allow more flexibility in local tax policies, the government decided for 2013 and 2014 to introduce a premium for tax rate reductions symmetrical to the sanctions on tax increases, to supplement the pool for sanction-free tax increases of maximum DKK 250 million.

In 2013, the subsidy was reserved for municipalities with tax rates above average. 11 municipalities reduced their tax rates for 2013, reducing the revenue by DKK 191 M; in the preceding years 2010-12, an average of 3-4 municipalities reduced taxes, so the incentive seems to have had an effect.

In 2014, an even larger number of municipalities reacted to the central government's premium on tax reductions. A total of 26 municipalities lowered their tax rates, and only five increased taxation. The net effect was a reduction of the local tax pressure. While this result shows that

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[142] The permissions do not depend on whether the tax rate is high or low, it depends on whether the municipality is able to convince the Ministry that they find it difficult to finance their desired spending, thus adding to a soft budget constraint already present in the allocation of discretionary grants.

incentives may work, the conclusion should not be drawn too far. First, the 2014 tax rates were determined just before the local elections in November 2013. Second, the municipalities' liquid reserves were unusually large, having been systematically built up since 2009. Third, the tax reductions were small in an absolute sense. The net reduction on local tax revenue only amounted to 0.08 per cent of total local tax revenue. Finally, the tax reductions were heavily subsidized by the central government, which reimbursed 75 per cent of the revenue loss for the individual municipalities lowering taxation.

In sum, it seems doubtful whether the 2013 and 2014 tax reductions constitute a permanent solution to the problem of de-facto frozen local tax rates.

8.3.6. Inequalities frozen with the local tax rates

The above tentative conclusion means that, while sanctions for tax increases are now permanent, there is no convincing permanent policy aimed at recreating more flexible local rates. This has resulted in a situation that does not appear sustainable. The freezing of local tax rates at historical levels creates tensions, and "it is doubtful whether this state of affairs is sustainable in the long run" (Blom-Hansen 2010).

Among other things, the municipal reform of 2007 and the simultaneous tightening up of the equalization system, together with different demographic and social developments, have resulted in historical tax rates that do not reflect present needs.

Table 8.2. Tax rates, service levels and income for high- and low-tax municipalities (2011)

Income tax rates 2011 (2x10 out of 98 municipalities).	Average tax rate, %.	Average service level*	Average taxable income, kr.
Top ten in tax rates.	26.8	103	146,000
Bottom ten in tax rates	23.4	98	211,000

* "Service level" is spending divided by expenditure needs, 100 is average service, more than 100 is a high service level (or low cost efficiency).

There are some systematic features characteristic of the type of municipalities that are left with low tax rates vs. those with high tax rates (table 8.2.). It seems that the low-tax municipalities tend to have a high

average income compared to those ending up with high tax rates. The reasons for this are not clear.

The table demonstrates a close correlation between tax rates and service levels. The low-tax municipalities have lower service levels than those municipalities who have inherited a high tax rate. It also shows that the low-tax/low-service municipalities are mostly found among high-income municipalities.

One hypothesis could be that historically, the rich municipalities have had low tax rates, in earlier times perhaps sufficient to finance good service, but reforms and the tightening up of the equalization system have reduced their service to below average, much lower than the high-tax (and poorer) municipalities.

However, the picture is probably more muddled, since the definition of service levels also includes substantial local expenditures towards income transfers and social services, which tend to be higher in poorer municipalities compared to rich municipalities. Without complete equalization, this would tend to result in high service/high tax levels in poor municipalities and low service/low tax levels in rich municipalities.

It should also be noted that the rich municipalities have not been first in line to apply for permission to tax increases, which indicates that they do not have a strong need for higher taxes. Furthermore, the low-tax municipalities have quite comfortable liquidity reserves.

This calls for further investigation into the causes behind tax-levels in Danish municipalities. But the overall conclusion is still the same: The tax levels in Danish municipalities are frozen at historical (and arbitrary) levels, and this will cause tension in the long run, since municipalities cannot adapt to different developments in local conditions.

8.3.7. What are the options for the government to do something about it?

As stated earlier, so far the government has not been especially active in defrosting the frozen tax rates. And it is difficult to see what could be done.

If the government decided simply to give up sanctions, this would probably result in substantial tax increases, while only a few municipalities – at least in the beginning – would dare reduce their tax rates. And such a development would not be in accordance with the policy of reducing income tax rates.

To avoid such a scenario, deregulation could be supplemented by more transparent local tax rate systems. This could be done by replacing the national PAYE system's withholding tax rates, which now vary for individuals according to their municipality of residence, by an average municipal rate, and then letting local deviations from that average rate be settled between each municipality and its taxpayers. This idea has been aired by academics, but it has found no political support. Another academic proposal has been to introduce tradable tax permits to be sold by municipalities who are prepared to lower their taxes at a price. The political problems with this solution are its smell of "market mechanism", and the fear that the result would make an impression of poor municipalities selling tax reductions so that rich municipalities can buy tax increases.

8.3.8. The "Norwegian perspective"

This leaves the option to pave the way for abandoning the municipalities' freedom to set their own tax rates by introducing a ceiling for local tax rates which will be lowered year by year until the differences in local tax rates have been eliminated. The local income tax would then turn into a tax sharing system without any local influence on the tax rates, like the systems existing in Norway and Iceland. This may initially result in better cost efficiency. One problem with such a "Norwegian" solution is that a number of responsible municipalities still regard tax increases as undesirable. This effect, where it may be found, will be lost. And politically, this responsibility has for many years been the main pillar for the local financial system, and thus it will be a big step to give it up.

Another potential problem with a "Norwegian" model is that the Danish Parliament has signed the Council of Europe "Charter of Local Self-Government". In article 9, par. 3, this Charter states that "part at least of financial resources of local authorities shall derive from local taxes and charges of which, within the limits of statute, they have the power

to determine the rate". If the local income tax is replaced by tax-sharing schemes, the only local tax freedom left will be in the property tax.

There are two problems here. One is whether the Charter would be observed (probably yes, if the rate variation of the property tax is not limited too much by law). The other is political. Over the years, Danish tax policy has had the implicit goal to make property taxes less visible, so it is a question whether Parliament will take responsibility for giving the very visible local property taxes a dynamic role in the tax policy arena. And it should be noted that for the same reason, the central government property tax has been cleverly integrated into the PAYE income tax collection scheme.

8.3.9. Can Denmark re-create free local taxation like that in Sweden?

Recreating free local taxation, what we may call the "Swedish" solution, would require renewed fiscal responsibility from the municipalities in Denmark. In Sweden, municipalities seem to have less appetite for higher expenditure and higher taxes when compared to Denmark. Can anything be learned from a comparison between the two systems, the Swedish and Danish?

In Sweden, municipalities are less protected by the state via block grants in times of economic recession. This means that there is no automatic lifesaver from the central government if for example revenue from income taxes drops due to an economic downturn. Each municipality has to rely on its own ability to uphold sound economic finances. This may explain the higher degree of fiscal responsibility in Swedish municipalities compared to Denmark.

It may require rather drastic changes in order to return to a system of municipal responsibility in Denmark. Inspired by Sweden, one such change could be that municipalities in Denmark became less protected against economic downturns (and upswings). This might include reducing the block grant and abandoning the annual automatic adjustment of the block grant that under the present system serves to balance total expenditure and total financing.

Abandoning the automatic adjustment of the block grant would be challenging for the Danish municipalities due to the many functions and responsibilities that they have. Especially the economic responsibility for almost all income transfers in Denmark would put hard pressure on

municipalities in the event of an economic downturn. Consequently, it would probably be useful to reconsider the many functions and responsibilities resting with Danish municipalities if the automatic adjustment of the block grant were abandoned. This would go against the recent policies where the Danish municipalities have been given responsibilities for almost all income transfers.

The problem with the solution is that these drastic changes come with no guarantee for success. Municipalities without a safety net (and with fewer responsibilities) would probably be more fiscally responsible – but the risk is then that they might instead use their freedom to raise taxes and expenditure.

All in all, the options are not appealing, and the inherent tensions of the present system may remain unresolved for quite a few years. Taking into consideration first of all the slow process of local tax reforms in the past, secondly the ingrained dictum that competence and responsibility should be placed at the same level, and thirdly the politically entrenched role of the annual negotiation system, it is hardly to be expected that the frozen system of local income taxation – undesirable as it may seem – will be changed in any significant way soon. Neither the local side nor the government has so far voiced their support for any solution.

Appendix. The early history of delegation of functions to the local level and grants financing

Roads. In order to implement maintenance of the main road system, a central government subsidy was awarded in 1793. Interestingly, the argument was that there were externalities (Betænkning 471 1968). Roads not only benefitted the local populations but also the populations of neighbouring municipalities. From 1910, this subsidy was replaced by a share of the new motor vehicle duties. The central government share was earmarked for a road fund, and the local share of road expenditure in the 1930s was 50-60 per cent.

Social affairs. In 1803, a significant new legislation introduced an administrative reform in rural areas. The vicar was still the central figure, but he was to be assisted by a small number of farmers who were not elected but appointed, and who largely represented taxpayer interests rather than the interest of the poor. The new legislation also defined the

poor relief service and its financing. This legislation transferred for the first time a small part of the legislative power from the local to the central government. However, the ability to tax-finance better services varied very much between municipalities, and subsidies were introduced to enable also the poor authorities to deliver. In 1891, a 50 percent refund was offered pn local spending on care for the old; during the 1930s this was increased to 60 per cent.

Schools. From 1806-14, schools – like poor relief – were to be governed by a commission of local, non-elected, worthies headed by the vicar. There were big differences in the financial power of the school funds (which each covered several municipalities), and in 1857 the first subsidy from the centre was introduced to assist financing the salaries and pensions for teachers. This system of financing was expanded and improved at pace with the increasing central regulation. In the 1930s, the central share of local spending on schools was 35-40 per cent, growing to 85 per cent. when the 1980s reforms replaced the conditional grants by general objective grants.

Equalization. During the following years up to the 1950s, the equalization aspect became clearer with the establishment of equalization funds, at first financed by the municipalities. Later – from 1937 – the fund was given own revenue from income and property taxes. Local spending increased during the following years to satisfy new central demands, and in order to finance this, coverage by the equalization funds was increased. By the end of the 1950s, school subsidies amounted to more than 80 per cent of local spending and more that 70 per cent of social spending.

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Chapter 9

Local tax policies in the limited autonomy of the revenue collection system in Poland
Paweł Swianiewicz and Julita Łukomska

9.1. Introduction

The Polish sub-national territorial system consists of three tiers of government:
- 16 regions (*województwa*),
- 314 counties (*powiaty*) plus 65 cities of county status,
- 2480 municipalities (*gminy*, including cities of county status).

Most of the decentralized functions are allocated to the municipal level, which is responsible for over 70% of sub-national public spending. Municipalities are responsible for a variety of services, including:
- pre-school and primary education (for children up to 15 years old);
- 'communal services' including water and sewage, solid waste collection and disposal, street lighting, local parks and green areas, central heating;
- local roads;
- local public transport in cities;
- communal housing;
- voluntary fire brigades;
- several social services including social benefits for the poor;
- local culture (including local libraries and leisure centres);
- local physical (spatial) planning.

Comparing to other territorially fragmented systems of local government in several Central and Eastern European countries, Polish municipalities are relatively large. The minimal population size is 1,300 resi-

dents, while the largest municipality is the capital city of Warsaw (over 1.7 million residents). The median municipality has around 8,000 citizens (the mean is around 15,500), and in the case of rural areas it consists of several villages under the jurisdiction of a single local authority.

More importantly, the municipal level enjoys much wider financial autonomy than the upper tiers of sub-national governments. Neither counties nor regions have power of taxation, therefore this paper focuses on municipal (gmina) level only.

9.2. Municipal tax autonomy in Poland – legal framework

Tax autonomy is limited to the relatively narrow category of local taxes, which provide *ca.* 20% of total budget revenues (on average 15.7% in cities of county status, 21.8% in urban municipalities and 16.4% in rural local governments). According to the official budget classification, shares in PIT and CIT are also treated as part of own revenues, but local authorities have no discretion to decide upon these revenues, and they should be classified as strict tax-sharing (according to the classification made by Blöchliger and Petzold in 2009). The remaining part of revenues comprises general and specific purpose transfers (see also *figure 9.1.*).

Figure 9.1. Structure of municipal revenues in Poland (2012)
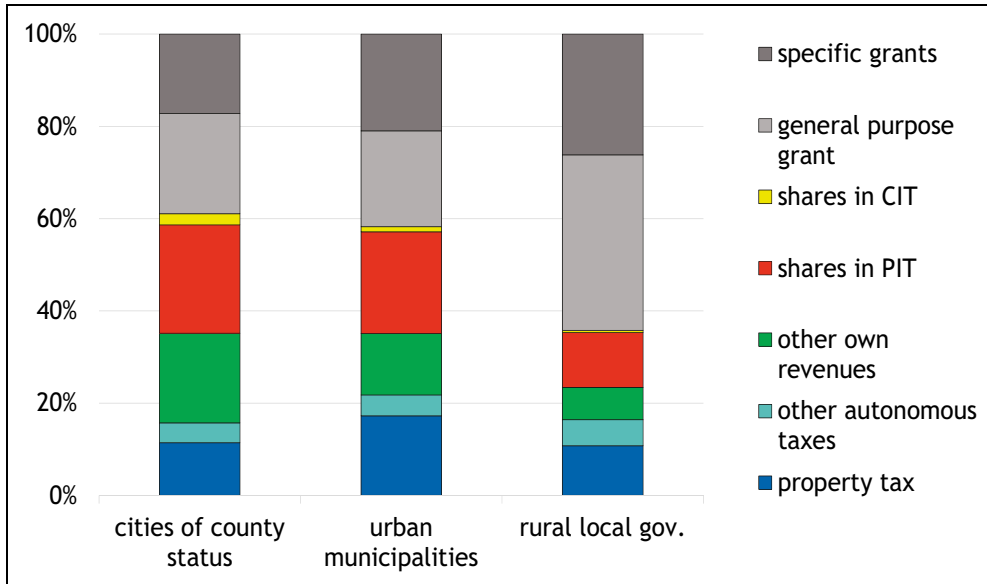
But even in the case of revenues which we classify as "autonomous tax-es", the discretion of local governments is limited. In most cases the maximum rate is set by Parliament (and adjusted annually by infla-tion), so the local council may adopt a rate which is lower or the same as the "ceiling". Local councils may also grant tax reliefs to some categories of tax-payers. And the city mayor has a right to grant individual tax ex-emptions or defer the payments to be made by individual tax-payers.

Both the limited number of autonomous taxes and limited discretion to set tax rates have had the effect that tax policies have a limited impact on the expenditure capacity of local governments.

There are the following local taxes, which are revenues of the municipal tier:
1. Taxes that are administered and collected by the municipal ad-ministration
    a. property tax,
    b. tax on agriculture,
    c. tax on transport vehicles,
    d. forest tax,

     e. tax on dog-owners;
2. Taxes collected by the national tax administration, but with a local government right to grant tax reliefs and exemptions
     a. tax on civil law activities,
     b. tax on legacies and donations,
     c. tax on small businesses;
3. Locally administered fees having the character of local taxes
     a. tourist fee (levied on tourists staying overnight in tourist-attractive places)[143],
     b. market fee,
     c. fee on exploitation of natural resources.

Property tax, as appears from figure 9.1., is by far the most important of the local taxes (over 13% of total municipal revenues). It is levied both on housing and commercial properties: buildings, plots of land which are not subject to agriculture or forest taxes, lakes, water reservoirs and "other architectural objects" (budowle) such as airports, antenna masts etc.

For most of the categories, the tax is not directly dependent on the value of property, but is paid "per square meter". The only exception is made for "other architectural structures" (budowle), for which the tax depends on their depreciation value. In such cases, the maximum tax rate is 2% of the value of an object. In case of other properties, ceiling rates are defined separately for each type of properties. For example in 2013, the maximum rate:
- for housing properties was 0.73 PLN/ sq.m.
- for commercially used buildings was 22.82 PLN/ sq.m.
- for commercially used plots of land was 0.88 PLN/ sq.m.

As appears from the rates quoted above, the structure of taxation is heavily biased towards taxing commercial properties, while revenues from housing properties generate almost insignificant amounts. Indeed, according to data from the Ministry of Finance (Przekopiak 2011) in 2008, as much as 42% of total property tax revenues originated from commercial buildings, another 31% from "other architectural objects", and 12% from plots of land being used for commercial purposes. Hous-

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[143] Technically speaking there are three different fees levied in various types of towns and villages (for example separately for spa resorts), but these taxes are identical in nature.

ing plots brought only 3.5% of tax revenues, and other plots of land (usually gardens of private houses) another 6%. This structure of tax rates has significant political implications, since the burden of property tax is not perceived by a majority of voters as being heavy, while most of the burden focuses on commercial enterprises. We will discuss the consequences of that fact for local tax policies in the following sections of this paper.

Article 7 of the Law on Local Taxes specifies several tax exemptions, such as: properties used by local administration and by foreign embassies, properties having the status of historical monuments, schools, universities, sport fields. The issue of centrally granted tax exemptions is often a hot political issue in the debates between central and local governments. The latter claim that central government should compensate for the loss of revenues caused by those exemptions, and/or that the introduction of new exemptions should require the consent of local governments.

Remaining local taxes have a much lower importance. Agriculture tax provides just 1.9% of total budget revenues (2.8% in rural local governments) and is levied on arable land. It is paid according to a per-hectare rate and weighted by coefficients related to the quality of soil and climate conditions for agriculture. The maximum rates depend on the market price of crops (rye).

Tax on civil law activities brings just over 1% of budget revenues (more – 1.5% – in cities of county status). Since most of the tax yields are related to transactions on the property market (buying used cars is the next important type of transactions), the amounts collected are highly susceptible to the cyclical fluctuations of the economy. The revenues in 2008 (before the economic slow-down) were almost twice as high as in 2012. With respect to this tax, the space for local government autonomy is even narrower than in the case of the taxes discussed at the time. There is a flat tax rate (proportional to the value of the transaction), and the local government has no possibility to influence it. The only discretion a local government has to decide upon local policies related to these taxes is granting individual tax exemptions or reductions. This opportunity is used extremely rarely, but since it is theoretically possible, we have decided to include the tax in our analysis.

Tax on transport vehicles brings in only 0.7% of the total municipal revenues, and it is levied on lorries (with a load capacity over 3.5 tonnes), buses and trailers (with a load capacity over 7 tonnes). This tax was much more important (generating more than 3% of budget revenues) up until 1998, when the local tax for small cars and motorcycles was replaced by the national tax included in the price of petrol.

Remaining local taxes play only a negligible role in municipal revenues, although they are in some instances important for individual local authorities (e.g. more than 15% of budget revenues from tourist tax in some spa resorts).

9.3. Using local tax discretion – variation of tax policies

How often do Polish municipalities use their discretion to lower the maximal tax rates? One might expect that local governments would be willing to use any possible instrument to increase their budget revenues, especially in a time of economic slow-down and introduction of difficult austerity measures in response to expanding spending responsibilities and a shrinking (or at least not expanding) tax base. An increasing number of local governments in Poland have had problems with balancing their budget during the last few years. Nevertheless, contrary to the model known from the Norwegian PIT (Rattsø 2005), maximal rates are applied relatively rarely. In 2012 we found that only two (out of 2480) municipalities had not decided to reduce any local tax rates.

Table 9.1. Median value of local tax yields (actual tax revenues as a proportion of potentially available revenues if no reductions or exemptions are applied)

	Autonomous local taxes – total	Property tax	Agriculture tax	Tax on transport vehicles	Tax on civil law activities
Municipal governments – total	76.0	76.2	69.5	59.7	99.93
Cities of county status	91.1	91.6	100	65.0	99.96
Urban municipalities	85.8	87.3	99.7	62.9	99.84
Rural local governments	72.7	72.6	66.6	57.9	99.91

Source: Own calculations on the basis of reports on budget execution.

As shown in *table 9.1.*, the median local government collects from local taxes just over three quarters of what would be theoretically available if only maximal rates were applied and no exemptions, reliefs, remissions or deferrals of tax were used. The figure is very similar for the main local tax – property tax – and even lower for some smaller taxes, especially tax on transport vehicles.

Tables 9.2. and 9.3. show that there is considerable variation among the policies applied by individual local governments. We will return to the factors explaining this variation in the following sections of the paper. At the moment, we may note that in general local taxes are highest in big cities, which are very reluctant to lower the rates, and lowest in rural local governments.

Table 9.2. Reductions of autonomous tax revenues as a percentage of potential revenues which might be collected if only maximal tax rates were applied (2012)

Amount of tax reductions	Proportion of local governments depending on an amount of tax reductions and relief			
	total	cities of county status	urban municipalities	rural local governments
no reductions at all	0.1	0.0	0.0	0.0
0.1-5% of potential revenues	2.9	23.1	9.6	1.2
5-10% of potential revenues	8.1	40.0	23.7	4.3
10-20% of potential revenues	26.0	32.3	46.1	21.4
20-30% of potential revenues	31.0	4.6	17.8	31.7
30-40% of potential revenues	20.7	0.0	2.5	25.7
over 40% of potential revenues	11.2	0.0	0.4	15.6

Source: Own calculations on the basis of reports on budget execution.

Table 9.3. Reductions of property tax revenues as a percentage of potential revenues which might be collected if only maximal tax rates were applied (2012)

Amount of tax reductions	Proportion of local governments depending on an amount of tax reductions and relief			
	total	cities of county status	urban municipalities	rural local governments
no reductions at all	0.1	0.0	0.0	0.1
0.1-5% of potential revenues	4.5	26.2	11.6	2.6
5-10% of potential revenues	9.6	35.4	24.9	6.0
10-20% of potential revenues	25.1	33.8	38.6	22.1
20-30% of potential revenues	26.2	4.6	19.5	26.4
over 30% of potential revenues	34.6	0.0	5.4	42.8

Source: Own calculations on the basis of reports on budget execution.

Figure 9.2. demonstrates that the most frequently used tax policy instrument is a reduction of the maximum available tax rate. Decisions concerning individual tax payers (tax exemptions or deferrals) or their narrow categories (tax relief) play a much smaller role, especially in rural local governments. The role of tax relief and exemptions has been reduced after Poland's accession to the EU, since they are treated as public subsidies for companies, and their amount is strictly controlled by EU regulations.

Figure 9.2. Relative role of various tax instruments (2012)
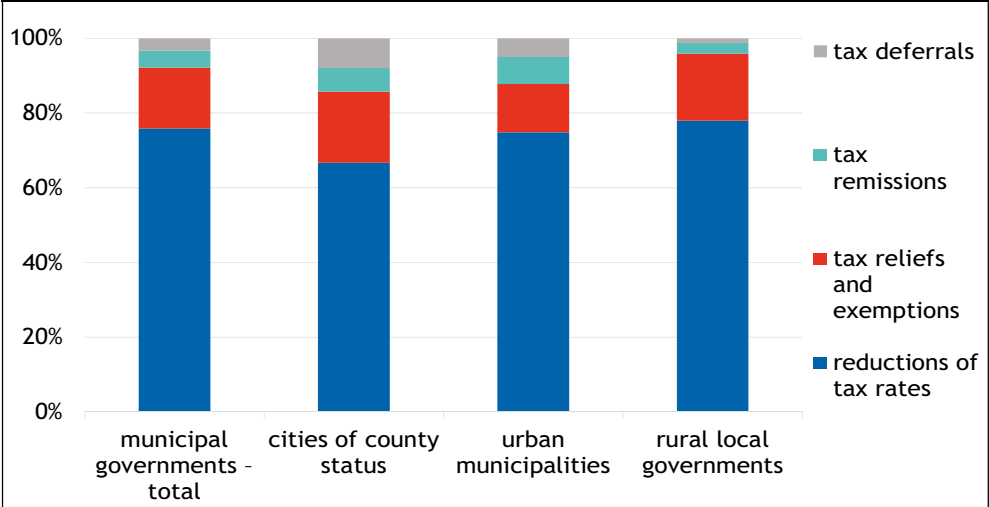
Source: Own calculations on the basis of reports on budget execution.

9.4. Factors explaining variation in tax policies

9.4.1. Affluence of local tax base

We claim that the low significance of autonomous taxes on total tax revenues influences the variation of local tax policies. Tax policies are motivated by social policy motives rather than by fiscal or economic development motivation, so the variation in local tax rates reflects the "ability to pay" of local tax-payers. Consequently, tax rates are usually higher in more affluent municipalities. This is opposite to the logic of Peterson's (1981) City Limits' theory, which suggested that less affluent cities cannot afford to lower their tax rates, since they need to compete for investors.

But higher local taxes in the most affluent communities may also be interpreted differently. Since maximal tax rates are identical for the whole country, and property tax is mostly levied on the basis of size (not value) of the property, the actual tax burden may be perceived as being very low for the most expensive properties, whereas the same rate may be perceived as painful by the owner of a low-valued property. Lower rates in poorer municipalities may be seen as being indirect compensation of the lack of relationship between tax rates and property values.

Empirical data confirm the expected relationships. Pearson's correlation coefficient between the level of autonomous local taxes and affluence of local budgets is positive (+0.17), and statistically significant at the 0.001 level. This is also confirmed by *figure 9.3.* Rates of local taxes in the two highest decile groups are much higher than in less affluent local governments. A social rather than compensatory character of the variation is suggested by two observations:

- Taxes on housing properties are (in proportion to ceiling rates) much lower than taxes on business properties[144]. This is in spite of the fact that available rates for commercially used buildings are *ca.* 35 times higher than those for housing properties, and the latter are perceived as meaningless spending by the owners of houses in the most prestigious locations;
- Variation in the rates for housing properties is much larger than for commercial properties. If the variation reflects the compensatory hypothesis, the situation should be the same for housing and commercial properties, since the variation of land value is the same for both types of property.

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[144] Budget reports do not provide precise information on revenues from taxes on various types of property. However, they distinguish between two types of tax-payers: legal entities and physical persons. Although several small enterprises are not legal entities, but operate as physical persons, we use this distinction as a proxy allowing us to differentiate between revenues from tax on housing and commercial properties.

Figure 9.3. Actual tax rates as a proportion of maximum available rates and affluence of local governments (median values, 2012)
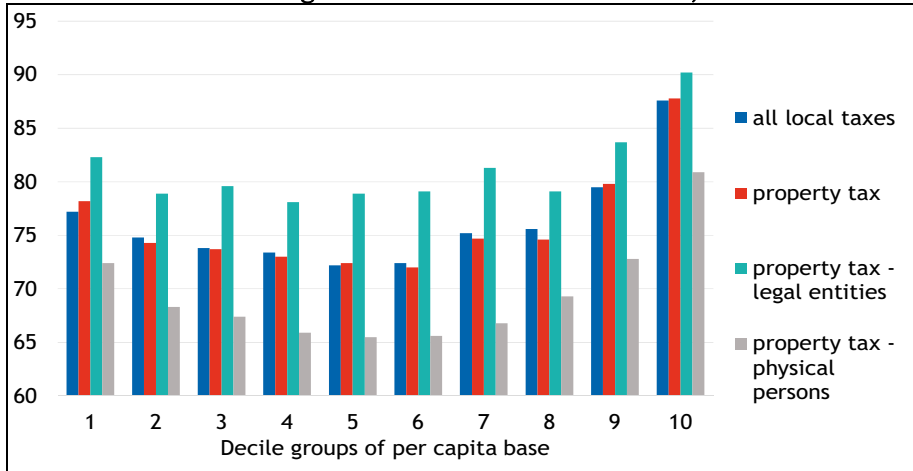
Source: Own calculations on the basis of reports on budget execution.

At the same time, the figure shows one more relationship. The lowest rates may be found not in the poorest local governments, but among the mid-decile groups. The least affluent local governments are probably too poor to afford very low tax rates – in spite of the observations made above, the difficulty in balancing their budgets pushes up their tax rates.

9.4.2. Size of local government

The budget maximizer theory suggests that local authorities should try to increase the level of budget revenues they have at their disposal. However, tax policy is an art of balancing financial and political capital. Local governments will try to increase tax rates as long as they do not meet strong opposition from the tax payers (voters). Such opposition is more likely to occur in small communities, where the distance between decision-makers and voters-taxpayers is smaller. If our theory is correct, then we should find that:

- Lower tax rates are found in small local governments,
- The relationship is clearer in the case of taxes that are paid by the majority of voters (housing properties) and less visible in the case of taxes paid by local businesses,
- Local governments in small communities should concentrate on tax rates, while the less visible instruments of tax relief, exemp-

tions and deferrals are also applied in larger local governments (this is also related to less open, more corporatist local politics in larger cities; such politics allow a stronger influence by lobbying groups related to a particular sector of the economy or even to individual companies).

Figure 9.4. Actual tax rates as a proportion of maximum available rates and size of local governments (median values, 2012)
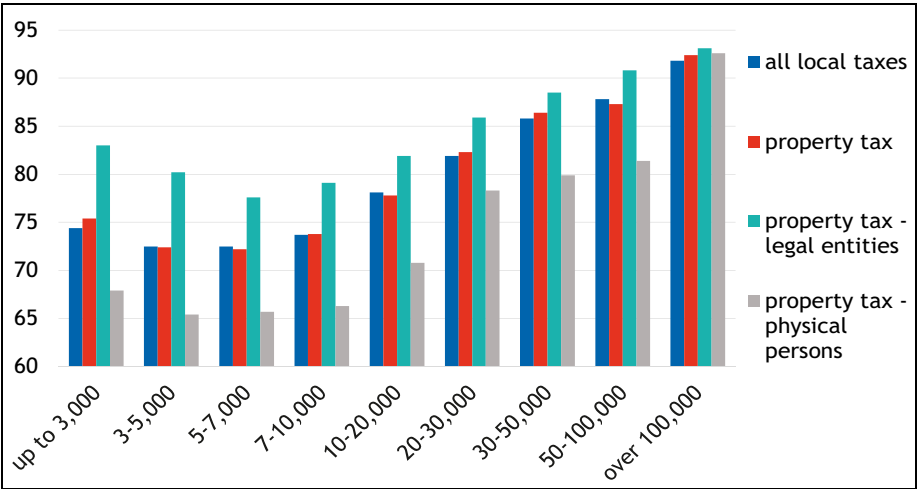
Source: Own calculations on the basis of reports on budget execution.

Figure 9.5. Relative role of various tax policy instruments and size of municipality (median values, 2012)
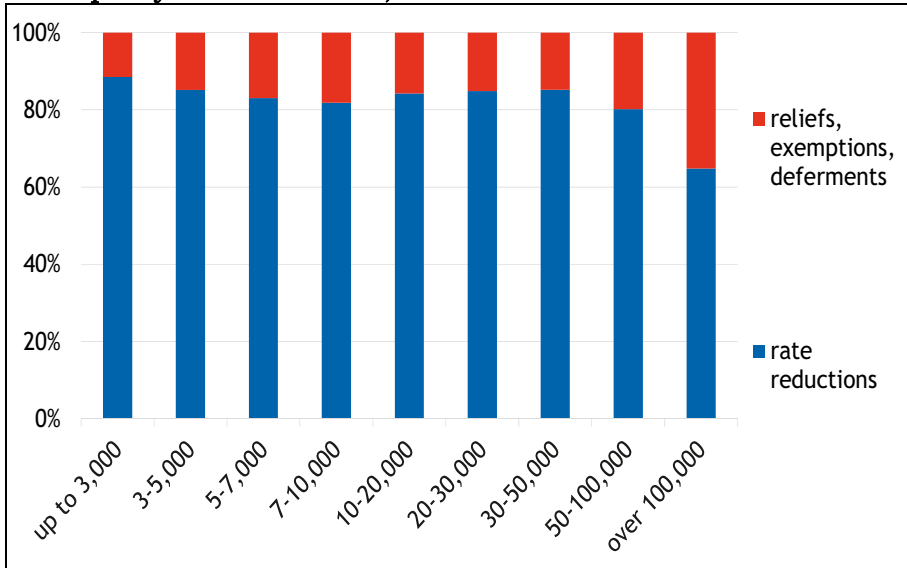
Source: Own calculations on the basis of reports on budget execution.

This trend is also confirmed by empirical data. The Pearson correlation coefficient between local tax level and size of local government is positive (+0.34) and statistically significant at a 0.001 level. *Figures 9.4. and 9.5.* provide an additional illustration of this tendency. As was to be expected, tax rates are relatively low in smaller local governments, up to 10,000 residents, while above this threshold we may observe a linear increase of rates proportional to the population size.

Also, as we expected, the role of individual (or group) decisions on local taxes is larger in big cities (especially over 100,000 residents), while it is lowest in the smallest communities, where general reductions of tax rates is the most important tax policy instrument.

9.4.3. Location of the local government unit

We expect that the distance to the centres of the largest agglomerations[145] may be another factor explaining the variation of local taxes. The distance reflects both location rent (companies located close to

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[145] Operationalized in our paper as the distance to the centre of the closest city of more than 300,000 residents.

metropolitan centres may expect higher profits, so they can afford to pay higher taxes) and makes it possible to compensate for differences in property values, which are less expensive in the peripherially located municipalities. We expect a similar relationship in the case of taxes paid by physical persons and legal entities.

Figure 9.6. Actual rates of local taxes as a proportion of maximal available rates and distance from the largest agglomerations (median values, 2012)
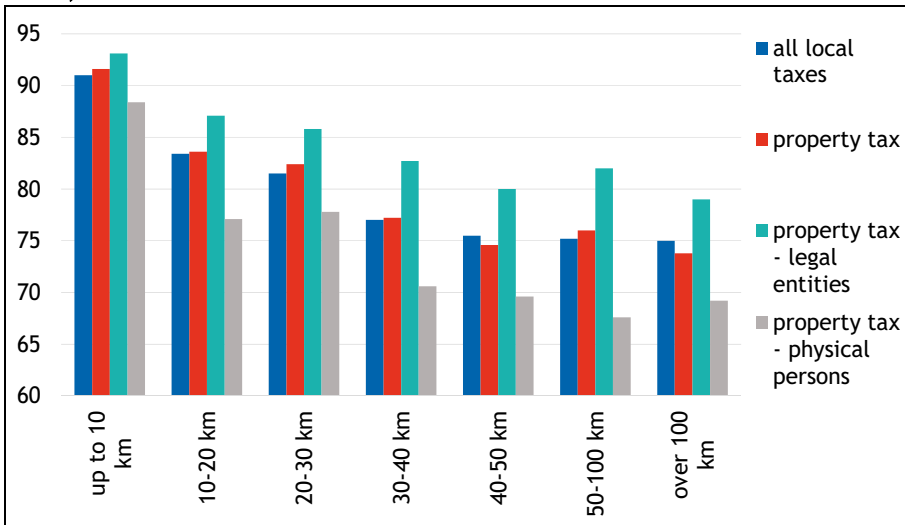
Source: Own calculations on the basis of reports on budget execution.

As *figure 9.6.* demonstrates, the distance from agglomerations has a significant impact on local tax rates – the further the distance, the lower the tax rates. The impact of metropolitan areas is visible up to a radius of 40 kilometres around the core city. If the distance is larger, it seems not to have an impact on tax rates. It should be noted, however, that the relationship presented visually in *figure 9.6.* is poorly confirmed by correlation analysis. The level of local taxes is negatively correlated with the distance from the agglomeration centre, but the correlation is weak (-0.05, significant at a 0.05 level). It is stronger for the level of taxes on legal entities, but the relationship with taxation of housing properties is statistically insignificant. Perhaps the non-linear character of the dependency (as seen in *figure 9.6.*) is to be blamed for the weak correlation coefficients. The tests of nonlinearity show that there is a statistically significant quadratic effect of the location on the

level of property tax paid by physical persons (significant at a 0.001 level).

9.4.4 Summary of the model

We discovered that affluence of the local community, size of local government and distance to the largest agglomerations are significant variables explaining the variation in local tax rates. The trouble with interpreting them is related to the fact that the three explanatory variables are to some extent correlated (see table 9.4.). In particular, there is a strong correlation between population size and distance to the largest agglomerations (local governments in the proximity of major cities are usually larger). There is also a significant (at a 0.05 level), although weaker correlation between distance from large cities and affluence of local government budgets (suburbs of agglomerations are usually richer). Therefore, in order to determine which of the variables is the most powerful, we built a regression model in which all of them are independent variables. Since the type of relationship is different for taxes on physical persons and legal entities, we built three separate models (for all local taxes and for both types of tax-payers; in the latter case, in order to reduce the complexity of the exercise, we concentrate on property tax only).

Table 9.4. Pearson correlation coefficients among variables explaining differences in local tax policies

	Population (ln)	Local tax base per capita	Distance to the major agglomeration centres
Population size (ln)	1.00	0.02	-0.20**
Local tax base per capita	0.02	1.00	-0.04*
Distance to the major agglomeration centres	-0.20**	-0.04*	1.00

Note: * - coefficient significant at a 0.05 level; ** - coefficient significant at a 0.001 level.

Source: Own calculations

Table 9.5. Summary of regression models explaining variation in local tax policies

	Rate of local taxes		Rate of property tax on legal entities		Rate of property tax on physical persons	
Adjusted R square Significance of the model	0.138 0.0000		0.066 0.0000		0.100 0.0000	
Independent variables	Beta	sign.	Beta	sign.	Beta	sign.
size (ln)	+0.34	.000	+0.19	.000	+0.32	.000
affluence	+0.16	.000	+0.10	.000	+0.06	.001
distance from the agglomeration	+0.02	.270	-0.10	.000	+0.06	.004

Source: Own calculations

All three models proved to be significant, although their R square is not extremely high. Population size of the local government unit seems to be the most powerful explanatory variable – larger cities levy higher local taxes. As we expected in our theoretical model, the difference is especially visible in the case of rates on housing properties and other taxes paid by physical persons (the typical voter is a tax payer). The relationship is slightly weaker for tax on businesses, but also in that case population size is the most powerful independent variable.

Distance from the centres of the main agglomerations is the only variable in the model whose explanatory power is questionable. This is surprising if we remember the sharp dependency shown in *figure 9.6*. But the interpretation of that surprising fact may be of a methodological nature. Our regression models are built on the assumption of linear relationships between dependent and independent variables. In fact, figures presented in the earlier sections of this paper suggest that this assumption may not be true. Perhaps non-linear models would be more adequate.

To cope with the problem of mutually correlated predictors and nonlinearity of relationships between variables, we decided to use hierarchical

regression models. Each explanatory variable was entered into the model in a separate block. We also use squared variables (affluence, distance from the agglomeration). This procedure is used to make use of the independent variables in the linear models (before transformation, the quadratic function served to best describe the relationships between them and the dependent variables).

Table 9.6. Summary of hierarchical regression models explaining variation in local tax policies

	Rate of local taxes		Rate of property tax on legal entities		Rate of property tax on physical persons	
Adjusted R square Significance of the model	0.138 0.0000		0.078 0.0000		0.150 0.0000	
Independent variables	**Beta**	**sign.**	**Beta**	**sign.**	**Beta**	**sign.**
size (ln)	+0.31	.000	+0.18	.000	+0.28	.000
affluence	+0.48	.000	+0.30	.000	+0.30	.000
affluence square	-0.37	.000	-0.23	.000	-0.28	.000
distance from the agglomeration	-0.22	.000	-0.15	.014	-0.46	.000
distance from the agglomeration square	+0.26	.000	+0.06	.35	+0.54	.000

Source: Own calculations

Using the hierarchical regression models allowed us to confirm that:
- size of local government is a powerful variable explaining the variation. Local taxes are usually lower in small local communities and higher in larger cities, independently of the impact of other explanatory variables used in the model;

- affluence is significant as well, but the relationship is U-shaped rather than linear. Higher tax rates are levied by the poorest and by the most affluent local governments, while the group with the medium level of per capita tax base is more willing to ease the tax burden. However, as we remember from *figure 9.3.*, the U-shaped curve is not symmetric. The right-hand slope is steeper than the left-hand slope, which reflects the fact that tax rates are highest in the most affluent local governments, while the growth of tax rates among the poorest decile groups is more moderate. The relationship is stronger in the case of taxes paid by physical persons and less dramatic in the case of taxation of legal entities (commercial properties);
- location is also a significant variable – the relationship is negative; the longer the distance to the agglomeration centre, the lower the tax rates. However, the relationship is not linear: as we know from data presented in *figure 9.6.*, the proximity of a large agglomeration centre matters for up to more or less a 40 km distance.

9.5. Political (electoral) cycle of local taxes?

One of the popular concepts that explains changes in tax policies is the electoral cycle theory. Originally it was created to explain central government policies (Nordhaus 1975), but in spite of their more limited fiscal instruments, similar phenomena have been identified in a number of local government studies (Mouritzen 1989, Houlberg 2007, Geys 2007). The local electoral cycle has a simpler form than the one observed on a national level, since local governments do not have instruments to influence macroeconomic parameters. Mouritzen (1989) and Houlberg (2007) suggest that in an electoral year, local authorities seek to increase their level of spending and avoid increasing local taxes, which leads to a reduction of budget surplus and/or to increased indebtedness.

In Poland the impact of the electoral cycle has been found for fluctuations in the operating surplus of local budgets (Swianiewicz 2011). In relation to tax policies, the hypothesis was tested (with positive results) for the first years after the 1990 local government reform (Swianiewicz 1996). In our study we expected to find some impact of the electoral cycle, but only for taxes imposed on citizens (not on business entities). However, the limited role of local taxes suggests that the impact should be relatively weak. Tax policy is not an important dimension of local po-

litical debates, so it should not be very vulnerable to election campaigns. Empirical results for the period 2001-2012 suggest that the importance of taxes for building political capital before elections may be even less important than we expected (see *figures 9.7.-9.9.*).

Figure 9.7. Actual rates of local taxes as a proportion of maximal available rates and electoral cycle (mean for last 3 terms)
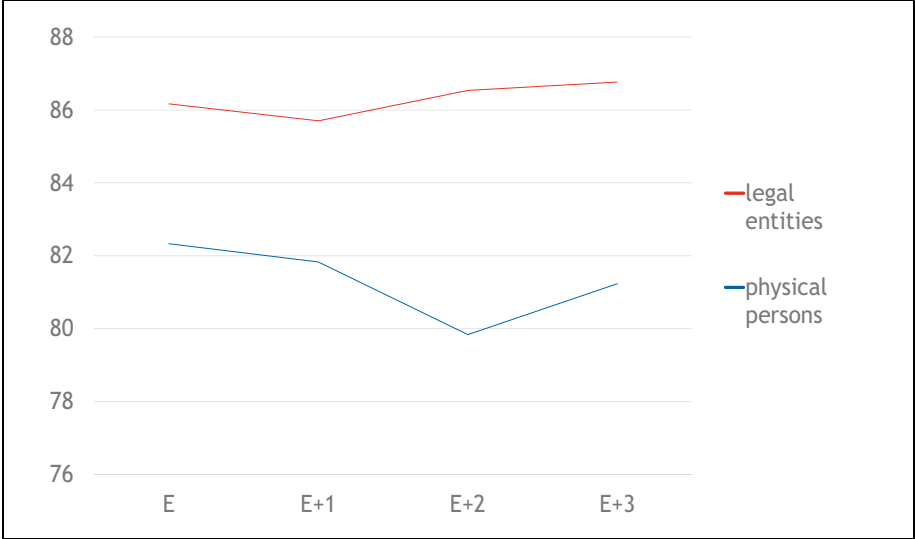
Source: Own calculations on the basis of reports on budget execution.

Figure 9.8. Actual rates of property tax as a proportion of maximal available and electoral cycle (mean for last 3 terms)
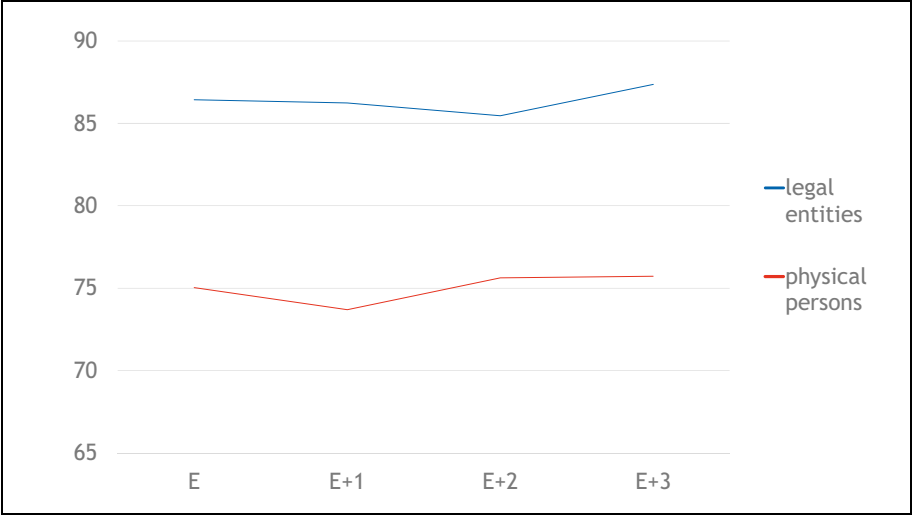
Source: Own calculations on the basis of reports on budget execution.

Figure 9.9. Actual rates of local taxes from physical persons as a proportion of maximal available rates and electoral cycle (means from last 3 terms)
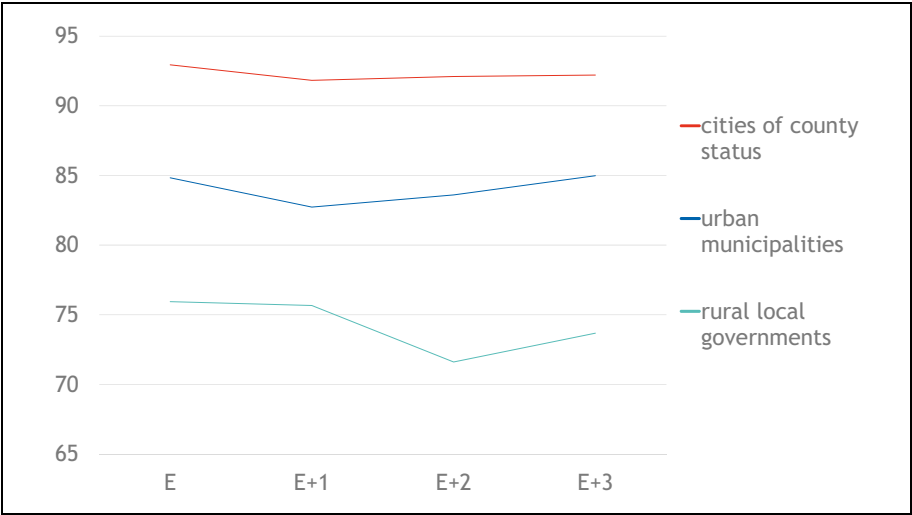
Source: Own calculations on the basis of reports on budget execution.

9.6. Conclusions

1. Classic theoretical concepts explaining variations in tax policies, such as electoral cycle or tax competition, are of limited usefulness for an analysis of Polish local governments. This is related to the fact that autonomous local taxes provide only a small proportion (usually less than 20%) of the total municipal revenues. Even if this figure is much larger than for most of the other countries in Central and Eastern Europe, it is sufficiently low to prevent tax policies from being a hot issue on local political agendas. It occasionally happens that local taxes are an important part of debates in local councils, but most councils focus on other issues. Most voters pay relatively low local taxes, so the exact rates are not crucial for them, and tax policies do not determine their political (electoral) behaviour. On the other hand, local governments do not see local taxes as potential remedies for their budget problems, so the tendency to maximize tax rates is not very strong either.

2. Nevertheless, the level of local tax rates is diversified. All analysed factors seemed to be significant for explaining the variation in local tax policies. In smaller municipalities, where contacts between voters and local politicians are closer and more direct, the level of taxes is usually lower than in large cities with a looser and more impersonal relationship between electorate and councillors. The affluence of local communities is also an important explanatory variable – tax policies, especially regarding taxes levied on a majority of citizens, are often elements of social policy. Both affluence and distance from the agglomeration are connected with the outcome variable (tax rates) in a non-linear way. Consequently, tax rates are usually lower in medium affluent local governments located outside the suburban zones. Higher tax rates were found in the poorest (probably too poor to afford very low tax rates) and in the most affluent local governments located near the biggest cities, in which the ability to pay is higher.

3. There is no trace of the impact of political colour on local tax policies, which was often found in several other countries (e.g. Blom-Hansen *et al.* 2006). This should not be surprising if we take into account the predominantly non-partisan character of Polish municipal governments (Fallend, Ignits, Swianiewicz 2006), in which roughly 70% mayors and councillors did not identify with any of the national political parties.

4. It is very telling that increased tax autonomy plays a marginal role in the national associations' lobbying of local governments who – as regards the revenue side – concentrate their demands on the increase of shares in revenues from national taxes and more favourable regulations concerning general purpose grants. Such an approach is politically more convenient for municipal mayors. A larger tax autonomy might require politically costly, difficult decisions which might be painful for voters (tax-payers). Concentrating on transfers from national budget allows avoidance of political costs.

5. Consequently, the debates on changes in local tax autonomy are not very intense in Poland. However, this does not mean that there are no discussions at all. During the last few years, the most lively (although not playing a major role in the discourse on local government finance) were suggestions on:

- Reform of the property tax. There are some voices in favour of the introduction of ad valorem property tax (linking the tax burden with the value of property). This used to be the typical advice of USAID or World Bank consultants active in Poland in 1990th. The draft of relevant regulations of the ad valorem property tax was even prepared in the Ministry of Finance and approved by the Government in 1995 (Nowecki 1996). But a negative reaction by the public opinion stopped the preparation of the reform for a long time. Most people have been afraid that the new tax would significantly increase the tax burden. Both the negative public reaction and technical difficulties slowed-down the pace of the reform significantly, although ad valorem property tax remains an official long-term goal of the Polish government. Politically, it is not realistic to expect it to happen within the next decade or so. The alternative proposal assumes a differentiation of the maximum ceiling rates depending on the location of properties (e.g. higher rates would be allowed in big cities or rich suburbs, and local government would get the right to additionally differentiate the rates in individual "zones" of the city). The variation would allow for indirect linkage between property value and the tax burden of the tax-payer. A concrete technical proposal based on this logic has got official support from the Union of Polish Metropolises, an influential association uniting the 12 largest Polish cities (see Swianiewicz, Neneman, Łukomska 2013).

- Transforming the municipal share of revenues from Personal Income Tax into local income tax, with a limited autonomy of local governments to set the tax rates (Neneman, Swianiewicz 2014).
- Nevertheless, the discussions of both proposals are at the centre of the central-local debates, and a quick introduction of any changes increasing local tax autonomy is not very likely.

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Chapter 10

Austrian Fiscal Partnership - Interaction between Subnational Expenditure, TaxSharing and Lacking Tax Autonomy
Anton Matzinger[146]

10.1. Introduction

Austria is one of the traditional federal countries in Central Europe, consisting of nine basically historical *Länder* (states), all of which have their own competencies, governments, and parliaments. Due to constitutional provisions they are key players in the implementation of federal policies at the state level[147].

A large degree of autonomy is also guaranteed to local governments (municipalities), although they are overseen especially by the *Länder* authorities.

The constitution allocates legislation on intergovernmental fiscal issues to the Federal Parliament. Through the political process this right has evolved into a system of intergovernmental fiscal relation laws, sequentially enacted by the Federal Parliament every four to six years. The laws are based on consensually negotiated drafts compiled by representatives of all levels of government. Expenditure is less regulated. The basic constitutional rule is that each level of government is respon-

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[147] The system in this respect is similar to that of Germany, see: Rodden, Jonathan, 2003.

sible for its own expenditures. Expenditure-incurring tasks are defined as a basic core for each level of government. Beyond that core, each government is free to spend according to its own preferences.

Oddly enough, tax autonomy has no part in this federal system. Local governments have some degree of tax autonomy. However, the more important *Länder* (in terms of budget expenditure) lack tax autonomy almost completely (see Table 10.1., *Länder*/local taxes, below). Instead, an intricate tax-sharing system is the most important pillar of subnational budgets.

The following sections discuss this system, its interaction with subnational expenditure, and the reasons for the on-going absence of tax autonomy from a political economy point of view.

10.2. Tax Sharing instead of Subnational Tax Autonomy

Austria's fiscal federal system is dominated by taxes shared between the federal government, *Länder*, and local governments. Tax autonomy is a rare exception, only 0.5% of all tax revenue stems from *Länder* taxes and 5.1% from local taxes.

Table 10.1. Tax revenue: exclusive and shared taxes, 2012

Type of taxes	Revenue, million €	Revenue, %
Exclusive federal taxes	6,918	8.3
Shared federal taxes	72,008	86.2
Länder taxes	408	0.5
Local taxes	4,222	5.1
Sum	83,556	100.0

Statistik Austria, 2013

More than 85% of general government tax revenues[148] stem from shared taxes. Tax policy and legislation are allocated to the federal level, tax collection to federal revenue offices. Sharing relies on allocation formu-

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[148] Except of social security contributions.

las stipulated in the law (IFRA – *FAG*). All formulas are based on agreements between the federal government, *Länder*, and the two large municipal associations[149].

Tax-sharing arrangements have developed gradually and become quite sophisticated. Past reforms of the tax-sharing system were character-ized by periodically emerging fiscal needs of the federal government and adaptations in favor of the federal budget. These were reversed some years later due to the political clout of SNGs. Later, the federal govern-ment usually tried to compensate by increasing taxes, creating addi-tional windfall profits for SNGs since the allocation formulas usually were not altered on these occasions[150].

10.2.1. Vertical Tax Sharing

Vertical allocation starts from the gross yield of taxes collected by fed-eral revenue offices, which subsequently is allocated according to formu-las laid down in IFRA.

Table 10.2. Tax Shares 2012

	Federal Government	*Länder*	Vienna[151]	Local Governments	Total
Bio. €	56.6	11.2	6.4	9.3	83.6
%	67.8	13.4	7.6	11.2	100

Statistik Austria[152]

Changes over the last three decades[153] have tended to add ever more taxes to the tax-sharing base and to streamline special allocation formu-las into a standard formula for all these taxes.

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[149] Association of Austrian Cities and Towns (Städtebund), representing the larger, more urban local governments and the Association of Austrian Municipalities (Ge-meindebund), combining more rural local governments.
[150] Hüttner et al., 54.
[151] Vienna is both: Land and local government. In Austrian statistics it is therefore often treated as an entity of its own.
[152]http://www.statistik.at/web_de/statistiken/oeffentliche_finanzen_und_steuern/oeffentliche_finanzen/gebarungen_der_oeffentlichen_rechtstraeger/index.html
[153] Details of the development in the preceding decades in: Bennett R.J.

Table 10.3. Allocation formulas

Shared taxes – allocation formulas – vertical allocation				
	Formula in %		**Tax yield**	
	Federal Government	*Länder*	Local Governments	2012, bio. €
Shared taxes – standard formula	67,765	20,524	11,711	72.008
Shared taxes – special formulas:				
Advertising Tax	4,000	9,083	86,917	0.1
Real Estate Transfer Tax	4,000	-	96,000	0.9
Contribution to housing subsidies	19,450	80,550	-	0.9
Casino tax, yield up to 725.000 Euro	49,000	7,000	44,000	0.0
Casino Tax , yield above 725.000 Euro	61,000	20,000	19,000	0.1

Statistik Austria[154]

10.2.2. Horizontal Tax Sharing – *Länder* and Local Government Tier

Horizontal tax sharing also uses a standard formula. It combines various factors:

- Demographic criteria: inhabitants, in a special form as weighted population key.
- Fixed percentages: former local or regional revenue, fixed at some historical percentage, e.g. to compensate the loss of former tax autonomy. These shares do not reflect changes of the tax

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[154]http://www.statistik.at/web_de/statistiken/oeffentliche_finanzen_und_steuern/oeffentliche_finanzen/gebarungen_der_oeffentlichen_rechtstraeger/index.html

base over time, resulting in concerns about their constitutionality[155].

- Actual local or regional revenue: only for minor shared taxes.

Table 10.4. Allocation formulas – horizontal sharing – 2010

	Länder share, %	Local gov. share, %
Population	63,3	14,7
Weighted population key	-	52,8
Fixed percentages	36,6	23,1
Actual local/regional revenue	0,1	9,4

MoF[156];   local governments at this level are aggregated into *Länder* groups.

10.2.3. Horizontal Tax Sharing – Individual Local Governments

Länder allocate the local share of revenues to individual municipalities.

- They have a certain discretion to set criteria for the allocation of 12.7 % of the local governments' tax share. These grants are used to support local governments in financial distress or infrastructure investment projects.
- A larger amount is allocated to local governments by *Länder* according to federal law provisions. There are various apportionment formulas:

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[155] In 2010 the Constitutional Court declared one such fixed allocation formula, used to compensate municipalities for former autonomous beverage tax revenue, as null and void because it did not take changing tax bases into account.
[156]https://service.bmf.gv.at/BUDGET/budgets/2013/beilagen/Zahlungsstroeme_Beschluss_2013.pdf

Table 10.5. Allocation formulas – horizontal sharing – Individual Local Governments 2010

Formula	% of local gov tax share
Special needs grant	12.5
Weighted population key	73.8
Fixed keys	6.1
Fiscal capacity	4.1
other	3.5

https://service.bmf.gv.at/BUDGET/budgets/2013/beilagen/Zahlungsstroeme_Beschluss_2013.pd

Weighted Population Key

The weighted population key for horizontal local tax sharing is a special case of an 'inhabitants criterion'. It is based on the idea of diseconomies of scale. According to *Brecht*'s law[157], public costs per head increase with population numbers (density). Ceteris paribus, this entails higher fiscal needs of larger local governments. Austria's tax-sharing system tries to compensate by higher tax shares per head for larger local governments.

For example, the capital of Austria, Vienna, has a population of around 20% of Austria's inhabitants, with the weighted number at 25%, resulting in higher tax shares at the expense of smaller local governments.

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[157] http://wirtschaftslexikon.gabler.de/Archiv/5375/brechtsches-gesetz-v10.html

Table 10.6. Weighted Population Key, formula

Local government population	Weighted key	+ additional amount
Up to 9,000	1 3/5	
9,001 – 10,000	1 3/5	+ [2/3 * (P minus 9,000)]
10,001 – 18,000	1 2/3	
18,001 – 20,000	1 2/3	+ [3 1/3 * (P minus 18,000)]
20,001 – 45,000	2	
45,001 – 50,000	2	+ [3 1/3 * (P minus 45,000)]
above 50,000	2 1/3	

P: Population of resp. local government Matzinger, Anton; 2008

Other Factors
- Fixed keys are used to a lesser degree than at the *Länder* level.
- Fiscal capacity formula: Despite the system's equalising effects, some fiscally needy local governments remain. To compensate them, a special apportionment formula is being used. It is a comparison of asymmetrically defined fiscal capacities, one of them a wild-card for fiscal need.
- Due to the loose definitions, all but the richest local governments (with high real estate – and *Kommunal* tax[158] revenue) get such payments, although usually only modest amounts. Nevertheless, the payments are an important support for financially weak local governments, in spite of the fact that these weak governments constitute only a fraction of the receiving local governments.
- Other formulas are used to a lesser extent, e.g. tax base criteria or fixed amounts introduced to compensate local governments for tax increases affecting individual local governments more than others. Such factors have a random character, due to the vagaries of day-to-day politics. After a few years they are usually somehow integrated into the system.

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[158] Kommunal tax is a payroll tax of local governments.

Länder-regulated Horizontal Tax Sharing

As a final step, tax shares allocated as described above are modified by *Länder* regulations. A part of the tax-sharing system is the

- *Landesumlage* – Levy for *Länder* budgets: *Länder* are entitled to levy a fee from local governments for their own budgets[159]. Federal law restricts this fee to a maximum of 7.6 % of the tax share of the respective local governments.

10.3. Political Economy of Tax Sharing

From a legal point of view, the system is heavily centralized. Federal laws regulate most features of tax sharing, leaving only occasional but intentional room for specific *Länder* rules. Nevertheless SNGs have a lot of influence:

10.3.1. Länder:

As a lobby group for shared interests, the ministerpresidents of *Länder* are a political factor to be counted with. Their influence stems not only from their constitutionally important function, but even more so from their political leverage. As heads of regional parties, they have clout over federal party organisations, as these are dependent on the political and financial support of the *Länder* parties'. Additionally, decisions on candidatures for parliament are decided mostly on *Land*esparty level. Ministers in federal government need strong political backing to keep their job in the midst of fierce party-internal competition.

Due to this political influence, *Länder* are able to secure their financial interests without necessarily needing formal instruments[160]. Besides, having once lost the "power to tax", *Länder* now lack the "will to tax". They seem more comfortable focusing on services and leaving tax matters to the federal government, as long as they have enough influence to secure the means necessary for their own decision-makers' political goals.

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[159] Länder are additionally entitled to regulate cost contributions of local governments to responsibilities of the Land itself or of groups of local governments. These regulations take place outside of traditional tax sharing, often relying on fiscal capacity indicators and undoubtedly modifying fiscal federal outcomes. Mostly they are used for financing hospitals (in favor of Land), school districts, or social care districts.

[160] Compare Rodden, Jonathan, 2003, pages 16 ff.

This opaque subnational financing system obviously has a negative impact on efficiency. There is no transparency for the voter/taxpayer with regard to the connection between tax burden and local expenditure portfolio. Tax competition to reduce the tax burden does not take place given the non-existing tax autonomy of the *Länder*. Tax competition is seen as unfair, affordable only to wealthy *Länder*, and creating a race to the bottom[161].

Tax autonomy for *Länder* is a constant proposal of the MoF in negotiation with the *Länder*, but it is not promoted very eagerly[162]. Discussions focus on some minor taxes with tax bases that are easily allocated regionally[163], and taxes that piggy-back on the existing income and wage tax (federal tax rates and resp. *Länder* tax shares meant to be reduced). Resistance of the tax administration, which fears higher administration burdens for itself and for taxpayers, hampers a forceful reform position of the MoF.

International organisations and literature[164] in Austria demand reforms towards more tax autonomy. The MoF has commissioned five studies to prepare a reform of intergovernmental fiscal relations, among them a feasibility study on tax autonomy[165].

The topic remains on the agenda.

10.3.2. Local Governments:

Local governments also prefer not to levy taxes, but at least they use their existing powers and would be ready to take on more responsibilities. Unfortunately Austria's local government structure is quite inefficient. More than 2,350 local governments in a country of 8.4 million inhabitants result, on average, in very small local governments. Optimal

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[161] Länder attidude seems to change: In February 2014 a group of Länder governors demanded more tax autonomy for the first time.

[162] Some Länder seem to have changed their position recently and would accept more tax autonomy (e.g. LH Wallner in: Die Presse, 22.2.2013 http://diepresse.com/home/politik/innenpolitik/1348124/Gesamtschule-Sollten-uns-nicht-verschliessen

[163] Land value tax on property awaiting development, contribution to housing subsidies.

[164] Pitlik et. al. 2012, Bröthaler et.al. 2011;

[165] https://www.bmf.gv.at/budget/finanzbeziehungen-zu-laendern-und-gemeinden/studien-zur-reform-des-finanzausgleichs.html

local taxes are rare and to some extent already used by local governments.

In intergovernmental fiscal relations, the contrasting interests of local governments reduce their assertiveness: small, rural municipalities are represented by the Austrian Association of Municipalities, larger, more urban municipalities by the Austrian Association of Cities and Towns. They have opposing views on the weighted population key.

10.3.3. Soft Subnational Budget Constraints

Federal financing of subnational governments via tax sharing (and additional transfers) has led to a system where the *Länder* have developed a soft budget attitude and know that a 'no bail-out' policy is not credible[166]. The most important reasons for this expectation seem to be:

- Austria is a consensus-oriented society. The example of social partnership and the complex bargaining processes necessary to reach agreements are deeply rooted even between political opponents. The consensually drafted Intergovernmental Fiscal Relations Act on the one hand ensures continuity, stability and wide political acceptance, on the other hand entails transparency- and efficiency-reducing effects.
- Reforms are difficult to agree on. Usually the federal government has to compensate losers or even not-winners so as not to endanger the consensus. This system fosters political horse-trading strategies. It has also led to a system so complex that only a handful of specialists are able to see through all its consequences.
- Tax sharing dominates intergovernmental fiscal relations. Subnational governments lack tax autonomy and ensuing accountability, esp. at the *Länder* level. This entails moral hazards, as subnational politicians can see the tax-sharing system and their influence on its development as a kind of insurance against unsustainable expenditure decisions. More accountability would likely stimulate the responsibility of subnational politicians[167].

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[166] In 2009 a former Landesbank, Hypo Alpen Adria Group, had to be nationalized to avoid bankruptcy of the bank and – due to the Landes liabilities – of the Land Carinthia. This ultimately increased the national debt by more than 6% of GDP. A no-bailout policy was not seen as a political option on the federal and state level.

[167] Bröthaler et al., 2011.

- Cost-cutting reforms can undermine political success within the local/regional constituency. Additionally, cost increases are an important argument for even higher subnational tax shares. Stylized, this results in a sequential game of cost increases followed by higher allocations to *Länder* governments that puts the tax quota under pressure. The system does not intrinsically support hard budget expectations[168].

10.4. Outlook

The present federal law on intergovernmental fiscal relations will be in force until 2016. Due to its importance, the tax-sharing system is on the agenda for the next sequence of fiscal federal relations. Reform proposals, especially towards more regional tax autonomy, exist. But they stand in contrast to persistent political economy factors, sketched above, that favor the status quo.

An additional factor to take into account are new European fiscal rules that serve partly as a counterweight to soft budget tendencies. All governments of Austria have concluded a treaty on a constitutional basis which defines the part of the respective government in the national stability program, esp. the new expenditure rule. Increases in government expenditure are only allowed below or at the rate of average economic growth.

The new European fiscal rules and their implementation in subnational policy in Austria surely have strengthened political institutions that support tougher budget constraints. The success of these rules still remains to be seen.

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[168] Matzinger, in Bauer (2008).

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Chapter 11

Does local spending have repercussion from tax structure?
-Evidence from Japan-
Nobuki Mochida

11.1. Introduction

The original intention of the 2013 CPH workshop is to explore what are the driving forces for local tax structures[169]. Does tax policy determine the local expenditure portfolio, or is the relationship the other way around? The organizers expect some research venturing to explore the interplay between local expenditure responsibilities and tax policy. This article examines these fresh issues in the light of Japan's recent experiences, and seeks not only to provide an analytical framework but also to qualify information on local tax structures. The motivation is that we can test causality through regression models using the notion of Granger causality.

So far it has often been said that expenditure has not been decided by making tax revenue given, instead expenditure may be decided for a certain reason, and to finance it, a corresponding revenue is 'guaranteed' in Japan. As the local public sector has evolved from the 'agency' model to the 'autonomy' model, this stereotypical way of thinking will come into question. This article will show that some repercussions from the tax structure may be felt on expenditures.

In Section 2, we describe local government finance in Japan. The Japanese system seems to attempt to combine Northern European expenditure decentralization with Continental-style centralized methods of fi-

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[169] See Kim, Junghun, Niels Jorgen Mau and Jorgen Lotz (2013)

nancing. In Section 3, using the Granger causality test, we will provide empirical evidence for a reciprocal relationship between tax and expenditure in Japan. In Section 4, we will turn our attention to the expenditure side. First, we test the *incrementalism* hypothesis – last year's budget claim is taken and a little more added – by using the ARIMA model. We also analyze how local spending adjusts for the business cycle. The hypothesis tested in this article is that asymmetric government spending over the business cycle leads to upward *cyclical ratcheting* in government spending. The final section takes a brief look at policy implications for future tax structures.

11.2. Local Government Finance

Sub-national jurisdictions can be seen simply as agents of national government, which from an administrative point of view can provide local services more conveniently. On the other hand, sub-national jurisdictions may be seen as independent bodies elected by the local taxpayers to provide certain services in accordance with their preferences. The first and most general issue is the conflict between what has been called the 'agency' versus the 'local autonomy' approach[170].

11.2.1. Agency-delegated functions

Together with the Nordic countries, Japan has the highest degree of decentralization among the OECD countries. In Japan, local governments are responsible for a major share of public spending, including on national land conservation and development expenditure, education expenditure, police and fire brigades, social welfare, sanitation and general administration. Lotz (2005) demonstrated that measures of the degree of decentralization, based on official statistics on local expenditure, show that also Japan ranks high together with the NCs.

Nevertheless, high sub-national spending shares give a misleading picture of the actual degree of local decision-making power. The problem is that there are many ways for central authorities to influence functions delegated to the local government sector, as Japan so clearly demonstrates. In Japan, local provision is carried out by "agency-delegated functions", meaning that the national government remains heavily involved in almost every aspect of local public spending.

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[170] See Messere, Kam and Heady (2003) p.52

Unlike today's current theories on "local public goods", but very much in line with contemporary thinking in the Nordic countries, there is in Japan no clear separation between central and local functions. As a result, major programs (education, health, and welfare) are formulated by national ministries and financed through many specific grants. Therefore the issue for Japan is not so much to change/enlarge expenditure assignments as such, but to redefine the responsibility for designing, implementing, and financing these assignments. This is also expressed by the virtual elimination of agency-delegated functions in 1999 and the reduction in the number and volume of specific purpose grants in the "Trinity reform" during 2004-2006.

11.2.2. Tax-sharing system

The outstanding points of interest about local tax is first of all that the ratio of national tax to local tax is 60:40, which has led to vertical fiscal imbalance in the public sector and calls for grants to fill the gap. Local own taxes represent only 30% of the total revenue of local governments. Secondly, tax revenues are derived from various tax bases. This is the firmly established, productive local income tax used in the Scandinavian countries. The opposite model is the one found in English-speaking countries where property tax dominates the local revenue. In Japan, own revenue sources are mainly derived from revenue shares of central taxes on income, property and consumption, and local authorities have the authority to vary tax rates. These arrangements bear many similarities to the Central European tax-sharing systems.

On the surface, the Japanese local tax system appears to be different from continental tax sharing because the major source of local own revenue is a kind of piggy-backing which is similar to surtax on the national income tax base. However, almost all localities use a uniform rate for the same tax base, as described in the next section. McLure has argued that piggy-backing with a uniform rate would be tantamount to an institutionally clumsy form of tax sharing[171]. It can be said that even an elegant form of tax sharing is inferior in terms of accountability when compared to own local taxation.

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[171] See McLure (1983) p.103

Tax sharing is well known in Continental Europe and also in Norway, but strong theoretical arguments can be made against tax sharing, namely: its lack of local accountability, that taxes tend to be distributed to the richest authorities, and that the development of the tax bases and revenue over time will depend on conjunctive developments which have nothing to do with the needs arising from for example demographic change. The latter problem has forced Japan to seek to expand the number of taxes to be shared[172].

But there are more practical reasons why tax sharing is used in many countries. First of all, seen from Japan's experience, is its presumed revenue adequacy. The revenue from the local allocation tax (a block grant) changes over the years, as it does from national major taxes, because this is what is multiplied by the fixed tax-sharing ratio. Because this tax-sharing ratio has been quite stable, an automatic increase in major national taxes has resulted in a continuous increase in the financial pool of local allocation tax during a time of rapid growth. On the other hand, the total sum of transferred funds is sensitive to business conditions because a major share of the funds consists of income-elastic national taxes. The question to be asked, however, is whether a better revenue path could have been realized without tax sharing.

One alternative could be a simple, general grant with a clause of negotiated annual increases. Another could be a system of powerful own local taxes, so that local authorities themselves could secure the missing revenue. In neither case, there would have been a need today to discuss projects like expanding the number of taxes to be shared, or to increase Consumption Tax in the financial pool of equalization. In conclusion, the Japanese system seems to attempt to combine Northern European expenditure decentralization with Continental-style centralized methods of financing[173]. This is a problematic match.

11.3. Reciprocal Relationship between Tax and Spending

11.3.1. Unit root test and cointegration

The theme of this article is how to understand the interplay between expenditure responsibility and tax policy. With time series data, we can

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[172] See Mochida and Lotz (1999) p.61
[173] Mochida and Lotz (1999) p.62

investigate causality through regression models using the notion of Granger causality. Y does not 'Granger cause' x, if the past value of y cannot help explain x. Assume a VAR (vector autoregression) model with two variables.

$$X_t = \alpha_1 + \beta_{11}X_{t-1} + .. + \beta_{1p}X_{t-p} + \gamma_{11}Y_{t-1} + .. + \gamma_{1p}Y_{t-p} + u_{1t}$$

$$Y_t = \alpha_2 + \beta_{21}X_{t-1} + .. + \beta_{2p}X_{t-p} + \gamma_{21}Y_{t-1} + .. + \gamma_{2p}Y_{t-p} + u_{2t}$$

Y does not Granger cause X if

$$\gamma_{11} = \cdots = \gamma_{1p} = 0$$

Similarly, X does not Granger cause Y if

$$\beta_{21} = \cdots = \beta_{2p} = 0$$

In order to test the Granger causality from y to x, we use statistical hypothesis testing as follows.

$$H_0 : \gamma_{11} = \cdots = \gamma_{1p} = 0 \qquad H_1 : \gamma_{1p} \neq 0$$

If a null hypothesis that all of the slopes are zero is rejected, it can be said that a Granger causality from y to x does exist.

As a first step for estimating VAR and testing Granger causality, a unit root and cointegration test can be used. Using 1956-1987 time series data, Horiba (1999) reports that local expenditure 'Granger' causes tax revenue in Japan. Unfortunately, the article does not test whether the two variables are stationary or non-stationary. Non-stationary data, as a rule, are unpredictable and cannot be modeled or forecasted. The result obtained by using non-stationary time series may be 'spurious' in that they may indicate a relationship between two variables where one does not exist.

Table 11.1. Unit root test (ADF)

	Prefecture (1975-2011)			Municipality (1975-2011)		
	F statistics	lag	Prob.	F statistics	lag	Prob.
A. level						
LEX	-1.1694	3	0.9005	-1.0828	7	0.9147
LTX	-2.2299	2	0.4588	-2.8744	1	0.1825
LAT	-2.0598	1	0.5493	-1.722	3	0.7186
B. 1st difference						
△LEX	-2.7369	4	0.4988	-4.1077**	4	0.0151
△LTX	-5.1951***	1	0.0009	-3.4568*	0	0.0602
△LAT	-3.6832**	0	0.0370	-3.4321*	0	0.0633
Critical value	1%	5%	10%			
	-4.25	-3.54	-3.20			

LEX=log(expenditure), LTX=log(local tax), LAT=log(local allocation tax)

We use the Augmented Dickey=Fuller Test to test the null hypothesis that there is a unit root and that the time series is non-stationary. Let LEX denote log of local expenditure, LTX log of local tax, and LAT log of local allocation tax (a block grant). The estimated results are shown in Table 11.1. The order of lagged dependent variables is determined by the Akaike information criterion[174]. It is hard to reject a unit root in all variables, and the first differences are stationary. In the following, we assume that first differences of all variables are stationary. While we cannot reject the null hypothesis that ΔLEX has a unit root, a Phillips and Perron test indicates thatΔ LEX is also stationary.

Next, we will test cointegration between LEX, LTX and LAT. If linear combination of I(1) variables is stationary, then the variables in question are said to be cointegrated. There is a long run towards which they always come back. Here, we use the Johansen test to check the presence of cointegration. The lag interval is determined by the Akaike information criteria, and the estimated results are reported in Table 11.2.

Max-Eigen statistics indicate no cointegration at the 0.05 level. The time series of LEX, LTX and LAT are not cointegrated with each other. If two variables are cointegrated, we may usually estimate a vector error correction model (VECM) to test for Granger causality. Because two variables are not cointegrated, as explained above, we estimate VAR in first differences in order to test for Granger causality.

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[174] All variables are converted to logarithms.

Table 11.2. Johansen cointegration test

A. Municipality

Hypothesized	Statistics		Critical Value (5%)	
No. of CE(s)	Max-Eigen statistics	Trace statistics	Max-Eigen statistics	Trace statistics
r=0	18.276	33.8956	21.1316	29.797
r≦1	10.1553	15.6195	14.2646	15.4947
r≦2	5.4642	5.4642	3.8414	3.8414

B. Prefecture

Hypothesized	Statistics		Critical Value (5%)	
No. of CE(s)	Max-Eigen statistics	Trace statistics	Max-Eigen statistics	Trace statistics
r=0	17.4894	34.3634	21.1316	29.797
r≦1	10.0816	16.8739	14.2646	15.4947
r≦2	6.7922	6.7922	3.8414	3.8414

11.3.2. Granger causality

The vector auto regression (VAR) model is one of the most successful, flexible, and easy to use models for the analysis of multivariate time series. It is a natural extension of the univariate autoregressive model for dynamic multivariate time series. The VAR model has proved to be especially useful for describing the dynamic behavior of economic and financial time series and for forecasting. This article simulates the VAR model in the first differences of three variables; LEX, LTX and LAT. The lag interval of endogenous variables is determined by the Akaike information criterion.

One of the main uses of VAR models is forecasting. The structure of the VAR model provides information about a variable's or a group of variables' ability to forecast other variables. The following intuitive notion of a variable's forecasting ability is due to Granger (1969). If a variable, or group of variables, Y is found to be helpful for predicting another variable, or group of variables X, then Y is said to Granger-cause X; otherwise it is said to fail to Granger-cause X. Y fails to Granger-cause X if all of the coefficients on lagged values of Y are zero in the equation for X. The linear coefficient restrictions implied by the Granger non-causality may be tested using Wald statistics. The estimation of the Granger causality test results are summarized in Table 11.3.

According to the results, local tax revenue is said to Granger-cause local expenditure and vice versa. So far it is often said that expenditure has

not been decided by making the tax revenue given; rather, expenditure may be decided for a certain reason, and to finance it, a corresponding revenue is 'guaranteed' in Japan. The Granger causality test applied in this article, however, indicates that there is a reciprocal relationship between tax and expenditure in Japan. Because there is also a reciprocal relation between local allocation tax and spending in the prefectures, we have to interpret the above results with caution. But we can tentatively conclude that it is possible that there are some repercussions from the tax structure on expenditures.

Table 11.3. Granger causality test

1975-2011 Municipality

Null Hypothesis	no of lag	Chi-sq	prob.	decision	direction of causality	causality
LTX does not Granger cause LEX	8	13.8722	0.0852	Reject	LTX→LEX	Exist
LEX does not Granger cause LTX	8	43.8912	0.0000	Reject	LEX→LTX	Exist
LEX does not Granger cause LAT	8	7.6686	0.4665	Not reject	LEX→LAT	Does not exist
LAT does not Granger cause LEX	8	6.3873	0.6069	Not reject	LAT→LEX	Does not exist
LTX does not Granger cause LAT	8	7.1409	0.5215	Not reject	LTX→LAT	Does not exist

1975-2011 Prefecture

Null Hypothesis	no of lag	Chi-sq	prob.	decision	direction of causality	causality
LTX does not Granger cause LEX	8	96.6888	0.0000	Reject	LTX→LEX	Exist
LEX does not Granger cause LTX	8	15.3377	0.0529	Reject	LEX→LTX	Exist
LEX does not Granger cause LAT	8	14.6615	0.0661	Reject	LEX→LAT	Exist
LAT does not Granger cause LEX	8	156.8843	0.0000	Reject	LAT→LEX	Exist
LTX does not Granger cause LAT	8	3.9699	0.8598	Not Reject	LTX→LAT	Does not exist

Note LTX:log difference in tax, LEX:log difference in expenditure, LAT:log difference in local allocation tax

The above result can be intuitively confirmed by actual data. Figure 11.1. shows the rates of increase in local expenditure, local tax, and local allocation tax compared with previous years. These variables are approximately equal to log difference of time series data. Until the late 1990s, a positive correlation is observed and a close relationship existed. Since 2000, this relationship became somewhat obscured. A formal econometric analysis actually supports this observation, given that other independent variables are controlled.

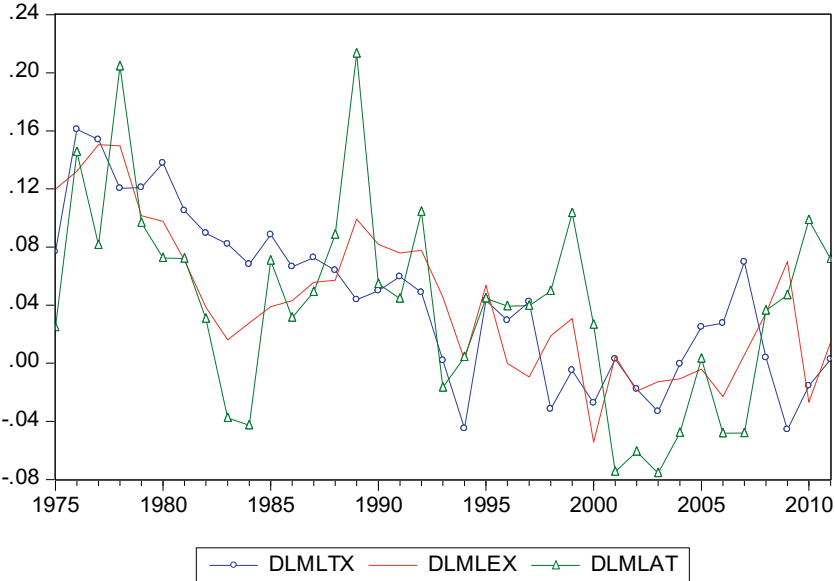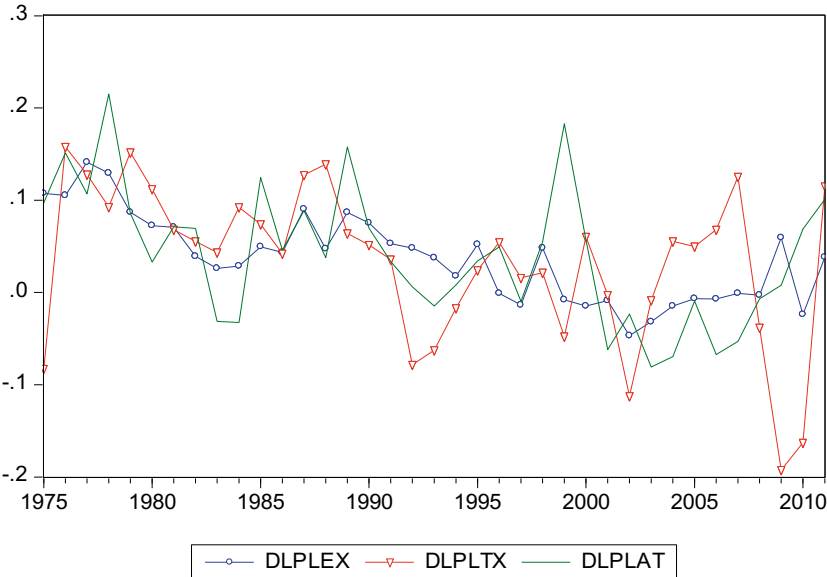## Figure 11.1. LEX, LTX and LAT (rate of increase), A. municipality

Figure 11.2. LEX, LTX and LAT (rate of increase), B. prefecture

11.4. Dynamics of local spending

11.4.1. Incrementalism

With respect to the evolution of local spending in Japan, this is usually explained by the notion of *incrementalism*; last year's budget claim is taken and a little more added. Here, we test this hypothesis (*incrementalism*) by using a simple time series analysis. Local spending has seen a continuously increasing trend, and the average ratio of increase in spending compared with the previous year is about 8.29 %. The ratio of increase compared with previous year, however, fluctuates significantly between a minimum value of -4.57 % and a maximum value of 30.26%.

Seen from an intuitive viewpoint, the time series of local spending (LEX) has an increasing trend and may be non-stationary. When the time series is non-stationary, a simple model such as the autoregressive (AR) or moving average (MA) model is not helpful. We will estimate the ARIMA (auto regressive integrated moving average) model in the log difference of local expenditure. Note that the log difference is nearly equal to the growth rate of the level variable compared with the previous year. The order of lag interval is determined by the Akaike information criterion. Then ARIMA (2, 1, 0) for municipality, ARIMA (1, 1, 2) for prefecture are selected as the best model. The estimated results are as follows:

$$\Delta PLEX_t = \underset{(0.0181)}{0.0158} + \underset{(0.0868)}{0.7900} \cdot \Delta PLEX_{t-1} - \underset{(0.1597)}{0.7303} \cdot u_{t-1} + \underset{(0.1556)}{0.5511} \cdot u_{t-2}$$

The values in parentheses are standard errors. The results indicate the presence of *incrementalism,* and it can be described in further detail as follows. In this equation, we confirm the intercept (0.0158) and the slope coefficient (0.79). This means that the annual increase in local spending consists of both a fixed part of increase and a proportionate part of increase in the previous yea. In addition, we estimate the ARIMA model for municipalities, and the results are as follows:

$$\Delta MLEX_t = \underset{(0.0209)}{0.0190} + \underset{(0.1669)}{0.4420}\,\Delta MLEX_{t-1} + \underset{(0.1628)}{0.2770}\,\Delta MLEX_{t-2} + u_t$$

In this equation, we confirm the intercept (0.019) and the slope coefficient (0.44) of the log difference of t-1 and 0.27 of t-2.

11.4.2. Cyclical Ratcheting Effect

The estimation of the ARIMA model in the previous section shows that the local budget is determined by *incrementalism*―last year's budget claim is taken i and a little more added. This relationship implicitly suggests an upward trend in the local expenditure-GDP ratio. One of the interesting theoretical hypotheses explaining the upward trend in expenditure-GDP ratio can be found in *Economic Surveys: Japan* (OECD (2005)). This report focuses on the asymmetric reaction of LAT to business cycles as follows:

The Local Allocation Tax (LAT) – a block grant – is the main equalization scheme. It is based on criteria related to both financial capacity and needs/costs. Several factors have contributed to the upward pressures on the grant system. The LAT system has been asymmetric in adjusting for the business cycle. The money available for the LAT – a fixed share of central government tax revenue – increases during upswings. Cyclical tax windfalls have made it possible to upgrade minimum standards for local public services. During downturns, however, it has been difficult to cut back these transfers. The decline in funds available for the LAT has largely been compensated for by borrowing from the LAT special account or by encouraging local governments to issue bonds whose future repayment costs are partly accounted for in the calculation of entitlements to the LAT, thus creating upward pressures on future LAT transfers (OECD(2005)pp.126-127).

The hypothesis tested in this article is that asymmetric government spending over the business cycle leads to upward cyclical ratcheting in government spending. Hercowitz=Strawczynski (2004) reports evidence that the prolonged increase in government spending/output ratio in OECD countries after 1974 is partially explained by *cyclical ratcheting:* government consumption is moderately pro-cyclical in expansion, whereas in contraction government consumption and transfers are strongly countercyclical. We test the upward trend in local expenditure-GDP ratio in Japan by empirical formulation of cyclical ratcheting.

For the first step, we provide indirect evidence for the *cyclical ratcheting* hypothesis. Table 11.4. shows the income elasticity of local expenditure, local tax and local allocation tax to GDP growth. This result indicates a kind of irreversibility of expenditure. Before the economic stag-

nation, public goods supplied by the local public sector had a high income elasticity of demand, and this was accompanied by an ample increase in tax revenues.

After the burst of the economic bubble, however, the income elasticity of expenditure has remained at roughly one, while the income elasticity of tax revenues fell to almost one third. This fact indicates that expenditure cannot immediately be adjusted to the fall in tax revenues. The levels of expenditure have a kind of downward rigidity, and a shortage in tax revenues are temporarily compensated for by a corresponding increase in block grants (local allocation tax). Put differently, the LAT system has been asymmetric in adjusting for the business cycle, as pointed out by the OECD (2005).

Table 11.4. Income elasticity of local revenue resources

a. Municipality

range of sample	LEX	LTX	LAT
1975-1989	1.046***	1.4746***	0.911***
1990-2011	1.021***	0.621**	1.536**

b. Prefecture

range of sample	LEX	LTX	LAT
1975-1989	1.000***	1.358***	1.022***
1990-2011	0.8845***	0.462	1.643**

the value of each colum indicates the slope of following equations.

log LEX=a_1+$b_1$logGDP+u

log LTX=a_2+$b_2$logGDP+u

log LAT=a_3+$b_3$logGDP+u

In what follows, we directly test the cyclical ratcheting hypothesis. Let x_t denote GDP, and y_t local expenditure-GDP ratio. Let Δ denote the growth rate so that $\Delta x_t = (x_t - x_{t-1})/x_{t-1}$ and $\Delta y_t = (y_t - y_{t-1})/y_{t-1}$. And let $\overline{\Delta x}$ and $\overline{\Delta y}$ denote an average of the variable x_t and y_t. Then an increase in growth of above average, Δx_t^p, and a decrease in growth of below average, Δx_t^n, can be defined as below:

$$\Delta x_t^p = \left(\Delta x_t - \overline{\Delta x}\right)d_t \qquad\qquad d_t=1 \ \ if \Delta x_t \succ \overline{\Delta x}$$

$$\Delta x_t^n = \left(\Delta x_t - \overline{\Delta x} \right)\left(1 - d_t \right) \qquad\qquad d_t = 0 \quad if \Delta x_t \prec \overline{\Delta x}$$

An empirical formulation of the cyclical spending behavior is specified in the following regression equation:

$$\Delta y = \alpha_0 + \alpha_{11}\Delta x_t^p + \alpha_{12}\Delta x_{t-1}^p + \alpha_{21}\Delta x_t^n + \alpha_{22}\Delta x_{t-1}^n + \lambda y_{t-1} + \varepsilon_t$$

The coefficients α_{11} and α_{12} capture the spending pattern in a time of expansion, and α_{21} and α_{22} the spending pattern in times of contraction, respectively. If local spending-GDP ratio reacts in the same way to Δx_t^p and to Δx_t^n, $\alpha_{11} + \alpha_{12}$ should be equal to $\alpha_{21} + \alpha_{22}$. When $\alpha = 0$, the evolution of local spending-GDP ratio is unrelated to the business cycle. If $\alpha \succ 0$, y_t increases in expansions and decreases in contractions (pro-cyclical), and vice versa (counter-cyclical) when $\alpha \prec 0$. In contrast, the asymmetric behavior described above implies that $(\alpha_{11} + \alpha_{12}) \geq (\alpha_{21} + \alpha_{22})$. In this case, fluctuations in output growth are accompanied by an increasing local spending-GDP ratio over time. The quantitative importance of this mechanism can be measured by the ratcheting coefficient $\theta \equiv (\alpha_{11} + \alpha_{12}) - (\alpha_{21} + \alpha_{22})$. Estimated results are shown in Table 11.5.

Let us consider the following example as a benchmark case. Assume that the elasticity of tax revenue with respect to GDP is 1. In expansions, all additional tax revenue is spent, and hence, given the unit elasticity of tax revenue, y_t remains constant. This implies that $\alpha_{1t} = 0$. In recessions, spending grows at the normal rate, and correspondingly $\alpha_{2t} = -1$. In this case, the ratcheting coefficient θ is $\alpha_{1t} - \alpha_{2t} = 1$. In terms of the drift of y_t over time, after two years with $\Delta x_t^p = 0.01$ in one and $\Delta x_t^n = -0.01$ in the other, the spending-GDP ratio is higher than before by 1%.

The results indicate the presence of cyclical ratcheting, and they can be elaborated on as follows; the estimates of θ are 3.17 in municipalities and 2.76 in prefectures, and significantly different from 0. In the follow-

ing we refer only to the prefectures. As in the benchmark example above where $\theta = 1$, this estimate implies that following an artificial 2-year cycle of 1% amplitude (1% above $\overline{\Delta y}$ in the first year and 1% below in the second), the municipality spending/output ratio is 2.76 % higher than prior to the cycle.

Table 11.5. Cyclical Ratcheting

| Municipality			Prefecture		
Variable	Coefficient	OLS	Variable	Coefficient	OLS
Δx_t^p	α_{11}	-0.1904	Δx_t^p	α_{11}	-0.4085
		(0.2566)			(0.2738)
		[-0.7421]			[-1.4922]
Δx_{t-1}^p	α_{12}	0.5623**	Δx_{t-1}^p	α_{12}	0.6435**
		(0.2631)			(0.2710)
		[2.1369]			[2.3743]
Δx_t^n	α_{21}	-2.6136***	Δx_t^n	α_{21}	-2.1231***
		(0.4729)			(0.4879)
		[-5.5261]			[-4.3514]
Δx_{t-1}^n	α_{21}	0.0593	Δx_{t-1}^n	α_{21}	0.0726
		(0.6488)			(0.6141)
		[0.0915]			[0.5829]
g_{t-1}	λ	0.2332	g_{t-1}	λ	0.1069
R^2		0.5823	R^2		0.4678
Ratcheting coefficient ϕ		3.1759	Ratcheting coefficient ϕ		2.7666

Dependent variable Δy_t

Sample:1976-2011(standard errors in parentheses, t-value in [ ])

Observations:36

The cyclical pattern is also different from the benchmark example. Whereas in the example the coefficient for contraction was -1 (meaning that when output growth is lower than average, spending growth remains at the average rate), the corresponding $\alpha_{21} + \alpha_{22}$ is -2.5543. Hence, spending growth in contractions is actually higher than normal. For expansion, the coefficient in the benchmark example was 0-, implying that spending grows at the same, higher than normal rate as output – whereas the corresponding estimates of $\alpha_{11} + \alpha_{12}$ is 0.3719. This means that spending is actually expanded by 1.37 % for each percentage point of output growth above normal.

The above result can be intuitively confirmed by actual data. Figure 11.3. shows the evolution of local government finances since the 1950s. The lower curve in the figure shows that the local tax ratio as a percentage of GDP has increased steadily and incrementally during the 1970s and 1980s. Although local expenditure kept constant pace with GDP growth during the 1950s and 1960s, the upper curve in the figure shows that welfare expenditure rose sharply during the 1970s, where demand came from local residents. Since the 1990s, the tax-GDP ratio has steadily declined due to a prolonged recession, while local public investment has also been extensively used for macroeconomic stabilization. The Trinity reform during 2004-2006 'succeeded' in overcoming the downward rigidity of spending for the first time since 1975.

Figure 11.3. Local expenditure and tax revenue (in percent of GDP)
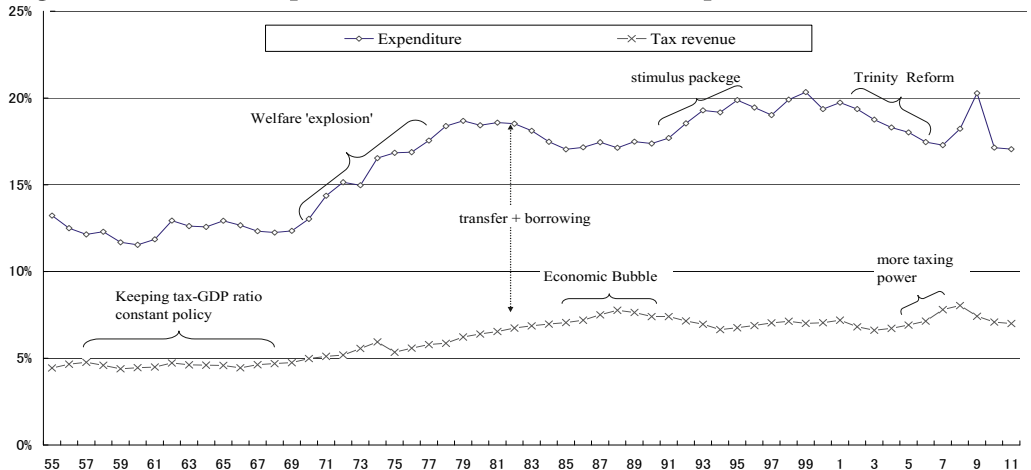
(source) Ministry of Internal Affairs and Communications, *Statistical data of Local Tax*

11.5. Policy implications for tax structure

11.5.1. Summary of the empirical study

The main findings of this article can be summarized as follows: First, a Granger causality test indicates that there is a reciprocal relationship between tax and expenditure in Japan. We can tentatively conclude that it is possible to have some repercussions from the tax structure on expenditures. Second, we tested the *incrementalism* hypothesis – last

year's budget claim is taken and a little more added – by using the ARIMA model. The result indicates that the annual increase in local spending consists of both a fixed part of increase and a proportionate part of increase in the previous year.

The third point of argument we analyzed is how local spending adjusts for the business cycle. The hypothesis tested in this article is that asymmetric government spending over the business cycle leads to upward *cyclical ratcheting* in government spending. Empirical tests confirm that the levels of spending have a kind of downward rigidity, and a temporary fall in tax revenues are compensated for by a corresponding increase in block grants.

Up until now it has often been said that expenditure is not determined by making tax revenue given, instead expenditure may be decided on for a certain reason, and to finance it, a corresponding revenue is 'guaranteed' in Japan. As the local public sector has evolved from the 'agency' model to the 'autonomy' model, this stereotypical way of thinking will come into question. Let us finish this article by considering what will be the problems and what issues will arise if we were to develop a local tax structure.

11.5.2. Benefit principle

Accountability to the electorate for local tax is key to understanding the interplay between spending and tax structure. Local accountability in Japan is still evolving. According to an OECD survey, 94 percent of municipal taxes and 83 percent of prefectural taxes have overlapping national-local tax bases and are classified as taxes for which the local governments have the authority to set rates[175]. But the real picture is slightly different from such an institutional setup. The personal inhabitant tax, local consumption tax, and property tax are essentially very close to tax sharing. The tax rates of these local taxes are nearly uniform throughout the country. Local governments, especially prefectures, depend heavily on corporate tax revenue which may be 'exported' to non-residents, and no one knows who pays for what.

There are a few steps of progress in the enhancement of subnational governments' taxing powers. First, tax rate flexibility has been en-

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[175] As to the taxing powers of state and local government, see OECD (1999),(2009)

hanced by the removal of the ceilings (upper limits) on the municipal inhabitant taxes on individuals in 1998 and on the maximum property tax rate in April 2004. Second, the tax autonomy of local governments has been further enhanced by the 2000 Amended Local Taxation Act, which enables them to invent and create 'supra-legal taxes' (i.e. taxes not stipulated by national laws, but by local ordinance) after consultation with the Ministry of Internal Affairs and Communications. Many subnational governments introduce new taxes, including some on nuclear and industrial waste, hotel stays, fishing, holiday homes etc.[176].

The third and most important step towards enhancing accountabilities was the introduction of a new form of local business tax; 'VAT-like local business tax' in 2005[177]. Since businesses benefit, directly and indirectly, from high public expenditure, VAT-like local business tax serves as a way of recapturing some of these benefits, most of which are more closely connected to the size of business activities than to their profitability.

11.5.3. Distribution across the regions

Traditionally, the Japanese society emphasizes equal access to public services and equitable sharing of the burden of paying for them. This paradigm has shifted towards a society that gives priority to individual preferences and local autonomy. Local specific conditions and unique tax capacities have direct influence on the level of public services now. For example, the disparity between municipalities as regards nursery fees and public assistance towards infant care has widened recently. Local governments with a high tax capacity, such as Nagoya city, have serious considerations concerning inhabitant tax cuts.

An uneven distribution of the tax base across local jurisdictions will be one of the most important challenges. According to "Reference Data on Local Taxes", the ratio of the largest tax revenue per capita (Tokyo Metropolis) to the smallest (Okinawa Prefecture) is 3.2 for individual inhabitant tax, 6.6 for corporate enterprise tax, and 1.8 for sub-national VAT. These data suggest that sub-national VAT on a per capita basis is

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[176] Several tax experts point out the problem of 'supra-legal taxes'. These taxes often fall on non-residents or can be shifted onto non-voting companies, and revenues are in many cases low, while obtaining the consent of local residents is a time-consuming task.

[177] For 'VAT-like local business tax' in general, see Bird (2013).

a strong candidate for even distribution of tax bases across local juris-dictions[178].

11.5.4. Stability over business cycle

During the expansion, public goods supplied by the local public sector had a high income elasticity of demand, and this was accompanied by a sufficient increase in tax revenues. During the contraction, the income elasticity of spending has remained at status quo, while income elastici-ty of tax revenues has decreased significantly. The levels of expenditure have a kind of downward rigidity, and temporary shortages of tax reve-nues are compensated for by corresponding increases in block grants.

Fluctuation in tax revenues over the business cycle is another concern of local government finance. Acording to "Reference Data on Local Tax-es", the tax with the largest fluctuation is the corporate enterprise tax, followed by the individual inhabitant tax. Partly for system-related rea-sons, the property tax is relatively stable and also has much growth po-tential. Sub-national VAT is far more stable than local corporate taxes.

'VAT-like local business tax' is also a good candidate for stable revenue sources. Owing to Japan's prolonged recession in recent decades, an in-creasing number of companies reported persistent losses on the taxable income basis and hence paid no enterprise tax. To offset the loss of local revenue, a new form of local business tax was introduced in 2005 for corporations with capital larger than \100 million. The principal reason for this change was to make the local business tax base less sensitive to economic fluctuations.

11.5.5. Acknowledgement

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[178] For Japan's sub-national VAT, see Mochida, Horiba and Mochizuki (2012).

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Chapter 12

Spend and tax, and then tax and spend? Looking for a relationship between municipal service responsibilities and taxing powers in Finland
Antti Moisio

12.1. Introduction

This paper provides a general description of the developments in the local tax structure and service responsibilities in Finland. It can be argued that the present framework dates back to the formation of the independent State of Finland and the people's desire to create a strong, local self-government, built on local democracy and the right to levy taxes.

The later decisions to develop a "Nordic welfare state" in Finland by delegating service provision to local government have led to an increasingly important role of local revenues and especially taxation. The Finnish municipalities, which form the single-tier local government, were given new tax bases and freedom to set tax rates as the municipal obligations accumulated. The grants from central government played a significant role as well.

Once the welfare state reached a mature stage, the role of tax policy in the overall local public sector became more important. Consequently, it may be argued that today the revenue base dominates the spending side. Nevertheless, even during the present time of economic crisis, it seems difficult to constrain the delegation of new tasks from the centre to the local level.

12.2. A brief history of Finnish local government

The basis for the present system of local government in Finland was established between 1865 and 1873 when laws on rural municipalities and towns were enacted. Local authorities gained the right to levy taxes, and they were given responsibilities regarding, for example, poor relief and basic education of citizens.

A provision on local self-government was added to the first Finnish Constitution in 1919, and universal and equal voting rights were introduced for municipal elections. The councils, which were elected in general elections, got the highest decision-making power. In 1932, provisions on inter-municipal co-operative organisations and joint municipal authorities were added to municipal legislation.

Since the end of the 1950s, many new statutory obligations have been assigned to municipalities. The state-owned general hospitals were transferred to local government ownership, and some private comprehensive and upper secondary schools became municipal schools. The enlargement of local government tasks was especially rapid in the 1970s and 1980s. In the 1980s, the uniform system of welfare services had been implemented all over the country, with massive central government steering.

The central government financed municipal expenditures by a specific matching grant system. The matching grant rates varied depending on financial capacity of municipalities, and each task had a different matching rate scale. The so-called "capacity classification" divided municipalities into 10 groups based on their per capita tax base (50% weight), financial condition, population density and unemployment rate. The higher the municipality was ranked in the classification, the less state support (because of a lower matching rate) it received. The classification was evaluated annually. Over time, an increasing number of municipalities ended up in the lowest two groups, receiving the maximum amount of state grants. Municipalities were also trying to lobby for their position in the classification.

In 1993, there was a major grant system reform from an almost pure matching grant system to a formula-based block grants system and a revenue equalization system. The new Local Government Act in 1995 meant an end to the tight central government regulation.

In sum, as a result of the decentralization policy pursued since the 1960s, all main social welfare, health care and education services are today provided by municipalities or by joint municipal authorities. Hence, the overall economic importance of the municipal sector became considerable. Municipality spending as a share of GDP is now around 18 per cent, and municipalities employ roughly 20 per cent of the total Finnish workforce.

12.3. Municipal finances

Municipal finances are presently based on own-source revenues (tax revenue, user fees and sales revenue) and grants from the central government (Figure 12.1). This basic structure of revenues dates from the end of 19th century (Loikkanen and Nivalainen, 2011).

Tax revenues make up 46 per cent of all municipal revenues. Income tax is the most important local tax. Property tax and the municipal share of corporate tax generate much less revenue to municipalities. The rest of the municipal own-source revenues consist of user fees and sales income.

On average, grants from the central government cover some 20 per cent of the total municipal sector revenues (municipalities and joint authorities). Still, due to big differences between municipalities, both in service cost factors and revenue bases, the importance of fiscal equalisation systems is significant for many municipalities. For one in every four municipality, the share of grants makes up more than 50 per cent of all revenues. This is especially the case for rural municipalities. In contrast, the wealthiest municipalities, such as the cities in the capital city area, receive only modest amounts of grants.

Figure 12.1. Municipal sector revenue (left box) and tax revenue (right box) composition, 2011
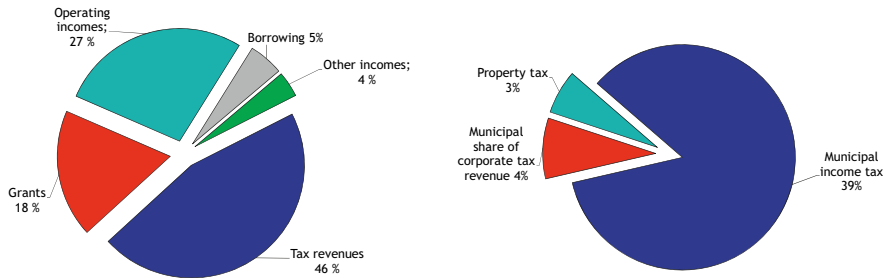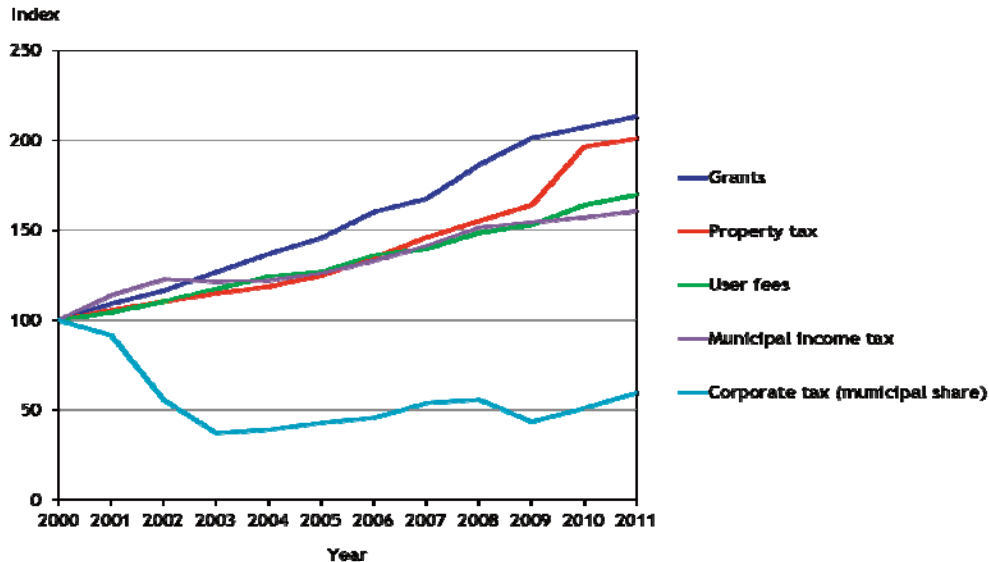

Figure 12.2. Municipal revenues during 2000-2011 (nominal prices, index 2000=100)

12.3.1. Tax revenues

Since 1920, the municipalities have been allowed to tax local income, properties and local firms. At first, this local taxation used to be administered by municipal tax boards, but in 1960 the system was reformed so that all income taxation was administered by one tax authority. Tax collection was still operated by separate ministries until 1979, when all tax

collection was concentrated in the central tax authority. In 1989, the tax reform was expanded to include both central and local income tax bases: altogether 16 different tax deductions were eliminated. During 1990–1992, a number of further tax changes were made which generally tightened taxation. These changes were done mainly to increase the tax revenues in both state and municipal taxation, because of the negative effect of the major economic recession on tax revenues. In 1993, a major reform separated capital and labour income taxation. Following this reform, the central government-earned income tax was based on a progressive tax rate, and capital gains began to be taxed at a flat rate. To the municipalities, the reform meant that the local income tax was restricted to a tax on earned income, and that capital income was excluded. This was caused by the decision to tax income and capital separately, mainly in order to make capital taxation more neutral and to give more room to treat capital and income differently with respect to taxation. Similar reforms, which led to so-called dual income taxation, had been implemented earlier in other Nordic countries.[179] The reform was also important for the municipalities because it introduced the present form of property tax, and municipalities were allocated a share of corporate income tax revenues.

Income tax
Local income tax base is determined by the central government, but municipalities have full control over the rate. Most municipal tax revenue is raised through the local tax on personal income.[180] Municipal income tax is a flat-rate tax, although central government policy for tax allowances for individuals with low incomes has made the local tax more similar to a progressive tax. However, municipalities are compensated for revenue losses from such allowances through the grant system. This is probably mainly because these measures, which are aimed at increasing labour supply at the lowest income levels, can affect municipalities very differently, since low income taxpayers are not evenly distributed.

Municipal income tax rate has been steadily rising (figure 12.3.), reflecting the increasing municipal service responsibilities, a hike in public

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[179] Pirttilä and Selin (2011) describe and analyse the Finnish tax reform.
[180] The earned income (which includes wages, salaries, pensions and social security benefits) is subject to central government income tax at progressive rates and to municipal and church taxes at proportional rates.

sector wages and, since 2009, the economic slump that has reduced the income tax base. The changes in taxable incomes (see figure 12.4.) reflect the business cycles and the tax reforms described above.

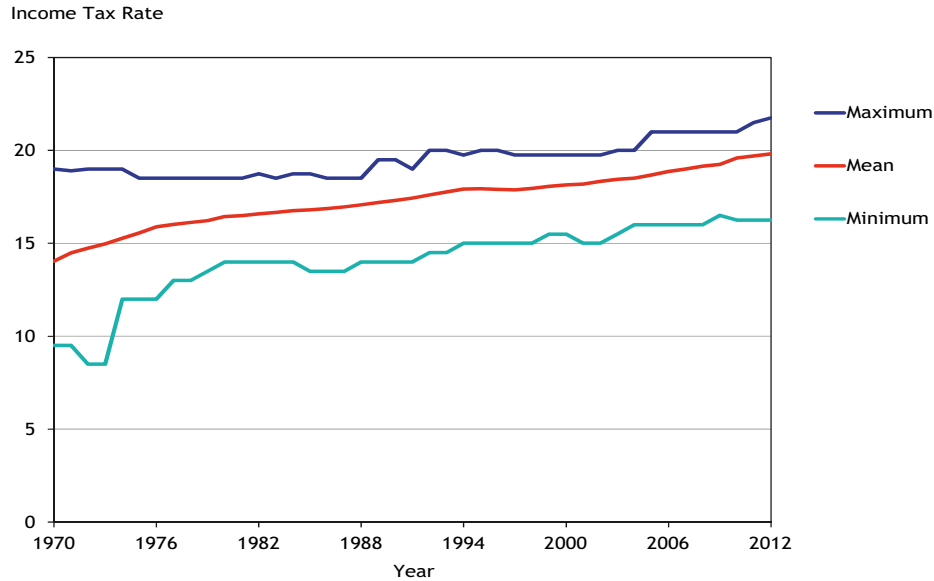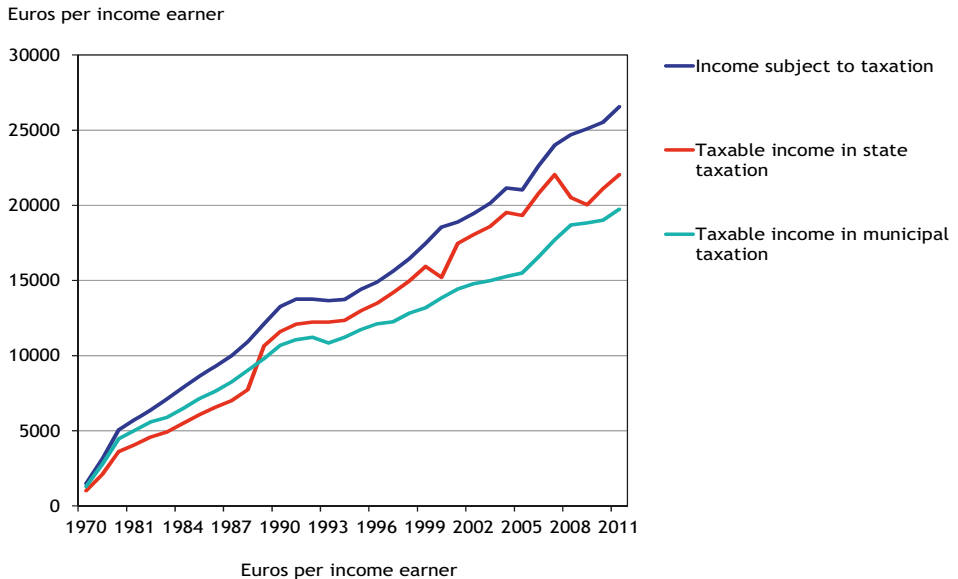## Figure 12.3. Municipal income tax rate, 1970-2012

Income Tax Rate

Figure 12.4. Taxable income in central government and municipal taxation, 1970, 1975, 1980-2011

Euros per income earner

Euros per income earner

Property tax

The property tax system in its present form was introduced in 1993. Before that, property taxation consisted of a complex system of fees and charges on real property. such as a discretionary property tax, the land tax, the street charge and the tax on income from housing.[181] At present, the property tax system consists of five taxes: the general real estate tax, the tax on permanent residential buildings, the tax on other residential buildings, the tax on power stations and the tax on nuclear power stations. The owner of real estate is subject to real estate tax. Property taxes are collected by the central tax authority, but each municipality determines their own property tax rates within upper and lower limits set by the central government. Municipalities are the sole receivers of property tax revenues. Figure 12.5. shows the development of the limits for each tax as well as the mean rates. With respect to the main property tax bases, the general real estate tax and the tax on permanent residential buildings, the municipalities have been reluctant to use property taxation very actively. For example, no municipality uses the maxi-

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[181] See Lyytikäinen 2009 and Lyytikäinen 2012 for a thorough description of the Finnish property tax system and its reforms.

mum rate, and for most property tax rates the mean rate is closer to the minimum than the maximum limit, except for leisure homes and power stations.[182] The higher property tax rates on leisure homes can be seen as tax exporting, since the owners of leisure homes do not receive more local public services than the permanent residents in these municipalities.

The mean property rates have been slightly rising. The central government has adjusted the limits twice, in 1999 and 2010. As a result of the 1999 reform, about 49 per cent of the municipalities applied the new lower limit rate, whereas only 5 per cent applied the lowest allowed rate before the reform.[183]

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[182] The real-estate tax rate for vacant construction sites must be set between 1.00% and 3.00%. In certain municipalities in the metropolitan area, the real estate tax rate for vacant construction sites must be set at least 1.00 percentage point above the general real-estate tax rate. Non-profit organisations may be exempt from property taxes. Municipalities are not liable to pay real-estate tax on real estate located on municipal land.
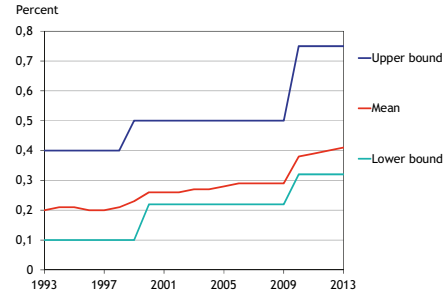
[183] 35% of the municipalities increased their rates from 1999 to 2000, and 15% were already applying the new lowest allowed rate in 1999.

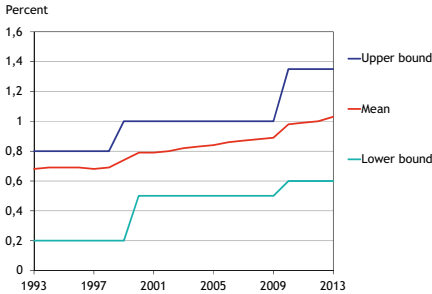## Figure 12.5. Property tax rates 1993-2013[184]

General real-estate tax
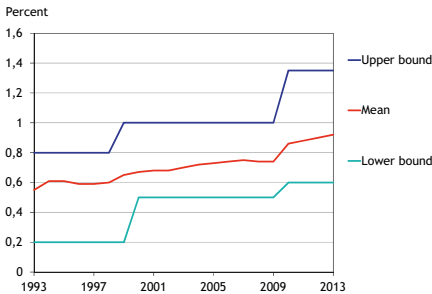
Tax rate for permanent residential buildings

Tax rate for other residential buildings

Tax rate for power stations
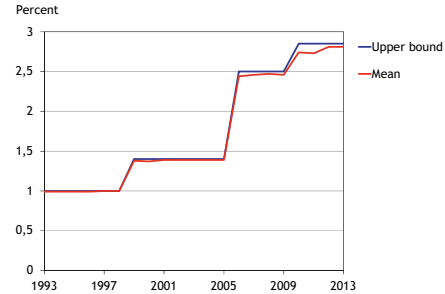
The general property tax applies to both residential and commercial land and commercial buildings.[185] The taxable value of land is based on the estimated market value of the site in the previous year. The taxable value of buildings is based on estimated construction cost less depreciation. The general property tax on buildings and the residential property tax make investment less profitable, and therefore property taxation affects capital location decisions. It is possible, then, that municipalities use property taxation as a means to attract business capital. Lyytikäinen (2012) uses the 1999 government decision to increase the lower limits of property tax rates as a source of exogenous variation to

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[184] The mean rate is the tax-base weighted average of tax rates.
[185] Land used for agriculture or forestry is exempt from general property tax.

study the property tax competition between municipalities and finds no evidence of spatial interaction in property tax rates.[186]
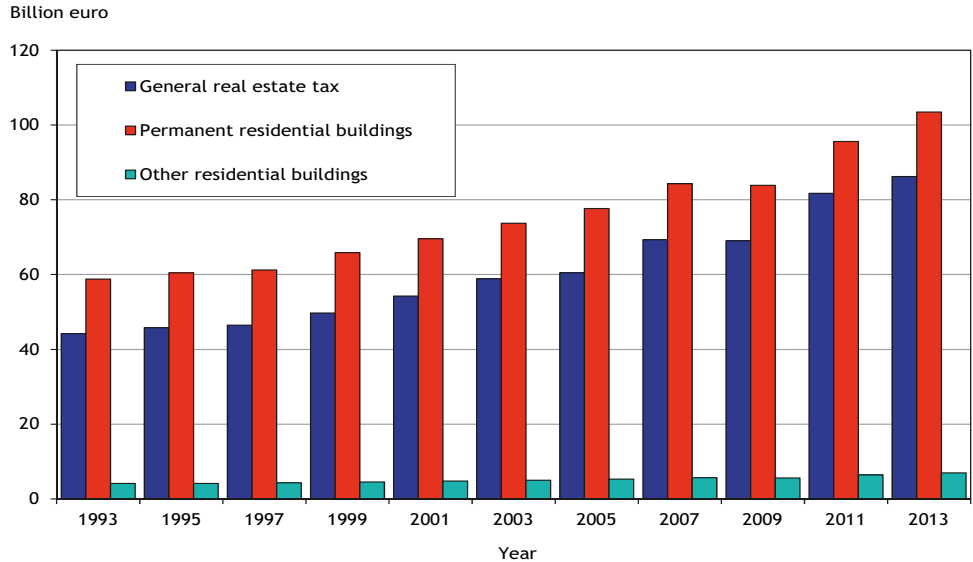
Property taxes account for only 3 per cent of total municipal revenues. The long term political objective has been to increase the importance of property taxation in municipal finances and thus to reduce the pressure to increase local income tax rates. The upper and lower limits of property taxation were increased in 1999 and 2010, which forced some municipalities to increase their rates. Since 2012, the government has also decided to remove property taxation from tax base equalisation. One benefit of this change is that municipalities can now keep the increased property tax revenue resulting from increased property or land prices. Municipalities may, for example, improve the quality and efficiency of the local public services, or use zoning to increase the value of land and properties, without having to fear that part of the new revenue will be cut by revenue equalisation. Removing property tax from the revenue equalisation may also contribute to economic growth in urban areas, although the size of the effect is difficult to predict.

At the moment, the government is preparing a reform to improve real estate and land valuation. It is noteworthy (see figure 12.6.) that the property tax base has been increasing steadily and has been less affected than the income tax base by the economic crisis that started in 2009. Despite the measures taken to increase the importance of property taxation, and the planned further measures, it is however unlikely that property taxes will become a significantly more important source of local revenue in Finland.

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[186] In fact, the results by Lyytikäinen (2012), which are based on novel econometric methods, also cast doubt on other previous results that have found statistically significant spatial interaction in local tax rates.

Figure 12.6. Property tax bases 1993-2013

Billion euro

Legend:
- General real estate tax
- Permanent residential buildings
- Other residential buildings

Municipal share of corporate tax revenues

Since 1993, municipalities have received a share of the corporate tax revenue. The central government has changed the municipal share, sometimes annually, to adjust the municipal sector economy (figure 12.7.). The share of corporate tax revenue channelled to the municipalities was reduced from about 45 per cent in 1997 to 20 per cent in 2003. In 2005, the share was increased again to 22 per cent to even out municipal revenues when the overall corporate tax rate was reduced from 29 to 26 per cent. As part of the central government fiscal stimulus package, the municipal share was temporarily increased to 32 per cent from 2009 to 2011.

It has been debated whether the corporate tax revenue should be removed from the municipal revenues menu and replaced by increased grants. Municipalities have strongly opposed all such proposals, however. Opposition has been particularly strong in urban areas such as Helsinki (the capital city), where corporate income tax has been an important revenue source. Nevertheless, criticism has been raised about corporate tax revenue as a source of municipal financing, due to the volatility of the tax base, both generally and in individual municipalities. The high volatility is claimed to cause problems because it makes reve-

nues unpredictable and also makes it less likely that revenues can be used to reduce the personal income tax rate. In addition, the windfall gains from corporate tax revenues may lead to higher expenditure that will be difficult to reverse in an economic downturn. However, it must also be noted that central government has been quite active in adjusting the municipal share. With this policy, the Ministry of Finance has tried to alleviate the negative effects of the corporate tax revenue on municipal finances.

Figure 12.7. Municipal share of corporate tax revenue 1993-2012
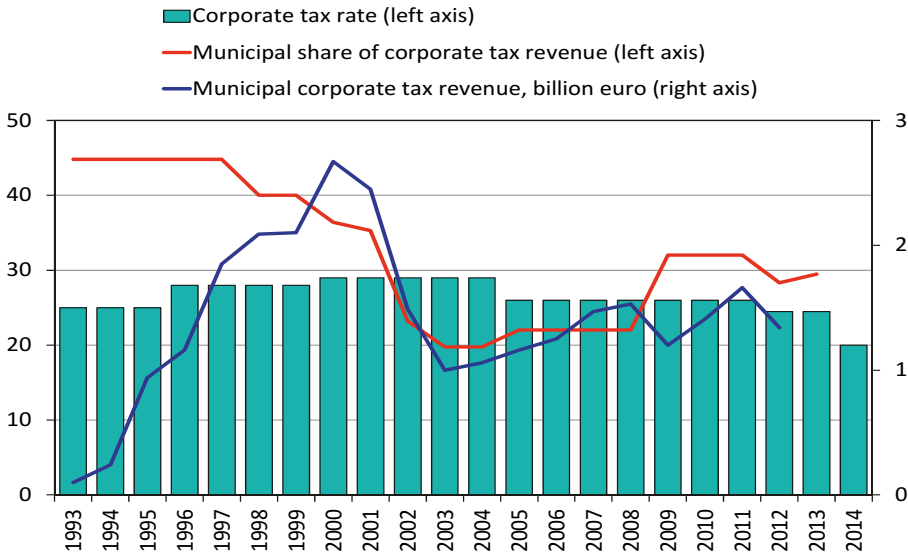
12.4. Municipal tasks and regulation

According to a recent study by the Ministry of Finance, there are presently 535 statutory municipal tasks and 974 norms that regulate these tasks (Ministry of Finance, 2013). The number of statutory tasks started to grow rapidly in the 1970s (figure 12.8.), when decisions to delegate education, health care and social welfare services were made. Since then, the number of tasks (and norms) have grown by about 50 per cent every decade.

While there are still new proposals (and legislation being prepared) to increase the municipal task burden, the present government has recent-

ly decided to cut down on municipal tasks and regulations, to the effect that in 2017 the municipal spending will be reduced by EUR 1 billion. The list of tasks to be eliminated will be prepared by a Ministry of Finance working group by the end of November 2013.

In addition to the changes in municipal tasks, the grants will be cut as well. The decisions on grant cuts were already made in March 2013, and the cuts will take effect from 2014.

The government will also increase the fiscal control of municipalities. How this will be done in practice – and what fiscal rules will be used to accomplish this – remains to be seen. However, the idea is to strengthen the powers of the so-called Basic Public Services Programme and the Basic Public Services budget[187]. These procedures are already in place for the negotiating procedure between central and local government. Also, the Basic Public Services budget is used when preparing the government budget. The main aims of the Basic Public Services Programme are:

- to evaluate changes in the local government operating environment and the demand for services;
- to monitor the trend in local government finances and changes in local government functions;
- to draw up a plan of the measures required for balancing municipal revenue and expenditure;
- to make a proposition for the financing needed to carry out the statutory local government functions, to develop them and to increase productivity.

Based on the above, the Basic Public Services budget process evaluates the outlook of local government finances and the impact of the Government budget proposal on local government finances.

The Basic Public Services Programme and the Basic Public Services budget are prepared for four-year periods (the most recent one covers

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[187] The Basic Public Services Programme has been in effect since 2005 as part of the negotiation between municipalities (represented by the Association of Finnish Local and Regional Authorities) and central government (several ministries were involved). From the outset, the process was included as a part of the planning process for the central government budget. Despite this, the Basic Public Services Programme and Basic Public Services budget were not given a permanent role and legal status until 2008.

2009–2012). The Ministry of Finance prepares the plans together with other ministries. The Association of Finnish Local and Regional Authorities participates in the procedure as a permanent expert.

Figure 12.8. Number of present municipal tasks by decade of delegation
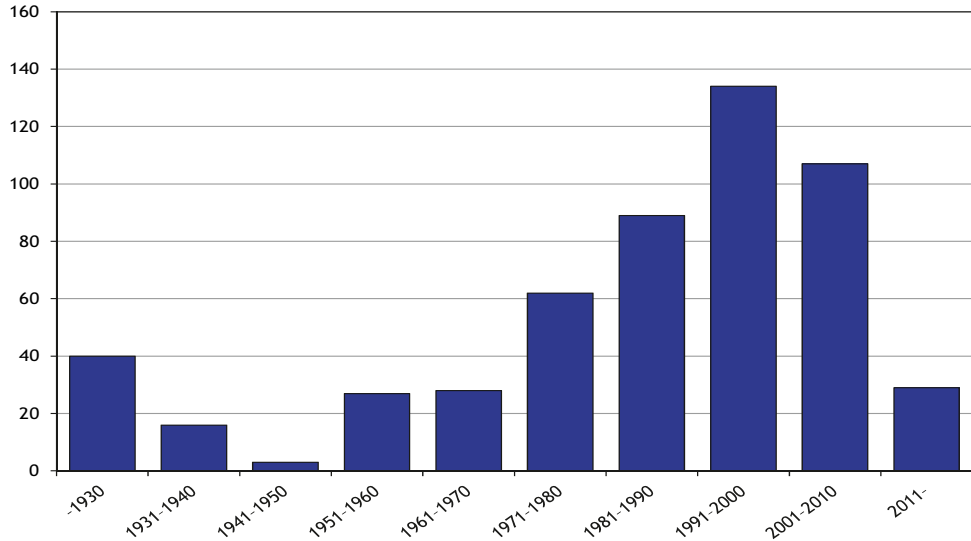
12.5. Summary and conclusion

Finnish economy is presently facing three main challenges: the economic downturn, the ongoing structural change in the Finnish export industry and the sustainability gap of public finances due to an ageing population.

The government has recently adopted a structural reform programme to tackle these problems. Due to the importance of the local government sector in Finnish public finances, the structural reform package includes a number of measures that will affect local government. These measures include the municipal merger reform, the service structure reform in social and health care, and cuts in the number of municipal tasks and regulation. It seems that the long-term policy to accumulate the municipal sector burden by increasing tasks and regulation is about to end. Nevertheless, the demand for municipal health and welfare services will increase in the coming decades, thanks to the rapidly ageing

population. Therefore, the above mentioned reforms can at best only slow down the increase in municipal expenditures.

During the past decades, the tax policy and the policy to build the Nordic welfare state seem to have proceeded largely independently of one another. In the municipal sector, the policy concentrated on the welfare state. At the same time, the municipalities were given enough own revenue bases to allow the municipal sector on average to fund the bulk of the expenditures itself. The grant system took care of those municipalities that were unable to raise enough own funds.

The present policy aims to create stronger municipalities and to reduce central government regulation. The grant system reform will support this development, because its aim is to make the grant system slightly less equalising. An important policy target is also to increase macroeconomic control of the municipal finances. It then seems that the traditional normative regulation will be replaced by (not so traditional by Finnish standards) tighter fiscal regulation.

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Chapter 13

Regional tax autonomy in Spain: 'words' or 'deeds'?
Albert Solé-Ollé

Abstract

Over the last three decades, the funding system of Spain's regional governments has evolved from one based on intergovernmental transfers to one based on shared taxes, with the regions being granted an increasing degree of tax autonomy. However, until very recently – and although legally possible – regional governments made very little use of this tax autonomy. The situation has undergone a change as a result of the current budgetary crisis, with a myriad of tax changes being enacted since 2010. This paper describes the evolution of regional tax powers in Spain over the last thirty years and of the effective use of tax autonomy made by regional governments. It examines why regional governments remained so passive in tax affairs throughout most of the period but why in recent years they have become so active.

13.1. Introduction

Over the last three decades, various countries have pursued decentralization reforms, assigning responsibilities for the provision of key public services to regional and local governments (Brosio and Ahmad, 2009). The common argument adopted in justification of such reforms is that decentralization brings government closer to citizens, increasing government knowledge about their demands and needs and improving policy responsiveness and accountability (Oates, 1972; Seabright, 1996). Yet, following many disappointing experiences with decentralization, several authors have begun to question the general validity of such claims. Some contend that these disappointments can, by and large, be attributed to what they see as the only 'partial' nature of these decen-

tralization reforms (Devarajan *et al.*, 2009), where 'partial' refers to the fact that the decentralization of spending responsibilities has not been accompanied by a decentralization of revenue responsibilities at a similar level of magnitude, with decentralized services being funded primarily through transfers.

Many authors have warned of the perils of transfer financing. First, transfers might soften the local budget constraint, creating incentives to run up excessive local deficits that future transfers are expected to cover (Rodden, 2000; Inman, 2001; Rodden *et al.*, 2003). Second, transfer financing may diffuse accountability (Rodden, 2002) and foster rent-seeking and clientelism (Weingast, 2009; Weingast *et al.*, 2006), thus eroding the very benefits gained from the decentralization of spending. Funding through transfers reduces the prices of sub-national services and with them the efforts of citizens to control sub-national incumbents. At the same time, sub-national politicians can claim that the poor quality of services is attributable to the failure of upper layers of government to provide sufficient funding, and thus seek to avoid being held accountable.

Given these concerns, it is generally accepted that the superiority of decentralized provision of public services can be more clearly established if certain basic premises are satisfied, namely: (i) a substantial share of public spending is funded through taxes; (ii) citizens are aware of the level of government to which they pay their taxes; and (iii) sub-national governments enjoy real tax autonomy, i.e. they are able to take decisions that affect the level and composition of taxes. These premises are of paramount importance to ensure that sub-national politicians are able to engage in a 'fiscal exchange' with their fellow citizen taxpayers (Bird and Slack, 2013) and that taxpayers have the right incentives to monitor compliance with such a fiscal contract (Peralta, 2011). It is not easy to fool citizens that are aware of paying taxes (condition ii) and of the governments' capacity to modify them (condition iii) and who know that tax decisions do have a meaningful impact on the amount of revenues available to sub-national governments (difficult without condition i).

However, while the recommendation that revenue decentralization should parallel spending decentralization is easy to make, in practice it is not easily implemented. Evidence of this is the high degree of vertical

fiscal imbalance characterising many decentralized countries, and the low degree of sub-national tax autonomy (Stegarescu, 2005). And even in countries that have formally pursued these steps, the formal degree of tax decentralization – autonomy in 'words' – is often much lower than the effective use of sub-national tax autonomy – autonomy in 'deeds'. Why sub-national governments are sometimes reluctant to use their tax autonomy is an intriguing question. There are many possible explanations for this, ranging from an inadequate tax mix; incomplete reforms and/or *ex post* central government acts that serve as a hindrance to the use of the formal sub-national tax autonomy; persistence of a soft budget constraint syndrome; or more simply, just revenue buoyancy, either at the sub-national or at the central level.

In this paper, we illustrate the difficulties in increasing the effective degree of sub-national tax autonomy by focusing on the case of Spanish regional governments. In recent decades, Spain has implemented one of the most far-reaching and successful decentralization reforms. In the period that extends from the early 1980s to the first years of the present century, some of the State's main public services (including, education, health and social services) were transferred to the seventeen, newly created, regional governments (or Autonomous Communities, ACs from now on). Today, this intermediate level of government accounts for almost 35% of public spending[188]. The mere fact that this process was conducted in an orderly fashion during a period in which the Spanish welfare state was expanding should be considered a success. Moreover, there is some evidence that the assignment of responsibilities to the ACs improved policy responsiveness and outcomes in certain services (albeit modestly, see Solé-Ollé, 2009a).

However, there is growing concern in Spain with regard to the difficulty of containing sub-national spending and debt. During the early stages of expenditure decentralization, funding was obtained primarily through intergovernmental transfers. The overall amount of these transfers and their allocation were open to debate every five years. This was a logical step given the constant changes in the range of services being provided by the ACs (spending decentralization not being completed until the beginning of this century, see Table 13.1., but it did not provide the best

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[188] Spain's local governments have not experienced any substantial changes in this same period and account for just 15% of spending, more or less the same percentage as at the beginning of the period.

incentives for the ACs to manage their budgets. This situation has continued down to the present day, becoming especially worrisome in the midst of the worst fiscal crisis most Spaniards have ever witnessed (see IEB, 2012)[189]. That the Spanish decentralization reform was overly skewed towards transfer finance was already being debated by Spanish academics and policy-makers at the beginning of the 1990s, and it was during those years that the first steps were taken to increase the level of 'fiscal co-responsibility', the term coined in Spain at that time (see Castells, 1993). Since then several reforms have been introduced increasing both the reliance on taxes as a source of finance and the tax autonomy of regions over them. In the following sections of this paper, these reforms are described in detail (section 2), and their impact on effective tax autonomy is discussed (section 3). After reviewing the evidence, it is contended that despite the high degree of formal tax autonomy, the actual degree of tax differentiation between the ACs has been quite low until very recently. This situation has changed with the crisis, with a myriad of tax changes being enacted since 2010. The paper concludes with a discussion of the various explanations put forward to account for the ACs' initial passive fiscal behaviour and the recent shift to tax activism.

13.2. Tax decentralization in Spain: the 'words'

Spain's 1978 Constitution assigns all taxation responsibilities to the central government. However, the Constitution also includes the possibility that such responsibilities can be transferred to the ACs, so that the regional governments can regulate and/or administer their taxes within the limits established by the central parliament. The Constitution does not place any specific restrictions on the taxes that might be decentralised, with the exception of custom duties, which remain the exclusive preserve of central government. The only limit placed on subnational taxes is the obligation to adhere to a number of fiscal principles, including equality (although not necessarily uniformity), market unity and solidarity.

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[189] The recent wave of corruption scandals involving regional politicians has had an impact on citizen support for the decentralized state (see León, 2013), though this might also be a reaction to the current momentum of Catalan secessionism. Note that the main motivation for decentralization during the design of the 1979 Constitution was the appeasement of Catalan and Basque nationalism.

In adherence with these principles, over the last three decades the system has evolved from one based solely on intergovernmental transfers to one based both on transfers and sub-national taxes. Today, only a few taxes remain fully centralized (i.e., corporate tax, social security contributions and custom duties), although the type and extent of decentralization vary from tax to tax. The following expression encompasses the various possibilities that may be found in practice (see also Blöchliger and King, 2006)[190]:

$$R_t = \left\{ \left(t_t^{C,R} \times \left(B_t^{C,R} - D_t^{C,R} \right) - TC_t^{C,R} \right) \right\} \times a_t^{C,R} \qquad (1)$$

where R_t is the tax yield obtained by a region for a given tax and year; $t_t^{C,R}$ is the tax rate schedule applied in that region; $B_t^{C,R}$ is the tax base of the region (dependent, that is, on the definition of taxable items and exemptions); $D_t^{C,R}$ are the tax relief and deductions from the tax base; $TC_t^{C,R}$ are tax credits; and, $a_t^{C,R}$ is a parameter that measures the effects of tax administration and collection. The super index identifies whether a given parameter is set by the autonomous community (AC) or by the central government (C). On the one hand, if the AC has responsibilities over all of these parameters, the tax is said to be fully decentralized. In this case the degree of tax autonomy is maximum, since the AC is fully responsible for regulating all the tax parameters (i.e. tax base, tax relief and deductions, tax rate schedule, tax credits) and for administering and collecting the tax. In this case, expression (1) can be written as:

$$R_t = \left\{ \left(t_t^{R} \times \left(B_t^{R} - D_t^{R} \right) - TC_t^{R} \right) \right\} \times a_t^{R} \qquad (2)$$

On the other hand, sub-national governments might obtain a share α of the total yield of the tax in the region, T_t, without any degree of tax autonomy. In this case, we have:

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[190] The framework provided by Blöchliger and King (2006) is, in fact, even more general, since they allow for the possibility of tax decentralization through a sub-national tax surcharge over the central tax bill. This possibility is not allowed for here as it has not been adopted in Spain.

$$R_t = \alpha \times T_t \qquad\qquad (3)$$

where $T_t = R_t + C_t$, C_t is the yield obtained by the central government, and $\alpha + (1- \alpha) = 1$[191]. In this case, the degree of tax autonomy is null: the AC is unable to modify (either by changing the regulation of the tax or by improving its administration and collection) the regional yield of the tax. In practice, Spain's decentralized taxes occupy some intermediate point between expressions (2) and (3).

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[191] It can be shown that (3) is equivalent to the situation in which the central government sets all the parameters in (1), using the same definitions for the tax base and deductions for the central as for the sub-national taxes (i.e. $B_t^R = B_t^C$ and $D_t^R = D_t^C$), administering the whole tax centrally (i.e., $a_t^R = a_t^C$) and setting the sub-national tax schedule and tax credits as a proportion α of the aggregate tax schedule and tax credits (i.e. $t_t^C = \alpha \times t_t$ and $TC_t^C = \alpha \times TC_t$).

Table 13.1. Evolution of spending and revenue decentralization in Spain

	Before 1986	1987-1996	1997-2001	2002-2009	After 2009
Spending	Decentralization service by service and AC by AC Low vs. High responsibilities	Decentralization continues Decision to extend Education & Health to all ACs (in 1992)	Decentralization continues Education & Health extended to all ACs	Decentralization completed	--.--
Transfers	Earmarked transfers	Consolidation of earmarked transfers into one formula transfer	--.--	--.--	--.--
Taxes					
Own *taxes:* Gambling taxes (e.g., casinos, lotteries), Environmental taxes (e.g., water, emissions)	100% tax yield + Regulation autonomy (full) + Administration	100% tax yield + Regulation autonomy (full) + Administration	100% tax yield + Regulation autonomy (full) + Administration	100% tax yield + Regulation autonomy (full) + Administration	100% tax yield + Regulation autonomy (full) + Administration
Traditional ceded taxes: Wealth tax, Death and gift tax, Property transactions tax, Stamp duties, Gambling fees	100% tax yield + Administration	100% tax yield + Administration	100% tax yield + Regulation autonomy (partial) + Administration	100% tax yield + Regulation autonomy (full) + Administration	100% tax yield + Regulation autonomy (full) + Administration
Newly ceded taxes: Retail gas tax, Transportation tax Electricity tax	--.--	--.--	--.--	Regulation (partial or null)	Regulation (partial or null)

Shared taxes:					
Personal Income tax	--.--	15% tax yield (in 1994)	30% tax yield + Regulation autonomy (partial)	30% tax yield + Regulation autonomy (partial, but higher)	50% tax yield + Regulation autonomy (partial, but higher)
VAT	--.--	--.--	--.--	35% tax yield	50% tax yield
Excise taxes on alcohol, tobacco & gas	--.--	--.--	--.--	40% tax yield	58% tax yield

Source: Bassols *et al.*, (2010) and own elaboration.

Table 1 employs this framework to describe the evolution of tax decentralization in Spain over the last three decades (see also Herrero & Tránchez, 2011; Martínez-Vázquez, 2012). In the first stage, corresponding to the early eighties, tax autonomy was low, as the system was based mainly on earmarked transfers[192]. During this stage, the ACs were allowed to establish their *Own taxes* in fields not occupied by the central government. The level of autonomy relating to these taxes was maximum (i.e., the tax yield could be represented by expression (2) above). However, in practice, this option provided the ACs with very little room for manoeuvre to set their taxes (more on this below). The ACs also obtained 100% of the yield and administered the so-called 'traditional' *ceded* taxes (i.e., *Wealth tax, Death and gift tax, Property transmission tax* and *Stamp duties*) – *ceded* because the central government had responsibility for regulating and collecting the tax unless it opted to assign this power (to *cede* it) to the ACs; and 'traditional' because the list of *ceded* taxes has been enlarged in more recent times. In this first stage, the regulation of these taxes remained the responsibility of the central government, although the ACs were responsible for their administration. As such, the tax yield in this case can be expressed as:

$$R_t = \left\{ t_t^C \times \left(B_t^C - D_t^C \right) - TC_t^C \right\} \times a_t^R \qquad (4)$$

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[192] This was the most practical method for the central government to assign spending powers to each of the ACs, as the speed of decentralization varied from one region to another.

The second stage extended from 1987 to 1996 and was characterized primarily by a movement towards greater spending autonomy, thanks to the consolidation of the earmarked transfers into just one general formula grant. For the first time during this period, the ACs were assigned a share of the *Personal income tax* (15% in 1994), but were granted no regulatory responsibilities (see expression (3)).

The third stage ran from 1997 to 2001. In this period, the ACs were given the possibility of modifying the tax rates and various provisions of the 'traditional' *ceded* taxes, within certain limits that included both the margin of manoeuvre in the setting of tax rate schedules, tax relief provisions, and also tax credits. Thus the tax yield during this stage can be expressed as:

$$R_t = \left\{ t_t^R \times \left(B_t^C - D_t^R \right) - TC_t^R \right\} \times a_t^R \qquad\qquad (5)$$

$$t_t^R = \alpha \times t_0 + \Delta t_t^R, \text{ with } \Delta t_t^R \in \left(\Delta t^{Min}, \Delta t^{Max} \right)$$

$$D_t^R = \alpha \times D_t + \Delta D_t^R, \text{ with } \Delta D_t^R < \Delta D^{Max}$$

$$TC_t^R = \alpha \times TC_t + \Delta TC_t^R, \text{ with } \Delta TC_t^R < \Delta TC^{Max}$$

Likewise, during this stage, the ACs were given the possibility of setting *Personal income* tax rates on a centrally defined tax base. Since 1997, the regional personal income tax has consisted of a progressive rate schedule applied on the tax base defined by central government for its personal income tax. In order to make "fiscal room" for the regional income tax, the old progressive rate scale employed by the central tax was divided into two: 15% of each of the ten *original* rates of the schedule for the 1997 income tax became the regional rate schedule, and the remaining 85% of each *original* rate became the new central rate schedule[193]. As seen in Table 13.2., in 1997 the original top rate of 56% was divided into an 8.4% regional and a 47.6% central top tax rates, while the *original* bottom rate of 20% was divided into a 3% regional and a 17% central bottom tax rate. The tax credits of the *original* income tax were also di-

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[193] The ACs had shared an additional 15% of income tax revenues since 1994. With the new Regional personal income tax, the effective AC share of the revenues from this tax was raised to 30%.

vided into two: 15% of each tax credit became a "regional" tax credit and 85% a "central" one.

Table 13.2. Personal income tax rates in Spain, 1997

Taxable income (pta)	Marginal Tax Rates		
	(a) Central %	(b) Regional %	(c=a+b) Total %
442,000	17.00	3.00	20.00
1,136,000	19.55	3.45	23.00
2,305,000	23.80	4.20	28.00
3,474,000	27.20	4.80	32.00
4,643,000	30.60	5.40	36.00
5,812,000	34.00	6.00	40.00
6,981,000	38.25	6.75	45.00
8,150,000	41.65	7.35	49.00
9,319,000	45.05	7.95	53.00
10,488,000	47.60	8.40	56.00

Source: *Ministerio de Hacienda y Administraciones Públicas.*

Using the framework introduced above, in the year of transfer of responsibilities, the regional tax yield can be expressed as:

$$R_0 = \left\{ t_0^C \times \left(B_0^C - D_0^C \right) - TC_0^C \right\} \times a_0^C \qquad (6)$$

where $t_0^C = \alpha \times t_0$, $TC_0^C = \alpha \times TC_0$, and thus $R_0 = \alpha \times T_0$. In addition, the regional parliaments were allowed to modify the tax rate schedule within certain limits (i.e. the same number of brackets, tax rate changes limited to ±20% band) and to establish tax credits of a different kind: personal and family, non-entrepreneurial investments, uses of income (private health spending, charity donations, etc.). The main limitations on tax credits were that effective discrimination between income categories was not allowed (i.e., average effective tax rates should in theory not differ across income categories), and that regional governments were not allowed to modify their "share" (i.e. the established 15%) of the centrally determined tax credits in the aggregate. All of this meant that in

the years following the transfer of responsibilities, the regional tax yield might change as a result of a decision taken by the regional parliament:

$$R_t = \left\{ t_t^{R} \times \left(B_t^{C} - D_t^{C} \right) - TC_t^{R} \right\} \times a_t^{C} \tag{7}$$

$$t_t^{R} = \alpha \times t_0 + \Delta t_t^{R}, \text{ with } \Delta t_t^{R} \in \left(\Delta t^{Min}, \Delta t^{Max} \right)$$

$$TC_t^{R} = \alpha \times TC_t + \Delta TC_t^{R}, \text{ with } \Delta TC_t^{R} < \Delta TC^{Max}$$

The fourth stage extended from 2002 to 2009. During this period, the ACs' share of income tax revenues was increased from 30 to 33%, and they were also assigned a share of VAT and *Excise tax* revenues (35 and 40%, respectively). The ACs, however, have no tax autonomy with regard to these indirect taxes, whose yield can be represented by expression (3)[194]. Additionally, three relatively small taxes were assigned in full to the ACs: *Transportation tax*, *Retail Gas tax* and *Electricity tax*. In relation to the first two, the ACs were also granted certain powers to set the tax rates within given limits (see Table 13.3.).

The ACs were likewise granted powers to modify tax rates and tax credits, while other income tax provisions were extended. Nevertheless, certain limits remained (see Table 13.4.), so the tax yield can still be represented using expression (7). First, the rate schedule had to remain progressive and to have the same number of brackets as the central schedule. Second, the effective variation of the tax (before tax credits), resulting from a change in the tax rates, was not allowed to rise above an absolute value of 20%. Finally, the regions were not allowed to regulate the tax rates applied to capital gains and other irregular income. In the case of the traditional *ceded* taxes, the few remaining limitations on the use of regional tax powers were lifted, granting the ACs a quasi-absolute power to set all the relevant tax parameters. In this period, the yield of these taxes can be represented using expression (2).

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[194]In the case of the VAT and Excise taxes, the ACs obtain a share of national revenues equivalent to a regional consumption indicator (either total consumption, in the case of VAT, or gas, tobacco and alcohol consumption, in the case of excises), which is used as a proxy for the revenues generated in the region.

Table 13.3. Regional powers over fully assigned taxes, after 2002

Tax	Power
Wealth tax	Basic personal and family relief Tax rate schedule Tax credits Tax collection and inspection
Death and gift tax	Tax base reductions Tax rate schedule Amounts and coefficients of pre-existing wealth Tax credits Tax collection and inspection (since early 1980s)
Property transmission tax	Tax rates (over most bases) Tax credits (same bases as tax rates) Tax collection and inspection (since early 1980s)
Stamp duties	Tax rates (notary documents) Tax credits (notary documents) Tax collection and inspection (since early 1980s)
Gambling fees	Exemptions Tax base Tax rates and lump-sum quotas Tax credits Accrual criteria Tax collection and inspection (since early 1980s)
Retail gas tax	Tax rates within bands (e.g., 0 to 48€/1000 litres for gas)
Transportation tax	Tax rate increase with a 15% ceiling

Source: Duran and Esteller (2005) and own elaboration.

Table 13.4. Regional powers over personal income tax, after 2002 and 2009

After 2002	After 2009
Tax rates, with limits: 　　Progressive rate schedule 　　Same number of brackets 　　Changes within ±20% band 　　No powers with respect to irregular income base	Tax rates, with limits: 　　Same, but no need to retain same number of brackets
Tax credits: 　　Housing deductions within ±50% band 　　Personal and family deductions, holding constant effective tax rate by bracket	Tax credits: 　　Housing deductions 　　Personal and family deductions 　　Non-business investments 　　Non-exempt subsidies received from the AC
	Basic personal and family relief, within ±10% band

Source:　Duran and Esteller (2005), Law 22/2009, and own elaboration.

In the last stage, since 2009, the ACs were granted an ever higher share of revenues from income tax, VAT, and excise taxes (50, 50 and 58%, respectively). In the case of income tax, they were granted the possibility of modifying basic personal and family relief as well as certain deductions, and increased freedom to design the regional tax schedule (see Table 13.4.). Notably, the requirement that the regional income tax should have the same number of brackets as the central schedule was abolished. The other limitations remain.

Following these changes, the formal degree of tax autonomy of Spain's ACs can be said to be quite substantial. Table 13.5. shows the shares obtained from the different revenue sources after the last two reforms (2002 and 2009). From the last two columns it can be seen that non-earmarked revenues provided around 86% of total revenues after 2002 and around 83% after 2009[195]. This ensures a high degree of spending

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[195] The slight reduction in this number reflects the impact of the crisis, since Spanish sources (either taxes or transfers) have decreased more significantly than European funds.

autonomy in Spain, although mandates and central government regulations also have an impact on the capacity of the ACs to implement differentiated policies. Besides this, it can be noted from the figures in the first two columns of Table 13.5. that tax revenues represented around 69 and 80% of non-earmarked revenues after the two aforementioned reforms. This increase reflects the growth in the shares of *Personal income tax*, VAT and *Excise taxes* introduced with the 2009 reform. However, it is true that the ACs do not enjoy tax autonomy over all these taxes. The ACs have some autonomy over 64 and 56% of their tax revenues (after 2002 and 2009, respectively), over 45% of non-earmarked revenues (i.e., *Tax revenues + Equalization transfer*), or over 38% of total revenues. Certainly, these figures are less impressive, but still high by international standards.

Table 13.5. Regional revenue sources in Spain, before and after 2009

	% of free revenues		% of total revenues	
	2007	2010	2007	2010
Wealth tax	1.55	0.00	1.34	0.00
Death and gift tax	2.38	2.07	2.05	1.71
Property transmission tax	7.42	4.18	6.40	3.46
Stamp duties	6.83	2.60	5.90	2.15
Gambling fees	1.62	1.41	1.40	1.16
Retail gas tax	1.11	1.09	0.96	0.90
Transportation tax	1.72	0.63	1.48	0.52
Personal income tax	20.99	32.53	18.12	26.90
VAT	16.93	22.98	14.62	19.01
Excise taxes	7.41	11.29	6.39	9.34
Own taxes	1.01	1.17	0.87	0.96
Tax revenues	68.96	79.94	59.54	66.12
Equalization transfer	31.04	20.06	26.80	16.59
Non-earmarked revenues	100.00	100.00	86.33	82.71
Specific transfers			5.70	7.99
Capital transfers			7.10	8.34
Total revenues			100	100

Notes: (1) Outlays; (2) *Basic revenues* = revenues taken into account for equalization purposes; Total revenues = Basic revenues + Own taxes + Earmarked transfers (Transfers of specific responsibilities to some ACs + mandates) + Capital transfers (Spanish regional policy + European Funds).

Source: *Ministerio de Hacienda y Administraciones Públicas*.

13.3. The use of tax autonomy: the 'deeds'

The above description suggests that Spanish regional governments have plenty of scope for modifying the level and composition of their revenue budgets, and of affecting the taxes borne by different economic sectors and income classes. However, the overall impression is that the ACs have been quite passive in this respect, at least until recently. Below is

a summary of the main tax decisions taken by regional governments over these last three decades.

Own taxes. In the second half of the eighties, the ACs began creating a number of new taxes. As discussed above, these taxes represent a small proportion of overall tax revenues (around 1.5% in 2010) or total revenues (around 0.85%), although in some cases it might be argued that their main objective is not to collect revenue[196]. A further reason for their relatively small weight is the legal condition that must be met to introduce such taxes: new taxes can only be created in fields of taxation not previously occupied by the central government. The task of inventing new taxes is, therefore, not an easy one, especially given the hostility of the central government towards any new regional taxes. Indeed, many of the ACs' new taxes have been challenged by the central government before the Constitutional court. In other cases, the threat of such a challenge or the use of legal tricks[197] has discouraged the introduction of any new taxes.

Some ACs have been more active in this field than others (e.g., Catalunya, Galicia). Most of the new taxes created have been either environmental taxes or taxes on different types of gambling. Thus, nine out of fifteen ACs have introduced a water tax earmarked for the funding of water cleaning facilities and (in the case of industrial uses) computed using information on pollutant concentrations. In 2010, these water taxes amounted to 777 million euros, 62% of all revenues derived from the ACs' *own taxes*. Six ACs also levy taxes on the disposal, treatment and incineration of garbage; the disposal of special residues; and, the emission of pollutants into the atmosphere or the sea. These taxes represent roughly 8% of all ACs' *own taxes*. Eight ACs levy taxes on the activities of casinos, bingos and slot machines, three do so on the activity of large commercial centres (Catalunya, Aragón and Asturias), two levy some type of energy tax (Galicia and Canarias), and one has a tax on bank deposits (Extremadura).

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[196] This is the case of environmental taxes, the purpose of which is, in theory, to discourage externality-generating activities.

[197] For example, in some cases the central government has reacted quickly by introducing the same tax at the national level and then set the tax rate at zero or granted a universal 100% tax credit.

More recently, the budgetary crisis has fuelled the imagination of some ACs (those facing the most testing budgetary challenges), which have introduced (or tried to introduce) various new taxes. The most active AC has been Catalunya, with proposals for new taxes on bank deposits and prescription medicines in 2012 and 2013 (both currently blocked by the central government), a tourist tax and a new lottery. Similarly, some of the aforementioned environmental taxes have recently been adopted by ACs that had hitherto not levied them.

Traditional ceded taxes. As discussed above, these were the first taxes over which the ACs enjoyed a substantial degree of autonomy. Thus, already in the eighties these taxes were administered regionally (with the exception of the *Wealth tax*). Some authors claim (Esteller and Durán, 2006) that collection and inspection policies differed markedly between regions with a noticeable impact on the effective tax burden. Since 1997, the ACs have enjoyed considerable autonomy in the setting of the main parameters of these taxes.

The first changes occurred in 2002 following the assignment of new tax powers in relation to the *Death and gift tax* and, to a lesser extent, to the *Wealth tax* (see Solé-Ollé, 2009b). More recently, changes have been made to the *Property transmission tax*. In the *Death and gift tax*, the ACs implemented the following changes (Esteller and Durán, 2006): (i) increase in the tax base reductions in the case of inheritances; (ii) an almost 100 percent reduction in the tax burden on inheritances to all direct family members (Cantabria and La Rioja) or to some members (Asturias, Baleares, Castilla-León, Galicia, Madrid, Murcia and Valencia – note that in 2007 these ACs extended the reduction to all family members); this was achieved either through tax credits (the majority of cases) or by changing the coefficients applied to pre-existing wealth (Asturias, Cantabria and Galicia); (iii) fiscal benefits for the gift of the main residence to direct family members. The reform implemented in Madrid in 2005 was especially aggressive, with donations to direct family members becoming fully tax exempt. In 2007, Aragón reduced the burden of this tax (albeit not so radically), and in 2008 Catalunya also reduced the tax burden on both inheritances and donations between direct family members. Other ACs (Galicia, Andalucía and Asturias), who had initially expressed some reluctance, capitulated and attenuated the taxation of inheritances and donations between close family members, although in these instances the tax burden remains notable.

The fiscal disparities created by these reforms have been substantial. One study commissioned in 2007 by the Spanish association of tax consultants (REAF, *Registro de Economistas Asesores Fiscales*) showed that the inheritance tax between direct family members was virtually zero in Castilla-León (9 euros), Múrcia (10 euros), Cantabria (16 euros), Valencia (27 euros), Madrid (101 euros) and La Rioja (101 euros), and yet was high in Extremadura (8,280 euros), Andalucía (8,509 euros), Galicia (6,515 euros), Asturias (6,133 euros), Catalunya (6,255 euros) and Canarias (5,583 euros)[198]. The tax lay between these extreme values in Aragón (932 euro) and Baleares (1,371 euro).[199]. This tax decision presented a clear partisan pattern: the ACs with the most aggressive tax-cutting policy were those controlled by right-wing politicians (e.g., Madrid under the Partido Popular, PP), and those most reluctant to introduce this policy were socialist strongholds (e.g., Andalucía under the PSOE)[200]. There is also a perception that tax competition might have played some role in the generalized reduction of this tax, although it is not clear just how empirically relevant this claim is. Here, the fact that, in the case of real estate donations, the *Gift tax* is collected in the region in which the house is located (as opposed to the region in which the donor resides) might have stimulated some tax avoidance[201]. Yet, there is no actual evidence of tax base mobility (i.e., the rich changing their residence). It seems, however, that the mere information that a number of ACs (led by those under PP administrations) were reducing the tax might have generated fears that mobility could hurt revenues and forced other governments to reduce their taxes also (Solé-Ollé, 2009b).

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[198] The example is based on the following assumptions: death of a father whose heirs are his widow and three children, one of them less than 21 years old and another handicapped; the inherited goods are the main residence (400,000 euro), a second-home condo (300,000 euro), a savings account (60,000 euro), and quoted shares (100,000 euro); the pre-existing wealth of the heirs are: 17-year-old daughter (5,000 euros), 24-year-old handicapped son (125,000 euros) and 26-year-old daughter (6,000 euros); see REAF (2007).

[199] The ACs belonging to the so-called 'foral' regime (Pais Vasco and Navarra) were not included in this report, but the tax burden has been low for many years in these regions. These ACs have always enjoyed a high degree of tax autonomy over traditional ceded taxes.

[200] Recall also that after 2004, the PSOE won control of the central government – while most ACs remained under the PP; the PP used the tax powers at their disposal (in the hands of the ACs) to compete with the PSOE on the taxation issue.

[201] During the boom years, a common tax strategy was to buy a condo in Madrid and to donate it to a child whose residence was then registered at that address.

In the case of the *Death and gift tax,* the decentralization of tax powers triggered a process of competition (real or perceived) to reduce and even abolish the tax. The outcome can hardly be considered an expression of the exercise of fiscal responsibility by the ACs. Moreover, there is evidence of this allegedly having happened before in other countries (Brülhart and Parchet, 2014). The conclusion is that this tax should not have been decentralized, at least not without proper central regulation.

In the case of the *Wealth tax,* the ACs' tax responsibilities have also been quite substantial after 2002. Despite the options available to them, however, the ACs have been less prone to modify this tax. Only one AC (Cantabria) has substantially reduced the tax schedule and the basic relief, while the other ACs have increased the basic relief for some groups. In the same 2007 REAF study discussed above, interregional differences in the burden of this tax were identified: for a given type of taxpayer (e.g. the handicapped), in Cantabria the tax due was just 121 euros, in Madrid, Catalunya, Canarias, Valencia, Galicia, and Andalucía it was around 200 euros, while in the remaining ACs it was nearly 400 euros[202]. Note that the reductions in this tax also followed a clear partisan pattern, right-wing controlled regions being more likely to reduce the tax. Activity on this tax stopped after its abolition by the central government (the layer retaining original taxing powers) in 2008 as part of a 'stimulus package' enacted by the PSOE government. Later, in 2010, the tax was re-established by the PP government and once again assigned to the ACs. Some of the ACs have opted for a 100% tax credit for all taxpayers, which means in practice the tax has not been reintroduced in the regions of Madrid, Baleares and Valencia, all controlled by the right. Of the remaining regions, only Andalucía (a PSOE stronghold) has a tax rate higher than the basic rate (2.75 vs. 2.5%). The rest of the tax parameters are very similar across the regions.

Since 2010, and as a result of the fiscal crisis, all communities have increased the tax rate of the *Property transmission tax* from 6 to 7% (the only exception being Canarias, with a tax rate equal to 6.5%) and the rate of *Stamp duties* from 0.5 to 1%. The purpose of these increases was to raise revenue. These are taxes whose tax burden is camouflaged

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[202] In this case the example is based on the following assumptions: a married couple owning their main residence (400,000 euros), a second-home condo (210,000 euros), two cars (15,500 and 24,000 euros), a savings account (72,000 euros), and the wife has a 66% disability.

within the price of a real estate transaction or any other irregular event (such as the constitution of a society), so the marginal political costs of a tax increase are extremely low. These were also taxes whose revenues expanded greatly during the last housing boom but plummeted with the burst of the housing bubble in 2007 and 2008.

Personal income tax. The most frequent changes to this tax have involved the introduction of credits on the regional income tax quota, especially after 2002. The most widely used tax credits have been the child and the housing credits (for the acquisition of the main residence). The cost of these tax credits in terms of revenue foregone has, in general, been quite low, as has the impact on most taxpayers. However, these reductions can be substantial for specific types of taxpayer. Durán and Esteller (2006) show this to have been the case in 2004 for a married couple with a single income earner, with two children less than two years old, owners of their main residence bought with a mortgage two years ago. In this particular instance, and for a family income equal to the median, the effect of regional tax credits was a reduction in the tax due by nearly 35% in Castilla-León, Madrid and Galícia, around 20% in Catalunya and Murcia, in the range of 7-10% in La Rioja, Valencia and Castilla-La Mancha, and zero in the remaining ACs. For income levels below the median these differences did not arise, while they were much lower for above-median incomes. Madrid and other regions with a right-wing government again appear to be especially active here. The use of very specific tax deductions (as opposed to a reduction in the tax rate) allowed them to maximize the effects of the reform on government popularity at a low cost in terms of overall revenue. However, this explanation disguises the fact that during these years there were practical difficulties in undertaking a full-scale reform of the regional income tax (section 4).

It has not been until fairly recently that some ACs have modified their tax schedules, Madrid being a pioneer in this respect, reducing its tax rates in 2007. Following this reform, the lowest tax rate in the AC of Madrid was 7.94% (compared to 8.34% in all other ACs), representing a reduction in the tax due of 4.46%. Reductions in the other tax brackets were much lower: down from 9.73 to 9.43% in the second (savings of 4% on the tax due), from 12.86 to 12.66% in the third (savings of 3%), and from 15.87 to 15.77% in the fourth bracket (savings of 1.3%). In 2009, the lifting of the requirement that the regional tax schedule should have

the same number of brackets as the central schedule facilitated further changes in other ACs. Some ACs followed the path set out on by Madrid and opted to keep marginal tax rates (especially at the top) lower than the basic rates. This was the case of La Rioja, whose tax changes mimicked those of Madrid. In 2012, the top, combined central+regional, marginal tax rate was 50.9% in these two regions. A further five ACs had a top marginal tax rate of 52% (Canarias, Castilla-La Mancha, Aragón, Baleares and Cantabria), two set a rate of 54% (Murcia and Valencia), one a rate of 55% (Extremadura), and two a rate of 55.5% (Asturias and Galicia); Andalucía and Catalunya have a top marginal tax rate equal to 56%. Thus, there is a 5% difference between the ACs with the lowest and highest tax rates. The differences in the high-income brackets are of a similar size; however, the bottom tax rate is more or less the same throughout Spain. Most ACs, in common with the central government, use a six-bracket schedule, although some have a seven or eight-bracket one (having created new brackets at the top of the distribution to be able to apply higher marginal tax rates to the more affluent taxpayers). As before, right-wing controlled ACs tend to have lower marginal tax rates (especially in the top bracket). Left-wing controlled communities tend to have higher marginal tax rates and more tax brackets. The need to consolidate the budget probably also had some impact on the decision to raise taxes.

The following conclusions can be extracted from this analysis: (i) before 2010, the ACs were quite passive in terms of their tax policy decisions, the exceptions to this being the introduction of the communities' own taxes and of various deductions affecting *Personal income tax* (both measures having little impact on total revenue), and the virtual abolition of the *Death and gift tax* in some ACs (at least for some taxpayer types) or its reform and the reduction of its burden in the other communities; (ii) after 2009, all ACs increased the *Transmission tax* and *Stamp Duty* rates, some increased the *Personal income tax* rates (especially the top brackets) while others reduced them, and all tried to create new taxes. Thus, the effective level of tax autonomy can be qualified as being only low, especially before 2010, but the level has remained low in recent years because of the limited effect of the measures enacted on revenues. However, the trend recorded most recently suggests that the situation is beginning to change in this respect.

13.4. Why was the ACs' tax autonomy unexploited?

Several authors have expressed their disappointment at the little use made by Spanish regional governments of their tax autonomy in the years immediately following the reforms (see for example Lago, 2007; Martínez-Vázquez, 2013). Several possible explanations for this state of affairs have been proposed.

Inadequate tax mix. Although the ACs' powers over certain taxes increased considerably, their autonomy with regard to other major taxes remained non-existent. For instance, the ACs have no powers over (major) indirect taxes, such as VAT and (most) *Excise taxes*[203]. This means that, in practice, revenue diversification was low, and that the ACs faced a high marginal economic (and political) cost from raising public revenues. Note that during this period, reducing personal income taxes was a popular measure and that there was room for increasing VAT and *Excises* (tax rates being much lower than in the rest of the EU). Given this state of affairs, sub-national politicians and taxpayers argued that the situation was unjust, claiming that a 'vertical fiscal gap' still existed and demanding compensation through the grant system, as there was some reluctance to use their tax powers to cover this gap.

This situation tends to be much worse in regions that are net contributors to the tax equalization system (e.g., Catalunya, Madrid and Baleares). Spain operates a system of full equalization of (standardized) tax revenues and, in some periods, it might be argued that the grant has tended to over-equalize, since as a result of the effects of needs assessments and special funds of dubious justification, the rich ACs (those with per capita revenues higher than the mean) obtained a total level of revenue below the average (see Solé-Ollé, 2009a). This situation has

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[203] Of course there are arguments grounded on reasons of efficiency and tax administration against the decentralization of these taxes in their current format. In the case of the VAT, some scholars have proposed reforms that could facilitate decentralization (see Bird and Gendron, 1998, and McLure, 2000, for a discussion of some possibilities). Apart from the difficulties involved in these changes, the main impediment is EU regulations. Following the 2009 reform, the Spanish central government agreed to initiate discussions with the EU to allow the creation of a regional tax on the retail phase of VAT, but there does not seem to be much interest in addressing this problem. In the case of Excise taxes, the main impediments are also EU regulations and the fact that these taxes are levied at the producer's place of business in Spain; the central government fears that fraud would increase with the need for tax collection from the seller's place of business.

been reversed slightly since 2009, but the equalization power remains very high. In some of these rich regions (especially in Catalunya), there is considerable dissatisfaction with the current degree of redistribution. Without popular acceptance of these equalization arrangements, it is difficult for regional politicians to convince the citizens of the need to raise direct taxes further.

Central government obstructionism. Although the central government's stated motivation for the reforms was to increase the degree of regional tax autonomy, it may have had no real interest in achieving this goal. So, the central government may have tried to impede *ex post* the effective use of this autonomy. The many difficulties the ACs have faced in creating their own taxes are proof of this; certain central tax decisions, in practice encroaching on regional tax powers, provide further evidence. A good example of the latter is provided by the way the *Personal Income tax* reform was carried out in 2002. The central government (controlled by the right at that time) opted to reduce the marginal tax rates of both the central and the regional schedules. The reason it chose to do this was to capitalize on the popularity of the reform. The ACs accepted the deal for several reasons: (i) the right-wing ACs followed the instructions of the party, (ii) the left-wing ACs did not want to be associated with such a reform and preferred to accept generous financial compensation, and (iii) the original tax powers still rested with the central government (i.e. the assignment of these taxes to the regions is not guaranteed constitutionally), and the ACs could not effectively oppose the reform. In 2007, marginal tax rates were reduced once more, this time by a left-wing central government, and again the reform reduced both parts of the schedule. Finally, in 2008, the left-wing central government decided to abolish the *Wealth tax* (also, it would appear, as a means of capitalizing on the unpopularity of this tax), and compensated all ACs for the loss of revenues[204]. The effect of assigning a tax to a subnational government but then abolishing the tax opportunistically might have undermined the incentives to use the tax autonomy.

Soft budget constraint. Even though the stated motivation for the reforms was to increase the level of tax autonomy, it might be that in practice neither the central nor the sub-national politicians actually

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[204] These two decisions have to be understood as a strategy to capture a central position in the taxation issue. The ACs controlled by the right were precisely those that had begun to erode the Wealth tax and, especially, the Death and gift tax in preceding years.

wanted greater tax autonomy. Life is arguably easier for sub-national politicians without having to ask citizens for the money they need to improve public services (or, as in the current situation, to avoid their deterioration), while the funding of these services through centrally de-termined transfers increases the political influence of central politicians (O'Neil, 2003). There is empirical evidence that during the nineties, the ACs faced a soft budget constraint. Although there were no episodes of formal bailouts, the central government added extra revenues to the transfer pool in each of the renegotiations of the system that took place every fifth year. These extra funds ensured that no AC lost out in abso-lute terms because of the reform. The result of this was a high rate of growth in regional spending (exceeding the growth in transfers received during the period and without any increase in the tax effort) and debt, covered *ex post* by an increase in the overall amount of funds trans-ferred (Lago, 2007). There is also some evidence that the ACs with the highest increases in debt were those that foresaw that their transfers (both equalization and earmarked transfers) would grow in the future (Sorribas-Navarro, 2010). The process of fiscal consolidation that pre-ceded the accession to the euro in the 1990s was also possible because the central government helped the ACs reduce their deficit by providing higher transfers (Esteller-Moré and Solé-Ollé, 2006).

Revenue largesse. Alternatively, the explanation for the little use made of the tax autonomy lies simply in the economic and budgetary situa-tion. In a period of largesse of resources, there is no need to raise tax rates to obtain more revenues. Spain's ACs were witnesses to the way revenues from the construction sector grew enormously during the eco-nomic boom years. At the same time, and for the same reason, central government revenues were also growing, as this tier of government en-joyed a budget surplus. All this created the impression (see Lago, 2007) that the central government would sooner or later reform the system again and share these extra revenues with the ACs. Obviously, it could be argued that regional governments might still have reduced their tax-es (this is, after all, also a sign of tax autonomy). But, even in times of plenty, politicians might not be interested in cutting all taxes, although they might seek to reduce (or even abolish) the more unpopular ones. This is precisely what they did: they reduced and/or abolished the *Death and gift tax* and also eroded the *Personal income tax* through the intro-duction of tax credits for specific groups of taxpayers. The myriad of tax increases introduced after the 2009 reform also points in the direction of

this last explanation: tax increases only occurred after the extraordinary revenues associated with the construction boom had disappeared and the ACs began to run into fiscal trouble.

13.5. Conclusion

Over the last three decades, Spain has implemented one of the most far-reaching and successful decentralization reforms ever. However, early on in the process it became apparent that relying solely on transfers to fund the vast quantity of expenditure would give rise to some highly perverse incentives. Thus, at the beginning of the 1990s, general transfers to the ACs began to be substituted by tax sharing, while in a parallel move the ACs were also granted autonomous powers over many of the decentralized taxes. Today, the ACs enjoy considerable tax autonomy over direct taxes (i.e. *Personal income tax* and, in particular, *Wealth tax* and *Death and gift tax*), as well as some autonomy over secondary indirect taxes (i.e. *Property transmission tax*, *Stamp duties*, *Retail gas tax*, and *Transportation tax*); however, they do not have any tax autonomy over the high-yield indirect taxes (i.e. VAT and *Excises*). In the years following this increase in regional tax autonomy, various scholars became intrigued by the fact that the ACs did not make much use of their newly acquired powers. This paper has provided several explanations to account for this situation, including: (i) the obstructionism of the Spanish central government, (ii) the prevalence of a soft budget constraint embedded in the design of the ACs' financial system, generating expectations of future increases in transfers, (iii) the difficulty in raising direct taxes that are already among the highest in the OECD and the absence of autonomy in raising high-yield indirect taxes, and (iv) the revenue buoyancy of the last boom (which coincided with the years following the reforms). However, the paper has also shown that the current crisis is forcing the more troubled ACs to increase their taxes, by raising indirect tax rates, creating new taxes, and modifying the top income tax rates. While these changes are unlikely to have a major impact on revenues, they suggest a change in the mentality of the ACs with regard to using their regional tax powers. In the end, it would seem that regional governments will use their tax powers when the incentives are right and the situation demands it.

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