

Intergovernmental Transfers and Decentralised Public Spending

by

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Intergovernmental grants are used in many countries to finance sub-national spending and to implement national policies. However, the governance of grants is complex, and practices vary widely across OECD countries. The aim of this article is to provide a study of grant design that will be useful to policy makers. The article attempts to integrate both theoretical and empirical insights from the fiscal federalism literature as well as information obtained directly from practitioners concerning their experiences with the implementation of different types of grants. A typology of grants is presented, as well as an overview of the purposes of grants. The article concludes with some principles of grant design and implementation issues.

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1. Introduction

The most important resources of sub-national government are tax revenue and intergovernmental grants. The issue of the efficiency of different types of sub-national taxation was explored in the 2004 meeting of the OECD Network on Fiscal Relations across Levels of Government and will be analysed further in another paper. In this paper the focus will be on grants.

Intergovernmental grants are used in many countries to finance sub-national spending and implement national policies. However, the governance of grants is complex, and practices vary widely across OECD member countries. The aim of this paper is to provide a study of grant design that will be useful to policy makers. For the purpose of this paper a grant is defined as a transfer from central government to a sub-national government. Central government and sub-national governments are defined in accordance with the standard definitions of the national accounts as in *SNA 1993* (CEC, 1993).

The paper attempts to integrate both theoretical and empirical insights from the fiscal federalism literature, as well as information obtained directly from practitioners concerning their experiences with the implementation of different types of grants. For the latter purpose a group of experts from OECD countries was convened and asked to provide case studies about various types of grants.¹ Many of the examples in this paper come from these case studies. This paper also makes use of the answers given by the members of the Network on Fiscal Relations across Levels of Government to a statistical questionnaire distributed at the beginning of 2005, together with a follow-up of that questionnaire in late 2005 and early 2006, and in particular, the answers to the section on grants.

The main findings of the research can be summarised as follows:

- Although there are important differences between countries, the most common way of transferring resources from central to sub-national government is through earmarked grants (according to the data provided by member countries of the network in response to the statistical questionnaire).
- Grants are used for the purposes of financing and subsidisation of services and for equalisation of tax or service capacity.
- An important cause of inefficiency in many countries is the use of the same grant for various purposes, for instance, subsidisation

grants that simultaneously attempt to equalise, or financing grants that simultaneously attempt to subsidise.

- Grant reform is a gradual process. The guidelines developed in this paper should therefore not be seen as a prescriptive blueprint. Grant reforms can constitute improvements even if they are not yet fully in accordance with the guidelines.
- Non-earmarked grants are usually more efficient instruments for financing purposes than earmarked grants. Nevertheless, there are some cases where earmarked grants can be used in an efficient way for financing sub-national services. Such cases are particularly likely to occur with temporary risk-sharing and co-operation projects or programmes. In the latter case, earmarked discretionary grants can be used to co-fund projects. This makes it possible to provide guidance to sub-national decision makers in cases of expenditures that are difficult to target on the basis of predetermined criteria.
- Equalisation aims at a more equitable distribution of tax capacity and service capacity, but is in fact often based on indicators of actual tax revenue and actual spending. The latter practice creates incentives to decrease tax rates and to increase spending and consequently interferes unnecessarily with the competence of sub-national government to set tax rates and spending levels as it sees fit. Capacity indicators, on the other hand, measure the size of the tax base and spending needs, independently from actual tax revenues or spending.

The paper is structured around the following questions:

- What does the statistical data tell us about the different types of grants that countries can choose from? (section 2)
- What are the basic principles of grant design?² How does grant design deal with concrete problems? How can problems arising during the implementation phase be solved? (section 3)

Concluding remarks are developed at the end of the paper in section 4.

2. Types of grants and their uses

2.1. Fiscal autonomy and fiscal decentralisation

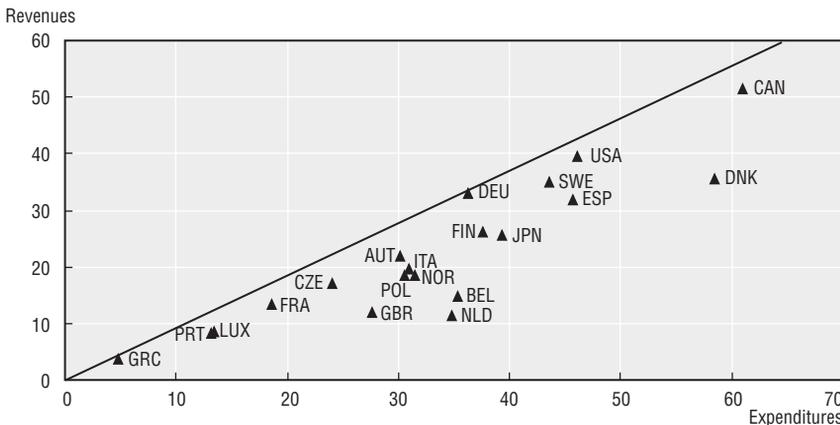
Intergovernmental grants are one of the revenue sources of sub-national governments. This section aims to explore the empirical significance of this

revenue source. First, the role of grants in sub-national public finance in general will be examined. Second, a typology of grants will be presented. Third, the choices of countries will be presented through the actual patterns of grant use as they appear in the statistical data. The findings presented in this section are mainly based on the results of the OECD questionnaire that was distributed at the beginning of 2005.

Grants are an important source of revenue for sub-national governments, complementing their own revenues which include revenues from direct and indirect taxation and non-tax revenues (fees, rents, interest, etc.). The fiscal autonomy of sub-national governments, defined as the share of their own revenues in the total revenue of sub-national government, varies widely among OECD countries. Furthermore, there does not seem to be a relation between fiscal autonomy and fiscal decentralisation (defined as the share of sub-national expenditure in total general government expenditure³, see Figure 1). It would also appear that the constitutional framework of government in a country – federal⁴ or unitary – has little impact on the extent of fiscal autonomy or fiscal decentralisation.

Figure 1. Indicators of fiscal decentralisation in OECD countries

Sub-national governments’ share in general government revenues and expenditures in 2003 (percentages)

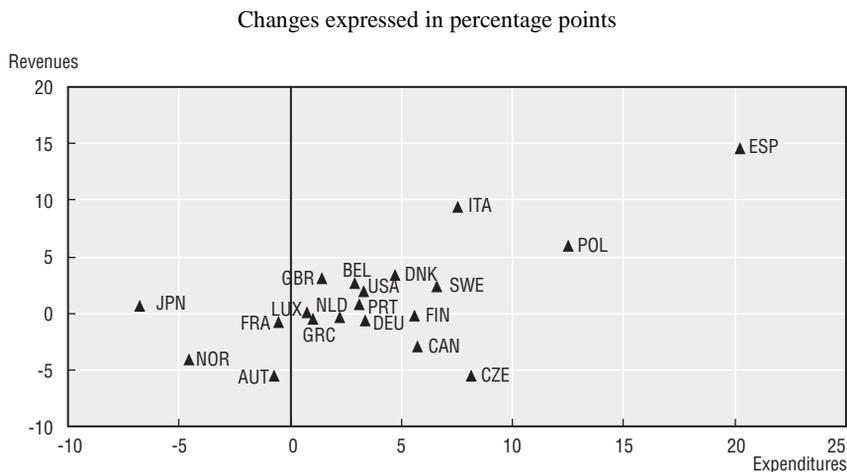


Source: OECD, National Accounts.

The gap between sub-national tax and expenditure shares has widened in the last twenty years. While in most countries the share of sub-national expenditures has increased, sub-national taxing power declined or remained stable (Figure 2). Accordingly, the dependence of sub-national governments

on grants has increased. Fiscal decentralisation has led to increased sub-national responsibilities in the area of spending, while at the same time sub-national governments have become more dependent on central governments for their resources.

Figure 2. Changes in the share of sub-national government contributions in total public revenues and expenditures between 1995 and 2003



Source: OECD, National Accounts.

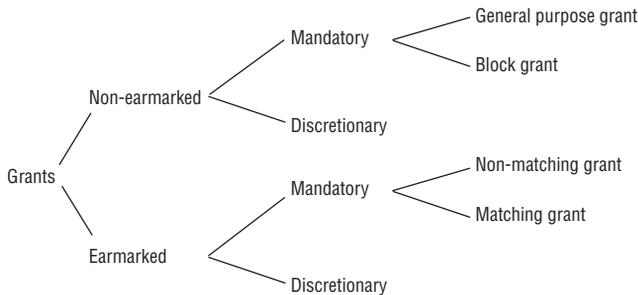
The growth of sub-national expenditure needs in combination with insufficient sub-national tax bases and the unwillingness of central governments to increase the size of sub-national tax bases (vertical imbalance) are not the only reasons why grants have become an important part of sub-national revenue. A substantial share of grants is also the result of disparities in tax bases or financial needs between jurisdictions that central governments want to correct (horizontal imbalances). Finally, a sizeable proportion of grants are due to central government imposition of service delivery requirements or central government encouragement of sub-national spending through financial incentives. In these cases, the grants are directly related to the initiative of central government concerning service provision by the sub-national governments.

2.2. A typology of grants

This paper uses the typology of grants indicated in Figure 3. This typology is largely identical to the one developed by the Council of Europe

(2004). However, the proposed definitions sometimes differ in detail. As will be discussed in section 3, the typology is based on criteria that are important for grant design.

Figure 3. Types of grants



2.2.1. Earmarked and non-earmarked grants

Grants can be either earmarked or non-earmarked. An earmarked grant is a grant that is given under the condition that it can only be used for a specific purpose. Non-earmarked grants can be spent as if they were the receiving sub-national government’s own (non-earmarked) tax revenues.

2.2.2. Mandatory and discretionary grants

Both earmarked and non-earmarked grants can be either mandatory or discretionary. Mandatory grants (entitlements) are legal, rules-based obligations for the government that issues the grant. This requires that both the size of the grant and the conditions under which it is given be laid down in a statute or executive decree and that these conditions be both necessary and sufficient. Typically, sub-national governments can also appeal to a court or administrative judicial authority in order to obtain the grant. Most grants that are given to sub-national governments on a regular basis are mandatory. The size of discretionary grants, and the conditions under which they are given, are on the other hand not determined by rules but decided on an *ad hoc*, discretionary basis. Discretionary grants are often temporary in nature and include, for example, grants for specific infrastructural projects or emergency aid to a disaster area.

2.2.3. *Matching and non-matching grants*

Earmarked mandatory grants can be matching or non-matching. Matching grants complement sub-national contributions. Matching grants are dependent on normative or actual spending for services⁵ for which the grants are earmarked or on local revenue collection related to these services.

In particular, matching grants may be dependent on:

- Norm costs per unit of service, or norm budget (norm costs times norm volume) per programme of services; or
- Actual costs per unit of service or actual costs (actual costs times actual volume) per programme of services; or
- Revenues from fees or earmarked levies raised by sub-national government to cover the costs of the programme of services.

If the grants are based on norm costs per unit of service, the grant cannot exceed a fixed sum per unit. From the perspective of the grantor there is a fixed money ceiling per unit of the grant. Similarly, if the grant is based on a norm-budget for the entire programme (total cost of services), then it cannot exceed a fixed absolute sum for the programme. This amounts to a fixed money ceiling for the programme as a whole (the grant can then be called a “close-ended grant”).

All mandatory earmarked grants that are not given complementary to sub-national contributions are non-matching. Note that mandatory earmarked grants may also be dependent on contingencies other than sub-national contributions, for instance on local circumstances or performance indicators. In such cases, the grants are considered as non-matching. The decisive question is whether the decrease in sub-national spending would automatically lead to a decrease in the grant (this would not be the case if the grant were dependent on a performance indicator, because performance is not automatically dependent on sub-national spending).

One special case worth mentioning is when a mandatory earmarked grant is dependent on normative or actual spending or on revenue collections related to the service but is not given complementary to sub-national contributions.⁶ This is the case when an earmarked mandatory grant covers 100% of the service (cost-covering grants). Because the central government covers the entire bill and there is no mandatory financial contribution from sub-national government, this type of grant is classified as a non-matching grant.

Sometimes discretionary grants are given under the condition that sub-national governments also contribute to the project or programme. These

grants will be called co-funding grants. They are not included in the definition of matching grants. The background is that a matching grant is by definition mandatory and thus creates a permanent incentive for increased provision. A discretionary grant is *ad hoc* and does not create a permanent incentive (the co-funding contribution is limited to a concrete project or programme).

2.2.4. General purpose and block grants

Non-earmarked mandatory transfers can be general purpose or block grants. Both types are similar in that they increase the sub-national governments' revenue without changing relative prices in the provision of services. The difference is that a block grant is given by the grantor for a specific purpose (or purposes). However, since the grant is not earmarked, the grantee's actual use of the grant is not controlled. Instead, the output could be regulated through, for example, a set minimum standard that the sub-national government would have to provide. In this case, resources are transferred in the form of a grant to the sub-national governments to cover all or part of the cost for certain sub-national services. The criteria used to calculate the level and distribution of the grant are usually connected to the normative cost of providing the goods or services for the sector as a whole, using variables that a specific sub-national government cannot directly control. The rationale for this type of grant is to improve efficiency in the use of resources at sub-national level, whereas the activity is financed, in part or fully, by the central government. If a sub-national unit is able to perform the activity at lower than normative costs, the grant will not be reduced for that unit as a consequence, thereby giving the sub-national government an incentive to fully explore the advantages of decentralised service provision. This kind of grant can be a means of moving away from earmarked grants.

Although non-earmarked grants are generally perceived by the grantors as transfers with no strings attached, one could argue that there are sometimes indirect strings attached. For instance, the central government may impose national minimum standards for service delivery and provide general purpose grants to finance the services partly or entirely. However, since these legal requirements are independent from the grant entitlement, they do not change the character of the grants as non-earmarked.

2.2.5. Capital versus current grants

Earmarked grants may be current or capital expenditures. The distinction is made in accordance with the national accounts. Note that in the

national accounts non-earmarked grants are assumed to be current expenditures (although they may be used for investments).

2.3. Countries' decisions concerning the use of different types of grants

To get a picture of how countries actually use different types of grants, a questionnaire was sent to OECD member countries through the Network on Fiscal Relations across Levels of Government during the spring of 2005. The questionnaire was also sent to non-members of the network through the OECD Working Party of Senior Budget Officials. An updated version of the questionnaire was sent out in late 2005 to improve the quality of the answers. The following part of this section is, to a large extent, based on the results of these surveys.

The data provide an overview of the extent to which sub-national governments are dependent on grants to finance their activities, the size of the transfers and the choices countries make concerning the transfer of resources. The data reveals a great deal of variation in the approaches countries have adopted.

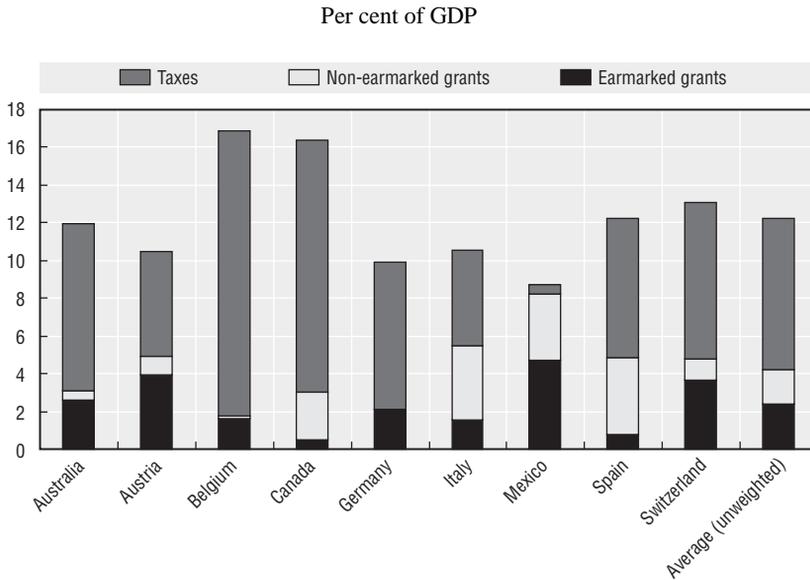
The two main revenue sources for sub-national governments are taxes and grants. (Other revenues, such as user fees, generally play a less important role in financing sub-national services.) Of the two main sources of revenue, taxes are the main source of sub-national income, although the use of taxes and grants for financing sub-national governments varies among countries. In the sample, grants represent almost 40% of total tax and grant revenue for states, regions and provinces. For the local government sector, grants amount to just over 40% of total revenue from taxes and grants.

Figures 4 and 5⁷ show state and local revenue from taxes and grants. As can be seen, the size of grant financing varies between countries. States receive on average 4.3% of GDP in grants, ranging from 1.8% of GDP in Belgium to 8.3% of GDP in Mexico. Grants to states in Mexico correspond to 95% of total revenue from taxes and grants, compared to 10% in Belgium.

For the local government sector, differences are even larger, ranging from Australian local governments which receive 0.3% of GDP, to Polish and Danish local governments which receive 13% and 12.1% respectively. The importance of grants as a source of finance for local governments also differs to a large extent. The percentage of grants in Denmark (12.1% of GDP) corresponds to just over 40% of local government revenue from taxes and grants. In the Netherlands, also a country with large grants to local

governments, the percentage of grants (11% of GDP) represents almost 90% of local government revenue from taxes and grants.

Figure 4. State revenue from grants and taxes in federal countries (2003)



Note: Data for Australia and Italy are from 2002. Grants for Mexico are for both state and local level of government.

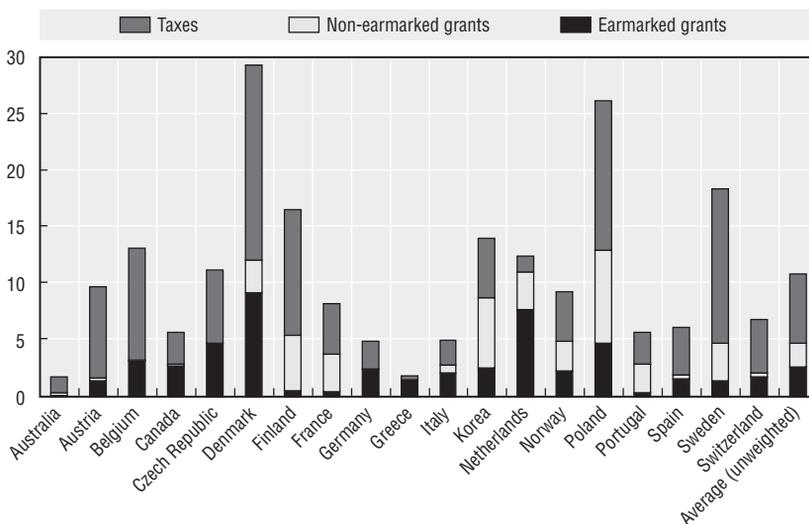
Sources: National sources and *OECD Revenue Statistics 1965-2004*, 2005 edition.

Sub-national governments receive grants from various sources. Table 1 shows grant flows to states and local jurisdictions from different sectors as a per cent of total grants. The central government is by far the most important source of grant revenue for both states and local jurisdictions. States receive on average over 85% of their grants from the central government, varying from almost 70% in Austria to 100% in Australia and Mexico.

The picture is more varied at the local level, with on average over 70% of its grants from the central government. Canada and Switzerland receive 0.4% and 0.2% of all grants from the central government level whereas the Netherlands and Norway receive 100% of all grants from the central government level. Almost half of the countries report that their local government levels receive 100%, or almost 100%, from the central government.

Figure 5. Local government revenue from grants and taxes (2003)

Per cent of GDP



Note: Data for Australia and Italy are from 2002. Data for Greece, Netherlands, Poland and Portugal are for 2003.

Sources: National sources and *OECD Revenue Statistics 1965-2004*, 2005 edition.

In countries with a state level of government, the state is usually an important grantor for the local level of government. This is the case especially in Canada and Germany with almost 100% of local government grant receipts from the state level. International or supranational bodies are in general not an important grantor, except in Portugal, with 19% of total grant revenue for local governments. The German and the Italian state levels of government also receive notable amounts from international or supranational sources. Grants from social security funds mainly occur in Austria (both state and local level of government) and Hungary.

Some countries have horizontal transfer schemes. This is the case for Austria, Belgium and Switzerland at the state level of government, and for the local level primarily in Austria, Korea and Switzerland.

The data show that countries use grants in different ways. On average, earmarked transfers dominate with more than approximately 55% for both the state and the local level of government (see Table 2). The picture differs substantially between countries. The Australian state level of government receives just over 10% of its grants non-earmarked, while in Spain more

than 85% of the grants are earmarked. For Australia the picture is completely the reverse at the local level, with over 80% of grants non-earmarked.

Table 1. Receipts of grants by issuing sub-sector (2004)

Per cent of total grants, unconsolidated

	Per cent of total tax revenue	Issued by					Total
		Central government	State, region, etc.	Local government	International/supranational organisation	Social security fund	
States							
Australia ^a	9.8	100.0	0.0	0.0	0.0	0.0	100.0
Austria	11.5	69.4	5.1	3.8	0.6	21.1	100.0
Belgium	3.9	81.3	13.9	3.6	1.0	0.1	100.0
Canada	9.0	99.8	0.0	0.2	0.0	0.0	100.0
Germany	5.9	79.0	0.0	14.7	6.4	0.0	100.0
Italy ^a	12.7	94.8	0.0	0.0	5.2	0.0	100.0
Mexico ^c	43.4	100.0	0.0	0.0	0.0	0.0	100.0
Spain	14.0	77.7	0.0	16.7	0.0	5.6	100.0
Switzerland	16.1	73.7	5.6	20.7	0.0	0.0	100.0
Average	14.0	86.2	2.7	6.6	1.5	3.0	100.0
Local jurisdictions							
Australia ^a	1.1	67.2	32.8	0.0	0.0	0.0	100.0
Austria	3.8	49.2	16.1	12.7	0.3	21.7	100.0
Belgium	7.1	26.4	73.3	0.0	0.0	0.3	100.0
Canada	8.5	0.4	99.6	0.0	0.0	0.0	100.0
Czech Republic	12.4	99.1	0.0	0.0	0.9	0.0	100.0
Denmark	25.0	99.7	0.0	0.0	0.3	0.0	100.0
Finland	12.1	98.5	0.0	0.0	1.5	0.0	100.0
France	8.6	97.0	0.0	0.0	3.0	0.0	100.0
Germany	7.0	1.4	98.4	0.0	0.0	0.2	100.0
Greece ^b	4.1	100.0	0.0	0.0	0.0	0.0	100.0
Hungary	16.7	67.2	0.0	3.0	0.5	29.4	100.0
Iceland	1.9	100.0	0.0	0.0	0.0	0.0	100.0
Italy ^a	6.4	54.3	45.7	0.0	0.0	0.0	100.0
Korea	34.4	82.6	0.0	17.4	0.0	0.0	100.0
Netherlands ^b	28.3	100.0	0.0	0.0	0.0	0.0	100.0
Norway	11.3	100.0	0.0	0.0	0.0	0.0	100.0
Poland ^b	37.9	99.6	0.0	0.4	0.0	0.0	100.0
Portugal ^b	7.9	79.8	0.0	0.0	19.9	0.3	100.0
Spain	5.5	66.6	31.2	0.0	0.0	2.2	100.0
Sweden	9.4	100.0	0.0	0.0	0.0	0.0	100.0
Switzerland	7.2	0.2	77.6	22.3	0.0	0.0	100.0
Turkey	15.8	100.0	0.0	0.0	0.0	0.0	100.0
Average	12.4	72.2	21.6	2.5	1.2	2.5	100.0

Notes: a: 2002 data; b: 2003 data; c: Including grants to local governments.

Sources: National sources and *OECD Revenue Statistics 1965-2004*, 2005 edition.

Table 2. Receipts of earmarked and non-earmarked grants

Per cent of total grants

	Earmarked grants	Non-earmarked grants	Total
States			
Australia ^a	87.5	12.5	100.0
Austria	79.8	20.2	100.0
Belgium	94.0	6.0	100.0
Canada	18.6	81.4	100.0
Italy ^a	28.6	71.4	100.0
Mexico ^c	59.2	40.8	100.0
Spain	14.8	85.2	100.0
Switzerland	77.8	22.2	100.0
Average	57.5	42.5	100.0
Local jurisdictions			
Australia ^a	17.2	82.8	100.0
Austria	86.1	13.9	100.0
Belgium	95.9	4.0	100.0
Canada	95.7	4.3	100.0
Czech Republic	100.0	0.0	100.0
Denmark	69.8	30.2	100.0
Finland	9.2	90.8	100.0
France	11.7	88.3	100.0
Greece ^b	100.0	0.0	100.0
Hungary	56.9	43.1	100.0
Iceland	21.0	79.0	100.0
Italy ^a	75.5	24.5	100.0
Korea	27.7	72.3	100.0
Netherlands ^b	70.0	30.0	100.0
Norway	44.9	55.1	100.0
Poland ^b	29.5	70.5	100.0
Portugal ^b	11.4	88.6	100.0
Spain	33.8	66.2	100.0
Sweden	28.7	71.3	100.0
Switzerland	80.4	19.6	100.0
Turkey	77.3	22.7	100.0
Average	54.4	45.6	100.0

Notes: a: 2002 data; b: 2003 data; c: Including grants to local governments.

Sources: National sources and *OECD Revenue Statistics 1965-2004*, 2005 edition.

Table 3. Receipts of grants by type

Per cent of total grants

	Earmarked				Non-earmarked				Total	
	Mandatory		Discretionary		Mandatory		Discretionary			
	Matching		Non-matching		General purpose	Block				
	Current	Capital	Current	Capital			Current	Capital		
States										
Australia	–	–	–	–	76.4	11.2	8.6	–	3.9	100.0
Austria	57.0	1.8	2.0	18.4	0.6	0.1	12.5	0.2	7.5	100.0
Belgium	67.2	10.9	14.7	–	1.0	0.1	6.0	–	–	100.0
Canada	–	–	18.6	–	–	–	81.4	–	–	100.0
Italy ^a	–	4.7	–	4.7	10.6	8.7	71.4	–	–	100.0
Mexico ^c	–	53.9	–	–	–	5.3	40.8	–	–	100.0
Spain	8.1	5.4	–	–	0.9	0.5	85.2	–	–	100.0
Switzerland	64.8	12.9	–	–	–	–	22.2	–	–	100.0
Average	31.4	4.5	4.4	2.9	11.8	2.6	41.0	–	1.4	100.0
Local jurisdictions										
Australia	–	–	–	–	17.1	0.1	82.8	–	–	100.0
Austria	39.3	3.5	7.4	34.8	–	1.2	13.7	0.1	0.0	100.0
Belgium	–	71.6	–	0.1	0.5	23.8	4.0	–	–	100.0
Canada	–	–	91.4	4.3	–	–	4.3	–	–	100.0
Czech Republic	–	12.4	–	–	74.1	13.6	–	–	–	100.0
Denmark	–	66.6	–	0.5	2.6	0.0	30.2	–	0.0	100.0
Finland	–	5.7	–	–	1.8	1.6	16.3	74.0	0.6	100.0
France	–	6.5	–	0.1	1.3	3.8	81.9	6.4	–	100.0
Greece	61.3	38.7	–	–	–	–	–	–	–	100.0
Hungary	40.1	7.4	–	–	3.8	5.6	41.9	–	1.1	100.0
Iceland	–	3.0	–	8.4	6.5	3.1	79.0	–	–	100.0
Italy ^a	–	–	–	–	39.4	36.1	24.5	–	–	100.0
Korea	–	6.4	–	–	11.2	10.2	69.9	–	2.4	100.0
Netherlands ^b	–	70.0	–	–	–	–	30.0	–	–	100.0
Norway	–	12.2	–	9.4	19.4	3.9	–	55.1	–	100.0
Poland	24.1	5.4	–	–	–	–	70.5	–	–	100.0
Portugal	–	–	–	–	11.4	–	85.0	–	3.6	100.0
Spain	14.3	16.4	–	3.1	–	–	66.2	–	–	100.0
Sweden	–	–	–	–	0.7	28.1	71.3	–	–	100.0
Switzerland	71.7	8.7	–	–	–	–	19.6	–	–	100.0
Turkey	–	–	–	–	77.3	–	–	–	22.7	100.0
Average (unweighted)	24.1	3.8	5.7	1.9	9.1	9.9	37.7	6.5	1.5	100.0

Notes: a: 2002 data; b: 2003 data; c: Including grants to local governments.

Sources: National sources and *OECD Revenue Statistics 1965-2004*, 2005 edition.

Table 4. Earmarked grants by function (2004)
Functional distribution according to the Classification of Function of Government – COFOG

Per cent of total earmarked grants

	01	02	03	04	05	06	07	08	09	10	Total	
General public services	Defence	Public order and safety	Economic affairs	Environ-mental protection	Housing and community amenities	Health	Recreation, culture, religion	Education	Social protection	Other	Total	
Belgium	–	–	24.3	21.4	–	–	0.1	–	25.3	28.9	–	100.0
Czech Republic	9.3	0.0	0.5	6.0	0.3	7.5	2.2	0.7	54.3	17.7	1.4	100.0
Finland	5.5	–	0.6	17.2	1.8	0.4	12.0	16.9	27.0	18.7	–	100.0
France	16.9	1.7	8.0	13.0	2.3	22.4	–	30.8	5.0	–	–	100.0
Greece	56.6	–	–	18.9	5.6	5.6	–	7.2	–	6.1	–	100.0
Italy ^a	–	16.9	–	–	40.6	3.8	–	31.7	–	7.0	–	100.0
Norway	79.3	0.2	0.1	–	0.0	0.1	14.0	–	4.7	1.7	–	100.0
Poland	3.1	3.5	16.2	4.4	8.9	5.5	10.8	5.2	17.9	24.6	–	100.0
Spain	42.4	–	0.2	35.4	0.6	3.2	4.7	0.9	2.5	10.0	–	100.0
Sweden	3.5	1.1	0.0	6.2	3.8	–	56.3	–	29.1	–	–	100.0
Turkey	43.2	–	–	14.2	19.1	22.2	–	0.9	–	0.5	–	100.0
Average (unweighted)	23.6	2.1	4.5	12.4	7.5	6.4	9.1	8.6	15.1	10.5	0.1	100.0

a. 2002 data.

Sources: National sources and *OECD Revenue Statistics 1965-2004*, 2005 edition.

Earmarked grants are mainly matching, particularly so in Austria, Belgium, Mexico and Switzerland for the state level of government, and for Belgium, the Netherlands and Switzerland for the local level of government.

Non-earmarked grants are mainly general purpose. Only a few countries use block grants, most significantly Finland and Norway.

The use of earmarked transfers for different functions varies. General public services receive most earmarked transfers, almost 25% of total earmarked grants. After that function, and in descending order, come education, economic affairs, and social protection. In some countries, like Belgium and Italy, earmarked transfers only exist in some areas, while in others earmarked transfers are more widely used. In the Czech Republic earmarked transfers exist for all functions, but with a heavy concentration in education. In Sweden, earmarked transfers are also widespread, but with a concentration in health and in education.

3. Grant design and implementation issues

3.1. Objectives of grants

Central governments can have three objectives in providing grants to sub-national governments (Oates, 1990):

- **Financing sub-national services and investments:** If the central government wants to control sub-national taxation, it can constrain the local tax base and provide grants to sub-national units with the objective of improving their general capacity to finance the provision of services.
- **Subsidisation:** When the sub-national provision of services has cross-boundary or spillover effects, sub-national decision making may not lead to the optimal nationwide provision of services. If that is the case, the central government could affect sub-national provision by subsidising the services.
- **Equalisation:** The central government may want to enable sub-national governments to provide the same basic bundle of services with roughly the same tax effort. This often requires a redistribution of resources to equalise tax capacity and/or service capacity.

In practice, grants often have various objectives at the same time. This can easily lead to inefficiencies, when a single grant is used to accomplish several objectives simultaneously. It is therefore important that the objectives of the grants be clearly stated and that the grant design allows for

a separation of objectives and independent steering and control of grant characteristics that contribute to each of these objectives.

Box 1. Grant reform in Switzerland

Switzerland formerly had a system in which equalisation between the different cantons was mostly achieved via earmarked grants. In 2002, the amount of money devoted to financial equalisation was CHF 2.4 billion. Only part of that amount (CHF 0.9 billion) came from the non-earmarked general purpose grant; the rest was collected via earmarked grants and contributions to the social security system. This meant that specific purpose financing and equalisation were often strictly tied together: financing, subsidisation and financial equalisation could not be carried out independently. This posed considerable efficiency problems, especially because intergovernmental transfers play an important role in Swiss public spending. Among other effects, the poorer cantons were usually the ones suffering most from central government spending cuts, because almost all grants had equalising components. In the new grant system, implemented in 2004, financing, subsidisation and equalisation are separated: no equalisation takes place by means of the earmarked grants. Earmarked matching grants have largely been abolished. Earmarked non-matching grants have been sharply reduced (from more than 50 to 17). All equalisation is carried out by the non-earmarked grants and by horizontal grants (from rich to poor cantons). In this way, the instruments for financing, subsidisation and equalisation can be controlled independently. Furthermore a number of perverse incentives have been removed from the grant system.

3.2. Financing of sub-national services

Financing grants aim to provide sub-national governments with a source of revenue in addition to the sub-national tax base. The central government may choose to provide financing grants, rather than to extend the sub-national tax base or tax-sharing arrangements,⁸ either because of the distortionary effects of sub-national taxes or the high administrative costs of sub-national tax collection, or because it wishes to control sub-national spending. Furthermore, financing grants are perceived as necessary if the central government imposes new programmes or extends the legal minimum standards of sub-national service delivery (the alternative being that sub-national jurisdictions would have to cut back on existing services or increase tax rates, which is commonly seen as unfair or counterproductive).

As indicated in Figure 2, sub-national revenues have tended to decline in the OECD area over the last decades, so that sub-national governments have become more dependent on grants to finance their services. In most

countries, the taxing competences of sub-national governments are decided, or subject to approval, by the central government, and the choice between adjustment of the sub-national tax base and grants is an important policy variable at the central level of decision making. Some OECD countries have opted to limit sub-national tax bases. For instance, in France municipal taxation has been curbed. The choice between the extension of the sub-national tax base and general purpose grants is a subject that merits separate treatment and is not addressed in this paper. It should be emphasised here, however, that this choice is not only a matter of spending control⁹ and/or the technical or allocative efficiency of sub-national taxation. It is also a question of sub-national autonomy concerning the service level in general. If sub-national jurisdictions are deprived of any substantial tax base, they will no longer be in a position to vary the overall level of sub-national services. Of course, they can still vary the mix of services financed by general purpose grants. Allocative efficiency in the sense of equal marginal benefits remains possible in the public domain, but marginal benefits in the public and private domains may diverge. However, since allocative efficiency remains possible in the public sphere, the basic idea of decentralisation – namely that sub-national government is closer to the people and thus better informed about their needs and preferences – is thus still entirely applicable. The minimum sub-national tax base required to avoid divergence between marginal benefits in the public and private sectors equals the difference that would exist between the costs of the lowest and highest average sub-national service levels if every jurisdiction had a substantial tax base.

The first aim of financing grants is to enable sub-national jurisdictions to finance a basic package of services. Since the basic package should reflect sub-national preferences, it is in general not completely uniform. Consequently, non-earmarked general purpose grants are required. In principle, earmarked grants undermine allocative and technical efficiency if used for this aim, because resources or efficiency gains cannot be transferred to spending areas that constitute sub-national priorities. The grant should not extend to “fringe benefits” that reflect additions to the basic package of services. The decision about what constitutes a variation in the basic package and what constitutes a fringe benefit has to be made at the central level.

Most countries that use general purpose grants to finance the basic service package of sub-national jurisdictions use fixed distribution formulas, which are enacted in legislation or government regulation. These formulas reflect the average or normative costs of the basic package (averaging out variations in the basic package) and, in most cases, subtractions or additions following from tax and service capacity equalisation.

In countries where the basic package of sub-national services is mostly financed by sub-national tax revenue, there may be a relatively small general purpose grant that is intended to cover only administrative costs. The number of criteria for distributing the grant will then be small and mainly related to the number of inhabitants. In countries where the general purpose grant is supposed to cover a wide array of sub-national responsibilities for imposed social spending, such as in Sweden, the number of cost-related criteria (*e.g.* number of children, unemployed, immigrants, elderly people) will be large.

Box 2. Earmarked versus non-earmarked grants in the Netherlands, Sweden and the United Kingdom

Although the non-earmarked grant can be spent according to sub-national preferences, central governments sometimes try to control it. Central governments may start by financing a certain activity with an earmarked grant, at the same time promising to change the funding into a non-earmarked grant in a few years – hoping that by that time sub-national governments will continue the existing spending pattern after the change. This has been the case in Sweden, for example, with the financing of child care. In the United Kingdom and the Netherlands, the central government has tried to reach an agreement with the sub-national governments to target the yearly increase of the non-earmarked grant for central government priorities: education policy in the United Kingdom; health, education and police in the Netherlands. Although policy co-ordination like this can be effective, it runs counter to the objective of a non-earmarked grant to provide sub-national governments with a source of funding they can spend freely.

A second aim of financing grants is to provide the resources needed to supply the service delivery programmes imposed by central government or to reach imposed minimum standards for service delivery. In general, imposed obligations do not necessarily have to be financed by central government. Again, the government will have to choose between extending the sub-national tax base and using financing grants. However, assuming that the choice between adjustment of the sub-national tax base and grants is made on its own merits (spending control, efficiency of sub-national taxation), new obligations generally have to be financed by grants. Financing grants are generally based on average or normative service costs. If the grant is non-earmarked, sub-national jurisdictions that are able to provide the service at less than average or normative cost can use the profits for other purposes. If the grant is based on average costs, the profits are

temporary, because the average costs change when all jurisdictions become more efficient. If the grant is based on normative costs, most jurisdictions will make profits after a certain period of time. Therefore normative costs may have to be adjusted periodically. In principle, basing the grant on normative costs is the preferable policy option (taking average costs assumes that the average costs provider is efficient). However, determining the normative costs is difficult for the central government because of asymmetric information. Therefore, average costs are often used as a temporary proxy, particularly in the first few years after new programmes or minimum standards have been imposed. Once the central government has learned more about the cost structure of the service, it can, at a certain point, move to normative costs.

Box 3. Grants for administrative costs in the Czech Republic

The Czech Republic has over 6 000 municipalities in 13 regions. The central government provides a grant that finances 60-80% of sub-national administrative costs. The grant allocation was reformed for 2005 because the old system was not consistent across municipalities, did not provide enough funds, and was not adjusted for inflation. The new model uses a formula that places a 0.95 weight on population. While this is an improvement over the old system, two problems are likely to arise. First, administrative costs probably do not increase one-to-one with population so that real administrative costs will not be reflected in the formula. It seems difficult to believe, for instance, that a town with a population of 50 000 needs five times more money for administrative costs than a town of 10 000. Second, it gives the municipality little incentive to economise on administrative costs.

In general, financing grants for imposed programmes or minimum standards, like those for basic sub-national services, should be given in the form of non-earmarked grants (general purpose or block grants). This creates the best incentives for sub-national jurisdictions to seek opportunities for cost savings. However, in the case of newly imposed programmes or minimum standards, earmarked grants (non-matching) sometimes cannot be avoided as a temporary solution. In some countries, periodical integration operations can be observed in which earmarked grants are added to the general purpose grant. This requires not only an increase of the general purpose grant but also an adjustment of its distribution formula. Since it is important to keep the distribution formula as simple as possible, this will often cause redistribution effects between jurisdictions. In general, such operations can be conducted more easily if many earmarked grants are

integrated at the same time, because then the redistribution effects as a consequence of simplified distribution formulas will even out.

Box 4. Austrian and Mexican grants for education

In Austria the central government gives earmarked non-matching grants to states for teachers' salaries. The states are responsible for recruiting teachers and negotiating teachers' salaries, but the central government is responsible for funding the salaries. The grant effectively reimburses the states for teachers' salaries. This structure creates two inefficient incentives for states. First, the state has an incentive to employ too many teachers. Second, the state has an incentive to negotiate salaries that are too high. In both cases, the state bears only a small part of the cost (its share of national taxes). Austria recognised the problem and negotiated a national limit on the student-teacher ratio in 2000. This limits the number of teachers that can be employed in a given state. According to Austrian state data, the limit has been largely successful in controlling costs, as education spending in terms of euros per pupil was rising rapidly before 2000 and has flattened off significantly since that time.

Mexico has a similar problem with respect to grants for education. Mexico gives states grants for education, based primarily on the number of teachers they employ. One difference with Austria is that salaries are negotiated through a strong national teachers' union. In addition, the large income inequalities in Mexico mean that spending per pupil is unequal across states and is higher for wealthier states.

In general, it is difficult to find good criteria for the distribution of financing grants (whether non-earmarked or earmarked). Criteria used in distribution formulas may not reflect the real service costs and may not give incentives to economise on costs. Population is often one of the criteria used, and this can make sense for the costs of publicly provided private goods that increase with the number of inhabitants. However, this is not a good criterion for the costs of public goods which decrease with the number of consumers.¹⁰

The formulas used in financing grants often do not work in the most efficient way because they are not based on normative or average costs per unit of service but on costs per unit of production factor or intermediate product. They thus affect the production process and prevent sub-national jurisdictions from seeking the optimal combination of inputs.

Since every distribution formula that takes differences in spending needs into account is to some extent subjective, it is an illusion to think that

extensive fine-tuning will make the formula more effective. In general, it will just make it more complex, less easy for the sub-national authorities and the general public to understand and, as a result, less open to accountability. To facilitate accountability, a simple and easily understandable distribution formula is preferable.

There is no essential difference (in the way they can be spent) between block grants and general purpose grants, but new obligations are often financed by block grants for reasons of transparency. However, overall transparency may deteriorate if there are many block grants. Therefore, it is recommendable that established block grants that function appropriately be eventually integrated into the formula of the general purpose grant.

Box 5. Financing social assistance in the Netherlands

The social assistance law was introduced in the Netherlands in 2004 to create incentives for municipalities to reduce the number of people on social assistance. Before this reform the central government largely reimbursed municipalities for the social assistance benefits they paid. This procedure gave municipalities little incentive to constrain expenditures. Since the reform was introduced, municipalities have borne the full responsibility for social assistance and are reimbursed for the cost through a block grant. The level of the block grant is decided by macroeconomic variables that municipalities cannot control (if the general economic situation worsens it increases and vice versa). The grant is no longer based on actual expenditures but, depending on the size of the municipality, on either a set of relevant criteria (large municipalities) or on historical cost data (small municipalities). The criteria used for large municipalities give larger transfers to municipalities with higher levels of “risk” (low income, low education level, migrants, regional unemployment, etc.). If expenditures for social assistance are lower than the grant, the profits can be used freely. This gives municipalities an incentive to move people off social assistance and into employment.

Central governments often feel the need to collect performance information about imposed programmes of service provision or imposed minimum standards. This is particularly the case when the financed services are seen as an instrument which is supposed to contribute to a more general central government objective. In principle, performance information can be collected and used to improve the imposed programme or the minimum standards in a process which is independent from the attribution of the financing grants, for instance, in periodical evaluations of the regulation that imposes the programmes or in benchmarking exercises. However, central

governments generally feel the need to link the monitoring of performance closely to the grant attribution process (which is part of the annual budget cycle). A close linkage is often considered necessary to make sure that funds are used as intended and that central government authorities can be made accountable for the results obtained. If a close linkage is in place, information about unsatisfactory results can be used not only to adjust the programme or the minimum standards but also to adjust the financing grants themselves (for instance, by extending them to cover new services or by limiting them and reallocating the funds).

Box 6. Denmark: Block grant for improved old-age care

During the election campaign in Denmark in 2001 the government party proposed an increase in old-age care spending of DKR one-half billion. The instrument of implementation was part of the annual agreement between the central government and the municipalities. The purpose of the grant was to improve old-age care services, and the agreement between the central government and the municipalities was that the grant should be spent to improve old-age care. The new grant exhibits key features of a block grant. It was distributed among municipalities according to the demographic composition, and it was the government's expectation that the grant would cover the municipal cost of the reform. Municipalities received the grant in 2002 and 2003 and after that it became a permanent annual addition to the general purpose grant to municipalities. In 2004, a number of critics questioned whether the grant had actually been spent according to its purpose. The use of non-earmarked grants is generally hard to trace, but calculations showed that municipalities had actually spent the funds mostly on the purposes of the reform.

A further advantage of performance information is that it provides a good base from which to involve local or regional actors. This can help in many ways, from obtaining local information on problems and ideas for solutions, to giving local actors a stake in the outcome. If local governments have revenue-raising power, co-funding grants linked to performance targets can help to obtain sub-national commitment to the objectives set by the central government. Co-funding can be helpful in fostering responsible behaviour since people will generally take better care of funds to which they have contributed themselves. The European Performance Reserve scheme is an example of a co-funding grant linked to performance targets.

Cost-covering grants are sometimes used to finance imposed programmes. Since sub-national governments may influence the service

level, this might easily lead to overspending. Such grants should only be used if cost and volume levels are fixed (norm budget financing) or bound by a ceiling. In such cases, cost-covering grants would resemble block grants. However, block grants are often conditioned on the circumstances that cause the need for services, rather than on the normative service level itself. Furthermore block grants are non-earmarked and thus contain better efficiency incentives. Therefore it remains important to search for opportunities to replace cost-covering grants by block grants.

Box 7. The European Performance Reserve of the structural funds

The European Union has one of the most innovative performance funds. The EU Performance Reserve sets aside 4% of resources (EUR 8.25 billion) to reward projects that achieved pre-defined goals. To gain access to these additional reward funds, receiving governments are required to monitor and evaluate projects and achieve their pre-defined goals.

The EU Performance Reserve Fund has made important contributions to capacity building and has led to the adoption of good management practices. For example, as a result of the Fund certain regions incorporated monitoring and evaluation methods into their projects for the first time. However, a number of problems have also been associated with the Fund. For instance, since targets are set by the grant-receiving government, it has an incentive to set easily achievable targets, and in fact a very large percentage of projects were awarded additional funds. The EU is proposing new targets that are well-defined and based on increases in GDP and employment, but member states have complained that such objectives are too restrictive. Moreover, it is difficult to control for factors other than the project that might be having an impact on employment or GDP. Nevertheless, the EU example shows that reward incentives do work.

In practice, volatility of non-earmarked grants is a major concern for sub-national authorities. Since, in most OECD countries, non-earmarked grants constitute a considerable share of sub-national revenue, predictability of these grants is essential for planning purposes. For a separate jurisdiction, predictability depends on two elements: first, the predictability of the total non-earmarked grant that is available for all jurisdictions; and second, the predictability of the distribution of the grant over the separate jurisdictions.

The total annual amount of a non-earmarked grant can be based on certain rules (formulas) or on a discretionary decision. The discretionary method is not *per se* less predictable: it can, for example, take the form of a long-term agreement with sub-national governments. One problem is that

agreements may be terminable or conditional upon external circumstances. This might imply that renegotiation has to take place as soon as the budgetary perspectives worsen or ameliorate, which introduces unpredictable patterns.

Box 8. Multi-year agreements in the United Kingdom, France and Italy

In the United Kingdom, public service agreements (PSAs) have been used to improve public service delivery across government. PSAs are essentially targets for a period of four years, negotiated between spending departments and the Treasury. In the same vein, local service agreements are meant to improve the quality of decentralised public services. The agreements are based on measurable outcomes and multi-year budgets, which facilitate planning.

France negotiates contracts for certain services with regional and municipal governments called state-region planning contracts (CPER). They were created in 1982 and last seven years. The current contracts cover the period 2000-06. However, there are no legal consequences if the contract is not fulfilled. Because of budgetary problems, the central government has recently reneged on some of the promised funds. This harms the credibility of the procedure.

In Italy, territorial pacts aim to stimulate territorial development through a bottom-up approach. The central government negotiates programme contracts with regional partners. These contracts include grants for infrastructure investments and incentives for companies to undertake integrated projects in the fields of industry, agro-industry, services and tourism.

Rules-based systems, although more objective, can turn out to be quite volatile and unpredictable over a longer period of time. In many countries the total amount of the grant is linked to (a part of) the national revenues or the national budget. For example, the rule may be that a certain percentage of revenues from the value-added tax be designated for sub-national governments, as is the case in Germany. When the total amount of the non-earmarked grant is linked to a part of the tax base, the central government has an incentive to expand other parts of the tax base in order to be able to keep more of the revenues at the central level. Linking the level of the non-earmarked grant to total central government revenues (or expenditures) will generate less undesirable incentives. However, the precise definition of the concept of total revenues or total expenditures could become the subject of debate. The sub-national governments will prefer a definition that favours them; the central government may prefer another definition. In 2003, for example, the central government in the Netherlands changed the definition

of the total expenditures concept to which the non-earmarked grant was linked (excluding interest payments), in the expectation that this would reduce the non-earmarked general purpose grant.

Box 9. Predictability of municipal income: The tax-dependent general purpose grant in Turkey

An important part of the revenues of municipalities in Turkey consists of a general purpose grant linked to central government tax revenues: municipalities get 6% of the total tax revenues. On average, this makes up 50% of the municipal revenues, but for some municipalities this percentage can be as high as 70%. Municipalities are free to spend the grant as they see fit. The grant is distributed to municipalities on the basis of the size of their populations and paid on a monthly basis via the Bank of Provinces.

This grant provides most municipalities with a simple and predictable source of revenue, even though the central tax revenues are subject to cyclical effects and are not always predictable. For some municipalities, however, the revenue shares are less predictable due to the system of debt reduction. The Bank of Provinces can deduct a municipality's outstanding debt to the central government from its grant parcel. Municipalities can incur these debts because they do not always pay the compulsory contribution to the central government for pensions, income tax, etc. In addition, some municipalities borrow from the Bank of Provinces, but do not always pay back in time. This deduction may be so substantial that nothing much is left from the municipal grant parcel. In some cases, large municipalities lost nearly half of their grant parcel due to this deduction. The deduction is an arbitrary decision by central government, which makes the general purpose grant an unpredictable revenue source for certain municipalities. The system could be improved if the central government would agree to negotiate with the indebted municipalities on payment plans.

Source: Sagbas and Bagdigen, 2003.

All formulas can result in volatile outcomes. The development of a non-earmarked grant is usually not very stable. Annual fluctuations of the total general purpose grant can be as high as 35% (as was the case in Greece in 1998). Grant increases can usually be accommodated by sub-national governments (although they may result in inefficient spending, especially if grants cannot be carried over to subsequent budget years as is the case in Mexico, for instance). Downward adjustments are more problematic, especially if they are large. The total non-earmarked grant in Canada, for example, decreased in 2004 by 13%. For separate jurisdictions, volatility

can work out to be even more extreme (because of simultaneous volatility of distribution): the province of British Columbia suffered a decrease in the non-earmarked grant of more than 50% in the same year.

Fluctuations of this kind can only be anticipated to a certain extent. In the Netherlands, there is an average difference of a few percentage points between forecasts and actual total grants. The difference between forecasts and actual total grants in Canada in 2003 was 14.3%, with differences for individual provinces as large as –76% (Saskatchewan) and –149% (British Columbia).

Central government behaviour can also compromise predictability for sub-national jurisdictions. This is the case, for instance, in Turkey where the debts incurred by sub-national governments can be deducted from the non-earmarked grants they receive.

The fluctuations in general purpose grants may have pro-cyclical effects. This may be undesirable from a macroeconomic perspective and might involve financial risks for sub-national governments: during recessions the non-earmarked grant might decline, whereas the need for social assistance would rise. Solutions that have been proposed in Canada to smooth the cyclical effects in tax-linked general purpose grants include using moving averages and reducing time lags in the feedback of actualisation data into the projections.

Conclusions on the efficiency of financing grants

If the central government wants to control sub-national taxation, it can limit the sub-national tax base and provide grants to finance imposed programmes or minimum standards and basic sub-national services. Non-earmarked general purpose and block grants are the most efficient instruments to finance sub-national services. However, earmarked discretionary grants are a good instrument for the co-funding of temporary projects or programmes if the commitment of sub-national authorities to performance targets is sought. In the case of newly imposed programmes or minimum standards, earmarked non-matching grants cannot be entirely avoided (in the initial stage).

3.3. Subsidisation

Subsidising grants aim to compensate for spillover effects. From an economic point of view, spillover effects are external effects or discrepancies between the tax prices paid by citizen-consumers and the benefits from the services financed by those taxes.¹¹

Traditional grant theory recommends earmarked, matching grants to internalise positive spillover effects.¹² A matching grant alters the relative price of a service at sub-national level. If the tax price is lowered and if demand is downward sloping so that the lower tax price stimulates spending, provision of that service will increase. Because of the price effect, it is generally cheaper for the central government to stimulate a unit of spending on a sub-national service through a matching grant than through a non-matching grant. While both matching and non-matching grants stimulate spending by effectively increasing a community's income (or ability to spend), the matching grant provides an extra stimulus through the lower tax price while a non-matching grant does not (the matching grant has an income effect and a price effect, a non-matching grant only has an income effect).

Box 10. Matching grants in the United States

Matching grants only provide a positive incentive for service provision, if the grants are paid on condition that the services are actually provided. This was not the case when the US federal government paid matching grants to the states for Medicaid services in the 1980s. In 1986, West Virginia did not have state funds to pay hospitals for Medicaid services and thus could not draw federal Medicaid matching dollars. Hospitals helped by “donating” money to the state. The state then immediately paid back the hospitals with the acquired matching funds. Thus, West Virginia was able to receive the federal match, without in fact having to spend any state dollars (Coughlin and Zuckerman, 2002). The same principle underlies the provider tax programmes, in which states collect tax revenues from providers, often hospitals, to use these funds as the state share for making Medicaid payments. In both cases the amount actually spent on medical services was lower than the grant plus the state share. Congress restricted the use of these schemes in 1991, but afterwards many states turned to intergovernmental transfer programmes (IGTs) which, since then, have led to similar problems.

A number of researchers have attempted to estimate the impact of matching and non-matching grants on decentralised spending. When the sub-national government has the power to raise its own taxes to increase spending, one would expect that a non-matching grant would be equivalent to the increase of income of the citizens of the sub-national government. However, widely duplicated empirical research commonly finds that one currency unit of non-matching grant money stimulated much more public spending than one currency unit of average private income.¹³ This has been dubbed the “fly-paper” effect because grant money tends to stick to the local

politician's hands rather than returning to the local taxpayer.¹⁴ The existence of the fly-paper effect does not contradict the central conclusion of traditional grant theory that earmarked matching grants are more effective in stimulating spending than earmarked non-matching grants.

Spillovers vary with respect to their reach. Some may affect the nation as a whole and others mainly affect neighbouring communities. National spillovers may occur, for example, in research and development, health, infrastructure and tourist attractions of national importance. Regional spillovers may apply to cultural services that attract a regional audience or educational establishments that recruit students from the region.

Earmarked matching grants can be efficient instruments to internalise national spillovers, but not to internalise regional spillovers, as they force the national taxpayer to pay for services that only benefit sub-national taxpayers. Regional spillovers often occur because the appropriate size of sub-national jurisdictions is different for different services, making it hard to create optimal jurisdictions. One way to solve the regional spillover problem is to increase the size of sub-national jurisdictions so that they can provide a larger bundle of services. Another way to internalise regional spillover effects is to charge non-residents for the use of services. This requires excludability.¹⁵ A third way is to facilitate or impose interjurisdictional fiscal contracts. Voluntary contracts are preferable, but in general such agreements have to be supported by regulatory instruments at the national level, because jurisdictions that benefit from positive spillover effects may lack incentives to contribute (free riders). If contracts can be imposed, voluntary contracts will arise more easily than otherwise.

Grants can be designed to encourage co-operation between sub-national units of government, as demonstrated by the LEADER programme of the EU and the French support for intermunicipal co-operation.

Matching grants are not necessarily open-ended. The central government may fix the norm cost of the service it wants to subsidise, in which case the price component of the grant is not open-ended. The central government may also fix the quantity of the service it wants to subsidise, in which case the volume component of the grant is not open-ended. In the latter case, the central government may either maintain the per unit character of the grant, in which case the grant is a variable sum with a fixed ceiling, or it may give the grant as a lump sum, in which case the grant is independent of the number of units that are actually provided, but still dependent on sub-national matching of resources.

Box 11. The EU LEADER Programme and French support for co-operation

The LEADER (*Liaison Entre Activités du Développement de l'Economie Rurale*) Programme of the European Union aims to bring an integrative approach to rural development. It attempts to use subsidies to encourage public-private and intergovernmental co-operation and private initiative in a particular geographic area encompassing many municipalities through innovative multi-sectoral projects. It has gone through three stages: LEADER I which started in 1991, LEADER II which was carried out from 1994-99, and the current LEADER +, from 2000-06.

Intermunicipal co-operation has been and remains an important element of most national programmes. This is especially true in France where there are more than 36 000 municipalities and where mergers are resisted by local politicians and citizens and are not promoted by the central government. In order to increase the scale of local service provision, the French authorities have favoured the use of incentives to encourage co-operation. These incentives were systematised in 1999 with central support for "*structures à fiscalité propre*" (intermunicipal structures with their own tax), even if other types of intermunicipal structures remain. The principle is the following: the intermunicipal bodies continue to be voluntary structures; the parent communes have 10 years to progressively converge towards the same business tax rate (the most important local tax) and the "losers" in this converging process receive compensatory payments; the tax rate is decided by the intermunicipal body which will also directly receive the tax revenue. In order to stimulate local authorities to participate in these structures, the French government pays a supplementary grant to the EPCI (*établissements publics de coopération intercommunale*) in addition to the general purpose grant to all sub-national levels, the DGF (*dotation globale de fonctionnement*). This supplement is called the "*dotation d'intercommunalité*" (intermunicipal grant), and its size depends upon the type of EPCI. Six years after the launch of this new programme, 84% of the French population lives in an area covered by an EPCI with its own tax revenue (88% of French municipalities are located in these areas).

A specific type of externality that could be internalised by a matching grant is the "information externality" that has figured in valuable experiments conducted by a number of sub-national governments (Oates, 1999). Various types of institutional innovation that can be applied nationwide originate in individual sub-national jurisdictions (in environmental policy, social security policy, etc.). The knowledge provided by such experiments travels relatively fast and is not costly for other jurisdictions. As is usual in innovation theory, the innovator pays for the

others, but in this case it is impossible to protect the institutional innovation and, above all, if it creates greater efficiency in public spending, it will not be in the collective interest to do so. Central government has to support institutional innovation in order to internalise the positive effects for “free rider” regions. For that purpose, the central government can use matching grants in which the costs and the risks of new programmes put in place locally are shared. A matching grant is a better support for experimentation, since it allows a better sharing of information with central powers than a non-matching or non-earmarked grant.

Conclusions on the efficiency of subsidising grants

Earmarked matching grants can be an efficient instrument if the central government wants to stimulate the provision of a sub-national service because of national spillover effects. If regional or local spillovers occur, central government intervention is often required as well, and should, in general, take the form of stimulation or imposition of local or regional co-operation. Matching grants can also be used for temporary projects or programmes in case of stimulation of institutional innovation.

3.4. Equalisation of tax and service capacity

Equalisation grants aim to enable sub-national governments to provide an average package of services at roughly the same tax effort. Equalisation of tax capacity is directed at compensating jurisdictions with a relatively small tax base; equalisation of service capacity is directed at compensating jurisdictions that are facing relatively high costs for basic services.

Equalisation can, in principle, proceed entirely via horizontal grants. The central government then imposes the obligation on jurisdictions with a large tax base or low service costs to transfer a part of their revenues to jurisdictions with a low tax base or high service costs. This is the case, for example, in Germany. In practice, however, equalisation often proceeds through vertical grants from central government. This is particularly likely if sub-national governments are, to a large extent, dependent on vertical grants for financing purposes anyway. Tax capacity equalisation then takes the form of differentiation of the non-earmarked general purpose grants that are available for financing purposes (subtracting the payments to be made by rich jurisdictions and adding these payments to the grants for poor jurisdictions). Combinations of both methods occur as well, for instance in Switzerland where tax capacity equalisation between the cantons proceeds partly by horizontal grants and partly by vertical ones.¹⁶

Equalisation can, in principle, take place via earmarked as well as non-earmarked grants. The equalisation component in a non-earmarked general purpose grant covers an average package of services, namely a package of average costs (mainly the basic sub-national services and imposed programmes or minimum standards). The equalisation component in an earmarked grant will apply exclusively to the earmarked services. The equalisation component in earmarked grants can be as efficient as the equalisation component in non-earmarked grants, but this observation should not detract from the earlier conclusion about the efficiency advantages of general purpose grants for financing purposes (see section 3.2).

It has been observed that, from an economic point of view, both tax capacity equalisation and service capacity equalisation are forms of redistribution. Equalisation is also often primarily motivated by redistributive considerations (solidarity). However, in the fiscal federalism literature much emphasis is placed upon the fact that tax capacity equalisation can also be justified by increased allocative efficiency. In particular, it has been noted that decentralisation often disturbs horizontal equity (equal tax prices for equal services). General purpose grants can serve to restore horizontal equity between jurisdictions. This rationale for grants was adopted early on in the fiscal federalism literature (Buchanan, 1950; Musgrave, 1961).

In general, decentralisation will lead to the unequal treatment of citizens in equal positions, even if both the central government and the sub-national government treat citizens in equal positions equally. This is the case for three reasons. First, in so far as sub-national services have public good characteristics (decreasing marginal costs with respect to the number of consumers¹⁷), tax prices of services will be lower to the extent that the tax base of a sub-national jurisdiction is larger. In other words, citizens pay less for their services if their fellow citizens are more numerous and richer. Second, in so far as sub-national services are not pure public goods, the production of these goods may be subject to economies of scale, implying that citizens pay less for their services if their jurisdiction is more populous. Third, in so far as sub-national taxes are not levied strictly in accordance with the benefit principle, but contain an element of redistribution on the basis of ability to pay, and expenditures are neutral in respect to distribution, individuals with equal ability to pay and similar needs in different jurisdictions will experience an unequal fiscal residuum (the net benefit of taxes paid and services received). This is the case because in a poor jurisdiction redistribution is more costly to the rich and less beneficial to the poor than in a rich jurisdiction. For instance, assuming that sub-national taxes are roughly proportional to income and benefits are equal per citizen, a

poor person living in a rich jurisdiction will experience a larger fiscal residuum than a poor person in a poor jurisdiction and a rich person living in a poor jurisdiction will experience a higher negative fiscal residuum than a rich person living in a rich jurisdiction.¹⁸

Box 12. Incentives of the Canada equalisation scheme

Canada has an extensive equalisation scheme. It takes into account all 33 tax bases in all 10 Canadian provinces. A province gets an equalisation transfer when its tax base per capita is lower than the standard (average) tax base per capita. Seven provinces are net gainers, three provinces are net payers. This standard tax base is calculated as the weighted average of five predetermined provinces. The turnover in the system is CAD 8 billion per year.

For many taxes the exact tax base cannot be established. Instead, the actual tax revenues are used as a proxy. This creates a disincentive for provinces to collect tax revenue. There is another way in which the fiscal behaviour of a sub-national government can affect its equalisation grant: for a large province (one of the five provinces in the calculation) an increase in its tax rate will increase the standard tax rate used to calculate the grant for that base and thereby reduce the province's grant if it has a high relative fiscal capacity with respect to that base. This will affect the province's choice of tax rates.

The deviations from horizontal equity introduce inefficiencies in the economic system.¹⁹ All other things being equal, an individual will have an incentive to locate in a jurisdiction with a relatively large tax base, where he or she can consume services at relatively low tax prices and where redistribution is large if he or she is poor and where redistribution is small if he or she is rich.²⁰ This incentive does not reflect differences in real costs or other considerations relevant to efficient resource utilisation.²¹ The practical relevance of inefficient migration may differ between countries. In the Nordic countries the services provided by sub-national jurisdictions are important (education, health) but hardly exhibit public good characteristics. Economies of scale for these services may not exist (and have not been proven).²² In spite of substantial differences in tax and service levels between jurisdictions, migration in these countries is not a problem.

Horizontal equity can be restored through horizontal or vertical non-earmarked general purpose grants.²³ Such grants compensate for differences in the tax base between jurisdictions and will remove the largest interjurisdictional inequities and thereby largely prevent inefficient patterns of migration.

Tax capacity equalisation requires the calculation of a tax capacity measure. For that purpose the tax base of each of the jurisdictions has to be estimated. If sub-national jurisdictions can, for instance, levy taxes on income and real estate property, the total income and the total value of real estate in the jurisdiction has to be estimated. This requires the availability of accurate statistical data. Subsequently, the average weighted jurisdictional tax rate for each tax can be determined as the sum of all jurisdictional tax revenues divided by the sum of all jurisdictional tax bases. The tax capacity measure can now be defined as the jurisdictional tax base times the average tax rate. This is the revenue that the jurisdiction would collect if it depleted its tax base at the average rate. Note that this measure is independent from the actual tax rate in the jurisdiction, which means that it is a pure capacity measure. By equalising tax capacity in this sense the grant fully respects the autonomy of sub-national governments in the level of taxation and benefits. Also, all incentives to increase or decrease the jurisdictional tax rate in order to receive a higher grant will be removed.²⁴

It has been noted that full equalisation removes the incentive to increase the jurisdictional tax base by attracting new economic activity. In order to maintain this incentive, central government could opt for less than complete equalisation, so that the gap between the jurisdictional and average tax base is only partially compensated. The grant system could, for instance, be designed in such a way that the tax capacity of the poorest jurisdiction after equalisation is within a range of 10% or 20% of the average tax capacity. Another possibility is that equalisation aims to reduce the difference between a minimal guaranteed tax capacity and actual tax capacity. For instance, the Swedish equalisation grant (for municipalities) aims at equalising 95% of the difference between a guaranteed tax capacity (set at 115% of the average) and the actual tax capacity of low capacity municipalities (this percentage will be lowered in 2006). The Dutch general grant equalises 80% of this difference. No country studied in this paper used full equalisation or 100% compensation of the difference with a set minimum tax capacity. To maintain the incentive for tax base expansion, partial equalisation must not lead to a change in the rank order of tax capacities.

The “base taxback rate” is the share of additional revenue from tax base expansion that a sub-national government loses through the reduction of the equalisation grant (Courchene and Beavis, 1973). High taxback rates may discourage sub-national governments from investing in the development of economic activity associated with particular tax bases.²⁵ In order to encourage the Canadian provinces to develop their natural resources, for example, some researchers have argued that natural resources should be removed from the equalisation formula (Boessenkool, 1998). This could,

however, lead to an ineffective allocation of resources if some regions have large rents from natural resources.

Intergovernmental grants are also an efficient instrument to compensate for differences in service capacity that result from cost differences (also called equalisation of spending needs). Cost differences may have to do with natural circumstances (mountainous areas, areas prone to flooding, islands) or with socio-demographical circumstances (demography, population density, urbanisation), depending on the expenditure responsibilities assigned to sub-national governments.

Box 13. Service capacity equalisation in Japan

Sub-national authorities should not be able to influence the criteria for service cost equalisation. This requirement is not entirely met in Japan, where at least part of the borrowing by sub-national governments (and consequently the worsening of Japanese public finances) can be ascribed to the fact that road construction volumes and interest payments are important distribution criteria for the non-earmarked grant (the LAT, local allocation tax). Each of these criteria creates an incentive for Japanese prefectures to borrow and overspend on roads. Other OECD member countries where road construction volumes constitute an important distribution criterion for the equalisation grant are Portugal, the Slovak Republic and Denmark. In the latter country, the number of local road kilometres was a criterion for the need for road spending during the 1980s. Local authorities then began to turn small, private dirt roads into public roads. This led to much more equalisation compensation than the costs of maintaining the dirt roads (which only involved a truck and some gravel every second or third year). The criterion was later abandoned. The reason for the wrong incentives is that the grants do not equalise service capacity (the need for roads or borrowing) but the actual level of road construction or borrowing.

From an economic point of view, service capacity equalisation cannot be justified by the efficiency argument of horizontal equity. Indeed, migration from high-cost to low-cost areas could be beneficial from an efficiency point of view. However, many governments give priority to the redistributive argument of vertical equity, implying that similar sub-national services must be available in every jurisdiction at roughly the same tax price. This is a solidarity argument which must be applied with some care, because it can harm allocative efficiency and economic growth if applied on a large scale.

Service capacity equalisation requires the calculation of service cost indicators; these indicators can refer to actual costs or assumed norm costs. The indicators measure the difference between the average or norm costs and jurisdictional costs of a bundle of services to which the measure applies. Equalisation can also take the form of an assessment by the central government of the spending needs of a sub-national jurisdiction, as is the case in the United Kingdom. Service capacity equalisation does not necessarily apply to all jurisdictions, but may be limited to those that have extremely high costs for certain services.

Conclusions on the efficiency of equalising grants

Equalising grants aim to enable sub-national governments to provide an average package of services at roughly the same tax effort. Equalisation can be directed at compensation of low tax capacity or high service costs. Equalisation can be achieved in an efficient way via horizontal grants between sub-national jurisdictions and additions or subtractions from general purpose grants that are given for financing purposes. Full compensation of differences in tax or service capacity may compromise the incentive to expand the tax base and should be avoided. High taxback rates should also be avoided.

3.5. Collective decision making

The approach to grant design followed thus far is basically the traditional approach in the fiscal federalism literature. It treats the central government as a unitary, completely informed actor that aims to maximise social welfare for the national community as a whole. This approach offers useful insights, but is limited in scope because it ignores several dimensions of management and governance of grants that are important in OECD countries. Over the last decade, a number of new approaches have focused on new and different aspects of intergovernmental grant management and governance, and constitute what Oates (2004) has called a “second generation” set of models. The new models draw on public choice theory, principal agent theory and the economics of information. Since the results of these approaches are mostly positive and empirical, they cannot easily be translated into normative conclusions that are useful for practitioners involved in grant design. Nevertheless, there are some new insights which are applicable to policy making.

The traditional approach assumed that central government was a unitary actor that maximised the social welfare of the nation. That is, it did not address the political environment at the central level. Politicians at the

central level have loyalties at the sub-national level and they will attempt to direct grants in the direction of their regional or local constituencies and to influence decisions on distribution formulas of general purpose grants. Discretionary grants are often the subject of negotiation between central and sub-national authorities in which central authorities may be more or less inclined to favour the particular regions or localities to which the grants apply. Furthermore, central government is not completely informed about the policy options of sub-national governments. Indeed, the whole idea of the decentralisation of execution of centrally imposed programmes is based on the assumption that sub-national policy makers have better insight in the adoption of policies to local or regional circumstances. But if central governments are not informed about these circumstances and the policy options available, sub-national authorities may choose non-optimal courses of action from the central point of view.

The main critical points in grant design that are subject to lobbying and log-rolling practices, which may compromise the efficiency of grant design, are the following:

- The choice between non-earmarked grants and earmarked grants;
- The determination of the distribution formulas of non-earmarked general purpose grants covering basic service packages (including the demarcation of basic service and fringe benefits, the latter to be covered by sub-national revenues);²⁶
- The determination of the tax capacity of sub-national jurisdictions and the extent to which differences in tax capacity should be equalised;
- The determination of the service capacity of sub-national jurisdictions and the extent to which differences in service capacity should be equalised; and
- The choice between mandatory grants and discretionary grants.

There is a large amount of academic literature about collective decision making in these areas.

It is important that proposals for the revision of grant systems that concern the general principles – including the choice between earmarked and non-earmarked grants, distribution formulas, the determination of tax capacity and service capacity, and the choice between mandatory and discretionary grants – be decided without the undue influence of sub-national lobbying groups. Decision making about the general principles should be reserved to national authorities on the basis of neutral expertise. The views of sub-national authorities are important, but should be developed

in a setting that encourages objective debate – for instance, in a consultative council that is informed by neutral expertise. Also, the advice of sub-national representatives should focus on the technical aspects of the grant systems, such as the estimation of relevant variables and the quality of statistical data, rather than on principles.

Box 14. Grant committees in the Australian states and in Canada

Every state in Australia has its own local government grants commission. These bodies are independent, and their task consists of calculating the non-earmarked grants for their local jurisdictions. They have to take certain conditions for granted, such as the level of overall funding provided by the central government, the need for horizontal equalisation, and the requirement to provide each sub-national government with at least a minimum grant. But apart from that, each commission can decide how it will assess needs and thus how it will distribute the non-earmarked grant to the sub-national governments in the jurisdictions concerned (Travers and Esposito, 2004). Since evidence for the political-tactical distribution of grants has been found in countries as diverse as Albania (Case, 2001), Austria (Worthington and Dollery, 1998), Sweden, and the United States (Grossman, 1994), but not in Australia (Bungey, Grossman and Kenyon, 1991), it might be assumed that the independent body in Australia actually manages to achieve an impartial distribution.

A somewhat different case is provided by Canada, in which the evaluation of the allocation system is left to an independent technical commission. These kinds of solutions could avoid situations of stalemate, as was the case in Italy, where no political compromise could be reached on revision of the allocation criteria of the non-earmarked grant, resulting in a situation where the criteria has not changed since 1976 (Emiliani *et al.*, 1997).

As far as financing of imposed programmes is concerned, sub-national resistance to block grants or general purpose grants may be mitigated by allowing for a certain degree of matching, at least in an initial stage. In the principal agent model, such modalities of risk sharing are known as “low-powered” incentive schemes. They can be justified if sub-national jurisdictions are risk adverse and do not want to take the responsibility for the risks connected to the execution of centrally imposed programmes. Under these circumstances, block grants could be considered a “first best” solution because they transfer the execution risk entirely to the sub-national jurisdiction (“high-powered incentive schemes”). If the consequence of block grants is that sub-national governments refuse to take on the task,

matching may be an acceptable solution if the price elasticity of the service is low (so that the risk of overspending is low).

Discretionary grants are especially prone to undue sub-national influence. Although they are necessary in the case of unique or temporary projects, such as the construction of infrastructure or the improvement of the regional or local economic structure, it is important that the central level choose the procedures of project selection and design and the role of negotiations and contracts with sub-national authorities. In general, discretionary grants should not be used if law-based grants are a viable alternative.

Conclusions from insights into collective decision making on grant design

Decision making about the general principles of grant reform should be reserved for central authorities on the basis of neutral expertise. The views of sub-national authorities are important, but should be developed in a setting that encourages objective debate, for instance in a consultative council that is informed by neutral expertise. As far as financing of imposed programmes is concerned, sub-national resistance to block grants or general purpose grants may be mitigated by allowing for a certain degree of matching, at least in an initial stage.

4. Conclusion

4.1. Principles of grant design

In many OECD countries, grants systems are beset by numerous inefficiencies. The most common are:

- Earmarked matching grants that are (partly) used for equalising purposes and thus encourage sub-national jurisdictions to provide higher than optimal service levels.
- Earmarked matching grants that are (partly) used for financing purposes and thus encourage sub-national jurisdictions to provide higher than optimal service levels.
- Earmarked non-matching grants (including cost-covering grants) that are used for financing purposes; these grants lack incentives for technical and allocative efficiency and could, in many cases, be replaced by general purpose or block grants.

Modernisation of grants systems should start with a reflection on the objectives of the central government and a separation of the grant instruments so that independent steering of the various instruments becomes possible. In general, the only feasible combination is between non-earmarked general purpose grants aimed at financing and at equalisation. The equalising elements then take the form of additions and subtractions from the financing grants, so that horizontal grants (grants given by rich or cheap jurisdictions to poor or expensive jurisdictions) become wholly or partly unnecessary.

Table 5 summarises the efficient use of the various types of grants. The headings of the last five columns indicate the concrete aims that can be distinguished under the general purposes of subsidisation, equalisation and financing. These concrete aims can be distinguished according to whether (a) the central government takes the initiative to impose or influence sub-national service provision, or (b) the sub-national government itself takes the initiative to provide the service. The second column is the instrument column and indicates the various types of grant instruments that are available. Because the table aims to provide a general overview of efficient instrument use, the instrument column also contains some regulatory instruments (imposition of co-operation and extension of the sub-national tax base) that are efficient for reaching aims for which grants are often used in practice (in a non-efficient way). A mark in one of the columns of the table indicates that the grant instrument can be used in an efficient way to attain the concrete aim.

Discretionary grants are mentioned as a possible instrument for co-funding purposes. Co-funding arrangements are used in some countries to finance projects with objectives that are hard to achieve using matching grants and where both central and sub-national governments have to be committed (see section 3.2).

Earmarked non-matching grants (including cost-covering grants) are mentioned in Table 5 as a possible instrument for financing purposes because they cannot be entirely avoided (see section 3.2). However, in many countries there are still numerous opportunities for replacing them with more efficient general purpose or block grants. Table 5 also mentions matching grants that are given as risk-sharing arrangements (see section 3.5).

Table 5 should not be seen as a prescriptive blueprint. Countries have different traditions of decentralisation, which are sometimes rooted in culture or history. Theoretical distinctions are not always easily applied to grants in practice. Furthermore, reform of grant systems is a gradual process in which separate (groups of) grants are revised sequentially and for

different reasons. For instance, an earmarked grant may be reformed to improve the distribution formula or to remove wrong incentives. This is different from trying to integrate it into the general purpose grant, which is a more fundamental reform. Integration of earmarked grants into a general purpose grant is a reform that can be more easily achieved if more grants are integrated at the same time. Redistributive effects then tend to even out. Partial reforms can constitute improvements even if the guidelines implied by the table are not (yet) entirely followed.

Table 5. Efficient use of grant instruments

Purpose	Efficient type of grant or regulatory instrument	Central government initiative			Sub-national government initiative	
		Imposed programmes or standards	Compensation of spillovers	Temporary projects and programmes	Basic services	Fringe services
Financing	Extension of sub-national tax base	X			X	X
	Non-earmarked general purpose grants	X			X	
	Non-earmarked block grants	X				
	Earmarked discretionary grants			X (co-funding)		
	Earmarked matching and non-matching grants	(X)		X (risk sharing)		
Subsidisation	Earmarked matching grants		X (national spillovers)	X (experiments)		
	Imposition of co-operation		X (regional spillovers)			
Equalisation	Imposition of horizontal grants	X			X	
	Non-earmarked general purpose grants	X			X	

4.2. Implementation issues

General purpose grants that are dependent on criteria such as total tax revenue or total expenditures of central government tend to be volatile. They are influenced by central government fiscal policy and are subject to macroeconomic cyclical effects. In order to enable sub-national jurisdictions to plan their activities on a multi-annual basis, it is important that a mechanism be put in place that constrains volatility. In general, such a mechanism would link the size of the general purpose grants to trend estimates (for tax revenue or expenditures), rather than to real estimates or realisations.

In designing grants, governments need to take into account the implementation steps that will follow after the choice of instrument has been made. As has been illustrated by various case studies in the paper, interaction among different levels of government opens the door to strategic behaviour, which in turn can produce complex situations.

Grant reform has to take place in a context of institutional, historical and cultural circumstances that are unique to each country. Financing, subsidising and equalising grants have to take into account the nature of fiscal decentralisation, the degree of local financial autonomy, the competences of the various levels of administration, the willingness of the political elite to proceed with reforms, the principles of regulation (more or less consensual), the degree of disparity between regions and the lock-in aspect of these disparities, the extent to which sub-national governments have succeeded in forming a coalition, and the specific challenges faced by the countries. Thus, even if this aspect has not been dealt with in this paper because the focus has been on grant design, the institutional, historical and cultural background is a key factor in designing the grants, implementing them, and evaluating their performance. These factors explain the absence of a “one-size-fits-all” grants system.

Notes

1. OECD Experts Meeting on Intergovernmental Grants, Siena, Italy, 18-19 April 2005, under the auspices of the Fondazione Monte Dei Paschi Di Siena, the Province of Siena, the OECD Working Party of Senior Budget Officials, and the Territorial Development Policy Committee of the OECD.

2. This paper will not present institutional specificities of decentralisation in each country. Even if this aspect is important for understanding the choices made in each country, this theme is beyond the scope of this paper, which is devoted to the design of grants and their implementation.
3. Total sub-national expenditure amounts to total consolidated expenditure by sub-national governments (with transfers between levels of government netted out).
4. A federal country is a country in which the constitution guarantees the competences of the highest level of sub-national government and provides sub-national authorities with an appeal to the courts in case of infringement upon those competences.
5. Throughout this paper the term “services” is used for the outputs of government, regardless of whether these concern immaterial goods (services in a narrow sense) or material goods.
6. Note that a non-matching grant can either be independent of service costs or revenues collected or dependent on service costs, but 100% cost-covering.
7. It should be noted that Figures 4 and 5 cannot be added to get total transfers from central to sub-national governments, because that would require a consolidation of transfers between state and local level, which are not available.
8. A tax share flowing from a tax-sharing arrangement is not a grant. A grant is fully determined by the central government whereas tax sharing implies some degree of autonomy or co-decision on the part of sub-national government with respect to the tax base or the tax rate.
9. Curbing the sub-national tax base can be an indirect means of spending control, but for this purpose there are alternatives such as fiscal rules for sub-national governments and stability pacts. This topic has been explored by the OECD Network on Fiscal Relations across Levels of Government.
10. Pure private goods may exhibit economies of scale but even then total costs increase with the number of consumers. Pure public goods (defined in the Samuelsonian sense of non-rivalry in consumption) exhibit constant total cost (proportionally decreasing average costs and zero marginal costs for the additional consumer). For impure public goods that exhibit costs of congestion (local public goods), total costs (defined as production costs plus congestion costs) may start to rise after a certain point.
11. Spillover effects of services should be distinguished from “fiscal externalities” flowing from tax incidence. In the latter case, outsider non-

beneficiaries pay for the services of inside beneficiaries (tax exporting). Tax exporting lowers the price of sub-national services and leads to overprovision at the local level, for instance the taxing of tourists for the use of local assets (McLure, 1967). Grants are, in general, not a suitable instrument to remove this externality.

12. Given that externalities result in non-optimal tax prices faced by decentralised governments, a natural solution is to follow the Pigouvian prescription for solving externalities and change the tax prices faced by decentralised governments so that tax prices reflect resource costs including any external costs or benefits.
13. Perhaps the most widely cited early study is that of Gramlich and Galper (1973), though many studies followed. A typical study finds that an additional currency unit of average private income stimulates 0.10 currency unit of additional spending, while an additional currency unit of non-matching grant generates about 0.40 currency unit of additional public spending.
14. The fly-paper effect can only be explained by studying the collective decision-making process in the sub-national government. While the traditional median voter model of sub-national democracy would predict an equal reaction to an increase of average private income and a non-matching grant (Bradford and Oates, 1971), the fly-paper effect has been explained by a number of alternative models, for instance models in which sub-national bureaucrats get political credit for increasing service levels without increasing taxes and voters are unaware of the source of the funds.
15. A service is excludable if it is technically and economically possible to exact a price for accession to the service.
16. For a comparison between the vertical and horizontal grant methods see Lotz and Mochida (1999).
17. This includes both pure public goods that accommodate additional consumers at zero marginal cost and local public goods that are susceptible to congestion.
18. One could argue of course that sub-national government should not interfere with income distribution to begin with, but this is a rather theoretical argument in a time when, given the nature of sub-national services, taxation according to the benefit principle would lead to strongly digressive rate structures. For instance, in the Nordic countries most sub-national services are social services (mostly benefiting low income groups).

19. However, Scott (1950) has argued that these inefficiencies are the price to be paid for freedom of residential choice.
20. In more recent literature, the emphasis is placed on another possible effect, namely that sub-national governments (or more generally governments in open economies) that use taxes on mobile factors tend to underprovide public services because they fear an exodus of their tax base (tax competition). Consequently, the sub-national governments tend to tax the mobile factors less than is commensurate with the benefits these factors receive from the services provided (Zodrow and Mieskowski, 1986; Wilson, 1986).
21. Apart from the horizontal equity argument, there exists another efficiency argument in favour of equalising grants (Boadway and Flatters, 1982). In a Ricardian model in which the rents generated in a region (from factors such as agglomeration, a unique location or natural resources) accrue only to residents of that region, a mobile factor that moves into a jurisdiction will add to the tax payments but (eventually because of diminishing marginal product) subtract from per capita rents (the value of output after labour costs). Efficient migration patterns that maximise overall welfare should equate net benefit of a worker across jurisdictions. To correct for disparities in net benefits, jurisdictions that have large per capita rents should receive lower grants. The central government essentially taxes away any rent advantage and redistributes it so that all jurisdictions have equal rental income; a worker will then decide whether to migrate by comparing his/her marginal product in one jurisdiction versus another. To the extent that rents are capitalised into land values, average rent discrepancies will disappear. In practice, not many countries have tried to actually estimate average rent differences and to use such estimates in the design of their equalisation systems. However, according to Boadway and Flatters (1982), rents generated from natural resources have been a main historic catalyst for the evolution of the Canadian intergovernmental grant system. Note also that even if capitalisation does not occur, the argument by Scott (1950) implies that inefficient incentives may be the price to be paid for freedom of residential choice (and for economic growth through migration to the areas that have the jobs and natural resources).
22. Cost differences may also be capitalised in land values. Although this does not remove the inefficiency (unlike the capitalisation of natural endowments), it does remove the inefficient incentive for migration.
23. In principle, a more ideal method for restoring horizontal equity is through discriminating income taxes. By levying higher rates on residents of relatively wealthy jurisdictions, the central government could in effect compensate for the lower tax prices of sub-national services as well as the lower contributions of the rich to the sub-national services consumed by

the poor (Buchanan, 1950). This method equalises tax prices and redistributive contributions at the level of the individual taxpayer. However, as Musgrave has pointed out, this method is beset by many practical problems (Musgrave, 1961).

24. Musgrave has suggested that central governments may want to maintain an incentive to increase the sub-national tax rate, especially in poor jurisdictions (Musgrave, 1961). This may be achieved by measuring tax capacity by tax base times jurisdictional tax rate (rather than average tax rate). However, this suggestion does not entirely restore horizontal equity. Moreover, the suggestion is not neutral in respect to the budget (poor jurisdictions might receive more than rich jurisdictions pay or the opposite).
25. Denmark has a legal limit to the taxback rate of 90% (so that jurisdictions will always gain by developing their tax base).
26. For instance, politicians may use the distribution of grants as a means to ensure their re-election by providing swing states with relatively more grants. It has been shown that not only earmarked discretionary grants are used in this way (Dahlberg and Johansson, 1999), but also non-earmarked grants with a formula-based distribution mechanism (Johansson, 2003). Although the Swedish non-earmarked grant has formula-based distribution criteria – and thus seems to be quite objective – in practice it turns out that swing states get relatively more of the non-earmarked grant, corrected for all other factors.

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