Tax financing and tax equalization: 
Incentives and distribution in the welfare state*

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Abstract

Local tax financing is of importance for 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 the adverse distributional effects. The purpose of the paper is to discuss the challenges of combining substantial tax financing, incentives, and distribution. We start out with the broad issues related to vertical fiscal imbalance, and analyse 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 the 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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1. Introduction

Local governments in the Nordic countries are responsible for comprehensive welfare services 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. First, the local public sector is responsible for welfare services with strong redistributive characteristics, most of them can be called publicly provided private goods, and local public goods only take a small share of local spending. Second, mobility of the population 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 arrange an efficient division of labour within a large public sector.

Nordic economists have struggled to understand local governments under this design for decades. Lotz (1998) expresses the frustration among economists of the region that the guidelines from 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 for government responsibility for publicly provided private goods in the first place. The design of the local public sectors ends up more as a question of administrative convenience than 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 against 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 local tax discretion. In all countries mandating, and detailed service regulation combined with balanced budget requirement 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 private rich urban communities in the south end up with the lowest municipal revenue per capita, while the most prosperous municipalities are small rural communities, at the very top when they have waterfalls and/or are located in the north. This is mainly the result of expenditure equalization compensating the small, additional grants in the north motivated by regional policy, and keeping resource rents outside the tax equalization.

In this article we will concentrate on the handling of tax financing and tax equalization in the Nordic system as understood based on local public finance theory. The main challenge addressed is the local financing and accountability on the one hand and the consequences of equalization for incentives and performance on the other. Reforms are under way in all countries 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 here. In section 2 we outline the basics of tax financing. 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 analysed in sections 4 and 5 – incentive to stimulate local economic growth and tax distortions respectively. Section 6 summarizes our arguments in a discussion of alternative models.

2. Tax financing

In an international context, the Nordic countries are characterized by the important role of the 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 for the local income tax is a broad measure of income including salaries, capital income and pensions, and all at 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. The 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 larger than the average tax for the tax payer. All local governments in all Nordic countries have some discretion in determining the tax rate for the local part of the income tax.
The international literature on tax assignment, nicely 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 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 can 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 in a local distribution policy.

The local public sector is typically considered as destabilizing 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 the 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 as 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 procyclical 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.

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 to a large extent operate as agents for the central government and must follow the national welfare policy guidelines. In this design vertical fiscal imbalance is not necessarily seen as a problem. The expenditures are large when local governments are the main producers of the welfare services, and the revenues are arranged 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 concern about vertical fiscal imbalance is related to fiscal discipline and local accountability. Vertical fiscal imbalance is in contradiction to the benefit principle of taxation that serves as the basis of most thinking in fiscal federalism – those who benefit of a service should also pay the cost. When the linkage between beneficiaries of services and those paying (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 hard to defend a hard budget constraint and thereby arrange 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. The country studies indicate that the question of discipline is of importance even in systems with fairly hard budget constraints.

Vertical fiscal imbalance and the associated regulations reduce the autonomy at the local government level, both the room to manoeuver in local decision making and the influence of local revenues. We concentrate on the revenue side below. Limited local tax resources and limited control of taxation is compensated by central government grants. The situation is often called grant dependence, and the concept refers to the dependence of 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 well worked out 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 worry is that the lower local autonomy and accountability reduce the incentives for cost control and efficient allocation and that it invites strategic interaction with central government. Martinez-Vazquez and Sepulveda (2012) discuss the broad implications.

Attempts to strengthen local accountability with centralized financing have tried 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 to
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 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”.

Carlsen (1994, 1998) offers theoretical models to capture strategic interactions and arguments for regulations in this setting. The strategic interaction can be understood as a bailout problem, as analysed by von Hagen and Dahlberg (2004). Fiscal autonomy of a local government serves as protection for central government against bailout. Local governments that finance the 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 to control the local tax level from above. The role of controls is dealt with in a comprehensive literature on tax limits. Preston and Ichinowski (1991) and Reuben (1997) are 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) 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 important, in particular by holding down the wage growth of local government employees. 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 freedom to set the income tax rate, but the local discretion varies across countries and time. And tax equalization system redistributes 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. Incentive issue I: Tax equalization and local economic development

The income tax generates substantial local revenue and seems to be a necessary part of the 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 both by 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 arrange 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 receives 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 the 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. Soderstrom (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 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 revenues due to economic shocks are compensated in the tax equalization. High degree of compensation means high insurance, but also 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:

\[ TE^j = a \cdot t^* \cdot (TB^R - TB^j) \quad t^* = t^*, t^R \]

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 either be the local government’s own tax rate (\( t^j \)) or a standardized tax rate (\( t^R \)) determined by the national government. The Nordic countries use standardized tax rate 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 lift the bottom by providing grants to local governments with per capita tax base below the reference level and to set the tax equalization grant equal to zero for those with tax base above. The tax equalization is asymmetric in the sense that equation (1) only applies to local governments with 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 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.

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1 The standardized tax rate could for example be the average tax rate in the country.
Tax equalization raises several efficiency problems that may distort efficiency. As mentioned above, tax equalization weakens the incentives for local development policy by weakening relationship between the local tax base and local government revenue. It is easily seen from equation (1) that the national government will “punish” a successful development policy. 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:

\[
\frac{\partial (TR^j + TE^j)}{\partial TB^j} = t^j(1-a), t^* = t^j \quad (2a)
\]

\[
\frac{\partial (TR^j + TE^j)}{\partial TB^j} = t^j - at^R, t^* = t^R \quad (2b)
\]

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 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.

\[2\] A successful development policy is a policy that increases the per capita tax base \((TB^j)\). 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.
The possibility of a negative relationship between tax base and revenues is often considered as a disadvantage by 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 also is of importance for policy makers, it is less clear that the use of 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:

\[
\frac{\partial(TR^j + TE^j + PI^j)}{\partial TB^j} = 1 - at^j, \ t^* = t^j
\]

\[
\frac{\partial(TR^j + TE^j + PI^j)}{\partial TB^j} = 1 - at^g, \ t^* = t^g
\]

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 a larger positive effects for the private sector (just because of 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 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 degree of revenue decentralization may have similar
incentive effects. A country with a low tax share and a low rate of compensation can
have the same incentive effect as a country with a high tax rate 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 equalization of tax revenues, tax equalization also provides insurance.
A negative shock to the local tax base is (partly) compensated 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:

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

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

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
towards 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

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3 For given responsibilities a low tax rate will be associated with a low tax share.
4 For simplicity it is assumed that the tax rate t in equation (1) is the local government’s own tax rate.
national insurance pool. The revenues of an individual local government are first and foremost 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.

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

Tax equalization can be interpreted as a subsidy on local tax increases that may lead to too high tax rates. The key concept in understanding incentive these effects of taxation is the marginal cost of public funds (MCPF), which measures the direct and indirect social costs of taxation. MCPF gives 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 to discuss the effects of tax equalization in a simple model. 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 fund with no tax equalization is:
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 higher tax rate increases MCPF above 1. If the tax base response is strong enough, the local government tax revenue even may 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:

$$MCPF^j = \frac{TB^j}{\frac{\partial TR^j}{\partial t^j}} = \frac{TB^j}{TB^j + t^j \frac{\partial TB^j}{\partial t^j}}$$

(5)

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 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 opposite. In this case a higher tax rate is “punished” through increased contribution to the equalization system. The second term captures
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 independent 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 compensations based on a standardized tax rate reduces MCPF and leads to too high tax rates.\(^5\)

In the aggregate both equalization schemes will lead to higher tax rates, and the effect is stronger with equalization based on own tax rate.\(^6\) The higher the compensation rate, the more of the tax base reduction is compensated, and the lower is the marginal cost of financing as seen from the local government. Our normative judgements that tax equalization leads to too high tax rates implicitly assume a first best economy that is distorted by tax equalization only. In other situations, when there are already imperfections in the economy, 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 for too low tax level.

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\(^5\) 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.

\(^6\) Assuming that the tax equalization is not fully symmetric.
The hypothesis that tax equalization leads to higher tax rates has been investigated in a few studies, notably Buettner (2006) for Germany and Smart (2009) for Canada. The main finding from these and other studies is 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 the tax collection is national. It follows that the local tax decision concentrates to the size of the rate. Buettner calculates a variable measuring 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.

Smart (2009) analyzes the effects for several different taxes for the 10 Canadian provinces during a period of 30 years (1972-2002). The largest tax 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 he exploits reforms of the equalization system changing the degree of compensation and uses a difference in difference model. Smart 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.

6. Alternative tax financing regimes

We summarize the paper by discussing three alternative designs of tax regimes. The three models displayed in Table 1 differ with respect to the degree of tax financing and the 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 the disadvantage is substantial variation in revenues.

Table 1: Alternative tax financing regimes

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<tr>
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<th>Decentralized model</th>
<th>Nordic model</th>
<th>Centralized model</th>
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<tbody>
<tr>
<td>Tax financing</td>
<td>High</td>
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<tr>
<td>Tax equalization</td>
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<td>Revenue dispersion</td>
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<td>Vertical fiscal imbalance</td>
<td>Low</td>
<td>Medium</td>
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<tr>
<td>Tax rate distortion</td>
<td>Low</td>
<td>High</td>
<td>High</td>
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<td>Incentives for economic development</td>
<td>High</td>
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The local governments in the Nordic countries are responsible for redistributive services such as education, health, and social services. Moreover, it is widely agreed that there should not be too large variation in provision of these services. The Nordic model therefore 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 the decentralized model. Both the tax rate distortion and the weak incentives for economic development are due to tax equalization. The tax base distortion reflects that the tax base loss of a higher tax rate is compensated, 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 1 is a centralized model with a low tax share. In the Nordic context this model could be achieved by replacing most of the local income tax with a central government income tax, and where the increased central
government tax revenue is used 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 may at first glance think that the distortions are 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 government tax the same base. Because the local governments do
not take into account the tax base reduction for the central government, 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 with
reform of tax assignment. Instead of relying on the income tax, local governments
could be assigned a (small) tax where the vertical fiscal externality is less severe. One
candidate is the property tax that can 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 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 distortions and improve incentives for economic development, but 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 play out in other parts of the system (e.g. earmarking and more detailed regulation of services), and possibly creating 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 distortions may be reduced by proper tax assignment. On the other hand, the centralized model increases vertical fiscal imbalance and reduces local autonomy.

7. Concluding remarks

The general trade-off between efficiency and distribution appears in complicated ways in the area of fiscal federalism. Locally funded local governments can arrange efficient allocations under the supervision of own taxpayer-voters. This is the textbook model, and distribution issues are excluded in theory. In practice the income foundation of local governments varies regionally 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 linkage 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 the ability to control incentive problems in equalization and to avoid strategic interaction in a situation with large dependence upon central government grants.

References


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