

# **The Economics of Decentralization: a Review of the Literature and the Case of Education Provision**

**Roberta GATTI**  
Development Research Group  
The World Bank

## **Keywords: Decentralization - Education**

This paper was written when I was visiting the Eastern Europe and Central Asia Human Development Unit, Social Protection Team at the World Bank. I thank Maureen Lewis, Dena Ringold, and James Roaf for useful comments. The views expressed here do not necessarily represent the views of the World Bank or its member countries. Please send correspondence to [rgatti@worldbank.org](mailto:rgatti@worldbank.org).

---

**September 2001**

---

## TABLE OF CONTENTS

I. Introduction.....	p.3
II. The Rationale for Decentralization.....	p.3
III. Modes of decentralization.....	p.7
IV. Issues.....	p.11
IV.1 Citizens' participation and accountability.....	p.11
IV.2 Political incentives.....	p.12
IV.3 Information.....	p.14
IV.4 Principal-agent models.....	p.14
V. Designing decentralization.....	p.15
V.1 Raising revenues.....	p.16
V.4 Expenditure assignments.....	p.17
V.2 Intergovernmental transfers.....	p.18
V.3 Sub-national borrowing.....	p.20
VI. Decentralization across countries: patterns and determinants.....	p.21
VII. Decentralization and social service delivery: the case of education.....	p.26
VII.1 Decentralizing education: what the theory says.....	p.26
VII.2 Why did some countries decentralized the provision of education and how did decentralization perform?.....	p.28
VII.3 Who decides and pays for what?.....	p.30
VII.4 Who decides and pays for what in OECD countries?.....	p.31
VIII. Conclusions.....	p.33
References.....	p.34

## **I. Introduction**

Decentralization - the transfer of authority to from higher to lower-tier governments – has been a worldwide phenomenon in the last decade. For many countries decentralization has represented a chance to deepen the democratic process (in Spain, the return to democracy after the death of Francisco Franco was followed by a strong process of democratization, Latin American countries had similar experiences); for others, a response to the challenge of ethnic heterogeneity (see for example the case of India), or a natural consequence of better representation of citizens' preferences thanks to the advent of a multiparty system (Africa). Finally, for Eastern European countries, decentralization has been an important component of the reorganization of the government apparatus in the transition towards market economy.

It is widely agreed that the momentum for decentralization mainly stems from political reasons (Fiske, 1996, Litvak et al. 1999). Nonetheless, the modalities of the transfer of responsibilities to local governments have important economic consequences as they affect government organization and incentives and ultimately the quantity and quality of public service provided.

The objective of the paper is twofold. First, to provide a theoretical framework for discussion of decentralization issues. Second, to address more in detail rationale, modes, and lessons from decentralization reforms in a sector – education – where decentralization has represented a truly global trend in the last decades.

The paper is organized as follows. Section I reviews the main arguments for and against decentralization that have been cited in the economic and political economy literature. Section II describes the modes of decentralization and provides a graphical representation of the flow of responsibilities and incentives deriving from different degrees of devolution of responsibilities. Section IV is devoted to an in-depth and critical review of some of the most interesting and problematic issues in the literature on decentralization – accountability, politics, information, and incentives. Section V spells out the building blocks of decentralization design (expenditure and revenue assignment, intergovernmental transfers, and sub-national borrowing) and reviews the consensus on best practices in the literature. Section VI briefly describes patterns and determinants of decentralization across countries. Section VII focuses on the case of delivery of education services and addresses, though in a more detailed way, the same themes of rationale, patterns, and modes of decentralization in the education sector across the world. Section VIII concludes the paper.

## **II. The rationale for decentralization**

The issue of the optimal degree of decentralization of government is a longstanding focus of interest in the economic literature.

The classic economic argument in favor of decentralization relies on *efficiency* grounds and has been formalized by Oates (1972) in his well-known theorem:

“For a public good – the consumption of which is defined over geographical subsets of the population, and for which the costs of providing each level of output of the good in each jurisdiction are the

same for the central and the respective local government – it will always be more efficient (or at least as efficient) for local governments to provide the Pareto-efficient level of output for their respective jurisdictions than for the central government to provide *any* specified and uniform level of output across all jurisdictions” (p.35)

If different local constituencies in a country have different preferences as for which public good and how much of it to consume, a diversified supply of the good by decentralized local authorities will match different constituencies’ tastes better than a uniform supply of the good. Pareto-efficiency is then guaranteed if supplying the good in diversified way is not more costly than supplying the good homogeneously over the country territory. For example, Oates’ theorem would suggest that, as long as diversified health care provision across localities does not imply higher costs than a standard service in the whole country, decentralization is to be preferred, as it ensures allocative efficiency (i.e. the best match between preferences and supply of the good) in the respect of technical efficiency (no increase in the unit cost).<sup>1</sup> Moreover, allocative efficiency and technical efficiency are highly interrelated. In our example of health care provision, to the extent that decentralization of decisions may result in approaches more consistent with local preferences (allocative efficiency), levels of utilization might increase and unit costs decrease (technical efficiency) (see Klugman 1994. Table 1 also summarizes some of these arguments).

Oates (*ibidem*) also remarks that technical efficiency might be improved by decentralization if, for example, a differentiated production of public goods by local governments results in increased experimentation, innovation, and ultimately technical progress in the production of public goods.

A related argument in favor of decentralization relies on the potential benefits of horizontal competition among localities. If (i) the provision of public good is decentralized; (ii) taxes paid by citizens reflect the benefit they enjoy, and, finally, (iii) mobility is costless, citizens “vote with their feet” and choose to live in the locality where the public good provision best matches their preferences, then decentralization will approximate the allocation of a market equilibrium. This is the well known approach of Tiebout (1956).

Much of the criticism of Oates’ approach has focused on the issue of *inter-jurisdictional spillovers*. In this case, decentralized provision of public goods with benefits that do not coincide geographically with the constituency that votes and pays for the good will fail to internalize inter-jurisdictional spillovers and quite likely will result in an under-supply the service. A typical example would be the public provision of medical services from a local hospital that benefits local patients as well as patients of bordering districts. To the extent that the hospital is financed by the local community, the citizens who pay for the service will be unwilling to subsidize citizens from other localities who enjoy the health care of hospital but do not contribute to its financing. As a consequence, the hospital might be understaffed and patients might have to undergo some form of rationing (queues, long waiting lists, etc.).

A closer look at the issue, though, reveals that this problem has a rather straightforward solution, which does not necessarily imply centralization. As a matter of fact, decentralization can reproduce the allocation chosen under centralization – in our

---

<sup>1</sup> Technical efficiency is also known as productive or X-efficiency.

example, an adequate staffing of the hospital – provided that a set of intergovernmental transfers (see further) are designed to internalize the inter-district spillover – in our example, to compensate for the extra use of the health care facility from the neighboring district.

This argument suggests that Oates' theorem focus on spatial characteristics of public goods as the main determinant of the decision to decentralize their provision is somehow overemphasized. Moreover, even if a decentralized provision accompanied by a well design system of transfers can achieve allocative efficiency, it might simply be that the central government is able to provide the public good at lower cost because it can enjoy *economies of scale*. Similarly, decentralized provision might result in high *coordination costs* (Breton and Scott 1978). In these cases, a uniform supply of the public good by the central government might be preferable.

More in general, Oates' theorem implicitly assumes that local governments have some *informational advantage* over the central government in identifying local communities' preferences. If that is not the case, the theorem simply supports a diversified supply of public goods when tastes are heterogeneous. It is difficult to maintain that the central government might not have access to exactly the same information as local governments, especially with the recent technical progress in communication technology. Moreover, central governments often have territorial representatives (in deconcentrated institutions such as “Prefettura” in Italy) who could evaluate local needs and preferences while benefiting from the same proximity as local government officials (see below and Tanzi 1996). Unless other considerations (such as incentives, etc.) are brought in, nothing in principle would prevent the central government from providing the good efficiently, as long as it has information on local preferences.

The issue of *incentives* at different levels of government is receiving more and more attention in the literature, often using models and insights borrowed from the industrial organization literature (see Cremer, Estache, and Seabright 1994). In this context, the hierarchical link between central and local government is usually thought of as in terms of a principal-agent relationship. In particular, these models move the focus of the debate from “which level of government should carry out which function” (the question behind Oates' theorem) to asking “which set of incentives should the principal (central government) set so that the self-interested agent (local government) behaves according to the principal's objectives”. In general, incentives are seen as important determinants of the effectiveness with which different levels of government are able to carry over their mandates.

In this context, the issue of accountability is particularly relevant. We can think of accountability as a mechanism for enforcement of incentives. It is usually argued that accountability of bureaucrats is stronger in decentralized systems as “good governments are those closer to the people” (Besley and Coate 1999). The standard argument is that if citizens perceive a correspondence between taxes they pay and the level and quality of public service they receive, they might be more willing to participate to public life. As a consequence, accountability is supposed to improve and, with it, technical and intertemporal efficiency.<sup>2</sup> As we will discuss more in detail in section IV, serious empirical investigation is needed to confirm whether local revenue autonomy actually causes improved citizens' participation and accountability.

---

<sup>2</sup> Intertemporal efficiency refers to such issues as maintenance and preservation of investments over time.

A distinct, but related issue, is whether *governance* improves with decentralization. The theoretical literature makes ambiguous predictions about this relationship. Tanzi's analysis (1996) suggests that there exist many imperfections in the local provision of services that may prevent the realization of benefits from decentralization. For example, local bureaucrats may be poorly trained and thus inefficient in delivering public goods and services. Recent studies have come down on opposite sides of this issue: for example, Wade (1997) suggests that India's overcentralized top-down structure was largely responsible for corruption in the irrigation bureaucracy. In contrast, Brueckner (1999) claims that local governments might have limited institutional capacity and therefore be more prone to corruption.<sup>3</sup> Bardhan and Mookherjee (1998) provide a comprehensive theoretical examination of these issues. They argue that a centralized bureaucracy creates incentives to divert resources to the non-poor, owing to their willingness to pay bribes. This effect is traded off against the vulnerability of local governments to 'capture' by the local wealthy, who seek to appropriate the lion's share of local supply. In general, they find that the relationship between decentralization and the extent of rent extraction by private parties is ambiguous.

In two recent empirical studies both Huther and Shah (1998) and Fisman and Gatti (2000) find that a higher degree of decentralization is associated with lower measured corruption in a cross section of countries. Disaggregated analysis will hopefully allow us to identify exactly which mechanisms are at work.

The set of institutional rules and incentives linking local and central governments can affect the impact of decentralization in other important ways. For instance, in Argentina, Bolivia, and Brazil decentralization of fiscal expenditure responsibilities coupled with a soft budget constraint in the vertical relationship between the central and local government led to serious *macroeconomic destabilization* (for example, in Argentina some local governments undertook construction of railways and decided to finance it by printing their own currencies, thereby generating local inflationary pressures). Moreover, because of the fractionalization of responsibilities, decentralization might make undertaking fiscal reform harder in countries with serious fiscal imbalances.

These arguments suggest that a clear definition of roles and a carefully designed incentive structure are crucial to the success of decentralization.

The recent political economy literature highlights important *political reasons* for decentralization. Decentralization could be a way to respond to pressure for regional autonomy in countries with a highly ethnically diversified population (Litvack 1994) and countries might use interregional transfers to peripheral regions as a way to placate threats of secession (Alesina and Spolaore 1997, Panizza 1998).

Finally, even if efficiency or political arguments might justify decentralized provision of public services, a central government will always have to confront the issue of how much inter-regional inequality it is willingly to accept. To the extent that the central government pursues an objective of a relative *equitable redistribution of resources* within its territory, a more centralized and thus uniform provision of the public goods might be preferable. Alternatively, decentralized provision of public goods should be framed within country-wide guidelines and a well structure system of intergovernmental transfers (section V).

---

<sup>3</sup> Related to this is the issue of bureaucratic quality. Local governments, especially in developing countries, might not be able to offer to potential employees as advantageous working conditions as the central government and therefore might be able to command only staff with limited ability/expertise.

**Table 1. Efficiency considerations for local and central government provision of public goods**

		<b>Local government</b>	<b>Central Government</b>
<b>EFFICIENCY</b>	<b>Allocative</b> (matching allocation of public goods across localities with citizens' with heterogeneous preferences)	Provision of public goods and services tends to reflect local preferences	Provision of public goods and services tends to reflect minimum quality and quantity standards
	<b>X- or technical efficiency</b> (cost minimization)	Use of local resources and information may lower costs	If the provision of the public good generates <i>economies of scale</i> (this is especially true for capital intensive goods), and/or <i>externalities</i> central provision is preferable
	<b>Intertemporal</b> (implementation and maintenance)	To the extent that higher user-participation is obtained at the local level, local provision is preferable	

### III. Modes of Decentralization

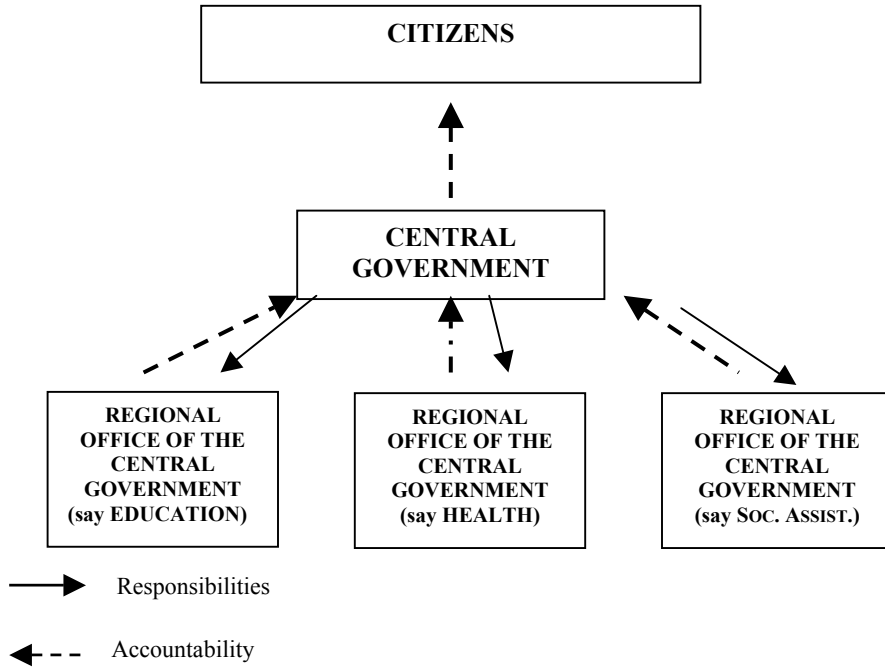
Decentralization is a complex phenomenon ranging from simple dispersion of central government responsibility to privatization.

Starting with Rondinelli (1981), the literature has accepted a standard classification of decentralization modalities that distinguishes between deconcentration, delegation, devolution, and, finally, privatization.

*Deconcentration* is the process through which the central government assigns responsibilities for provision of some services to its regional offices. Basically, with deconcentration, the central government is simply branching out, without any significant involvement of local governments. Typical examples of this practice – very common in East Asian and, until recently, in former communist countries – are regional education or health directorates or the prefectural system. In many countries, prefectures are involved in maintaining order and in the supervision of local governments and a times acts as intermediary between regional directorates and the central government.

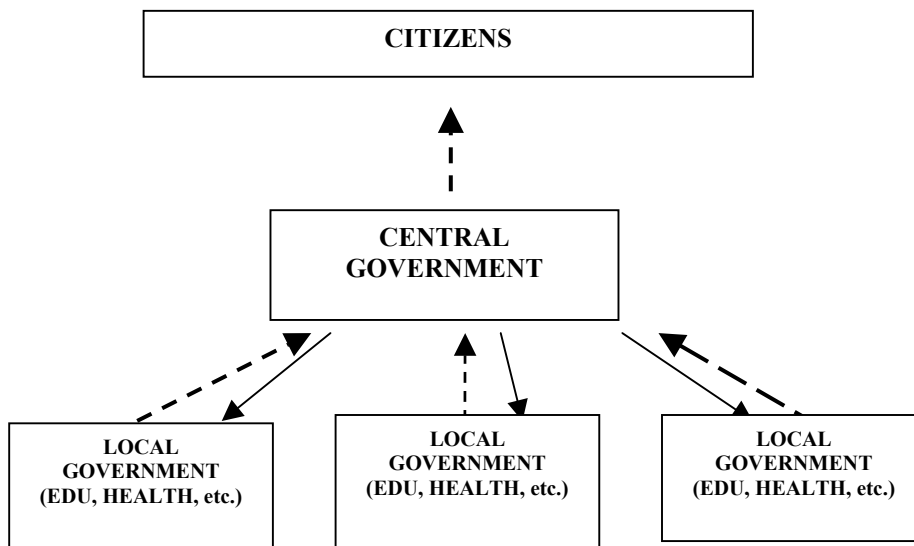
The following simple diagram highlights in a schematic way how the responsibilities and accountability flow from the different actors: local and country-wide constituencies, central government, and local governments. In the case of deconcentration, responsibilities flow from the central government to its regional offices. These are in turn accountable to the central government and only through the central government to the population as a whole.

**Fig. 1 Deconcentration**



*Delegation* occurs instead when the central government transfers decisionmaking to relatively autonomous local governments, that, while enjoying some discretion, are ultimately responsible to the central government. This arrangement is usually represented as a principal-agent relationship. In this case, accountability of the agent (the local governments) flows directly to the central government and again only through the central government to the population as a whole.

**Fig. 2 Delegation**

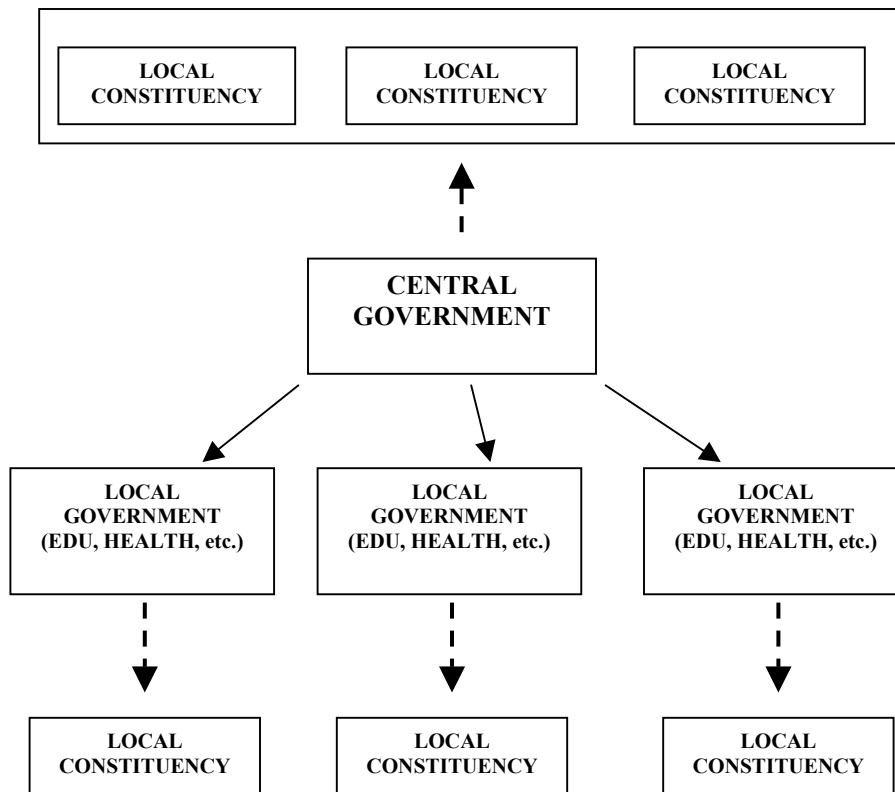




*Devolution* occurs when the central government transfers decisionmaking, finance, and management to quasi-autonomous local government units. Usually, with devolution, local administrations have some degree of autonomy in deciding over revenue raising and expenditure allocation. More importantly, they are directly accountable to the local constituencies (Fig.3). In other words, if local administrators do not perform their task in a satisfactory manner, the local electorate has the power to not renew their political mandate.

Table 2 summarizes the (sometimes implicit) prescriptions of the theory on the extent to which different modes of decentralization imply accountability, informational advantage, respect of local preferences, internalization of inter-jurisdictional spillovers, respect of horizontal equality in the production and provision of public goods and services.

**Fig. 3 Devolution**



**Table 2. Deconcentration, delegation, and devolution: what the theory predicts**

	Accountability to local constituencies	Closeness to the sources of information	Citizens Participation	Respect of local preferences	Respect of nation-wide objectives	
					Horizontal equity	Internalization of interjurisdictional spillovers
<b>Delegation</b>	No	Yes	No	No	Possibly	Possibly
<b>Deconcentration</b>	No	Yes	No	No	Yes	Yes
<b>Devolution</b>	Yes	Yes	Yes	Yes	No	No

## IV. Issues

In this section, we will elaborate critically on some of the standard arguments for and against decentralization that we have briefly reviewed in section II. In particular, we will discuss participation and accountability; political incentives; information; and the principal-agent problem. We will see that some of these issues are more controversial than the literature portrays.

### IV.1 Citizens' Participation and Accountability

Accountability is a unifying theme in the decentralization debate. There are many angles to the accountability debate. First, the general consensus is that fiscal decentralization and, in particular, autonomy in revenue collection and in expenditure allocation, should foster citizens' participation to local political life on account of the fact that citizens perceive the direct link between what they pay (taxes) the benefit they receive from their local government's expenditure. Participation, in turn, is assumed to strengthen accountability of local politicians – in general, “decentralization strengthens citizen participation by bringing governments closer to the people they are intended to serve” (Shah 1998). This mechanism would suggest a causal relationship between fiscal autonomy and accountability with the causality running from fiscal autonomy to accountability.

On the other hand, ongoing accountability of politicians to their local constituency is often cited as a crucial precondition for successful decentralization. This would suggest that countries with a stronger culture of citizens' participation to political life are more likely to engage in decentralization reforms, since these reforms are expected to succeed. This consideration would lead us to think that a distinct causality link runs from accountability (or the presence of an active civil society) to decentralization.

Notwithstanding the diversity of theoretical arguments why fiscal decentralization/autonomy might go hand in hand with accountability, the empirical evidence that establishes the existence and the direction of a causal association between fiscal autonomy and increased participation and accountability is still scant.

Huther and Shah (1998) find evidence of a correlation between decentralization and some indices of political freedom and political stability in a cross section of countries. This correlation documents that an association between the two variables exists. Nonetheless, it does not *per se* establish whether fiscal decentralization leads to accountability or whether instead decentralization has occurred only in countries with a pre-existing culture of participation to public life so that decentralization – not accountability – is the variable endogenous to the system. It could also be that some spurious factor such as cultural heritage is responsible for both the extent of decentralization as well as accountability.

It is quite clear that new empirical studies are needed to document the existence of this link and the direction of its causality. Evidence could be provided by case studies reporting results of public opinions polls, tracking changes in citizens' attitude towards public officials, and active participation (as represented by parents' involvement in school governance, voters' turnout, etc.) following an exogenous shift towards local autonomy. An analysis of this type could also provide answers to questions such as

whether local autonomy is more effective in producing participation in some sectors rather than in others; which are preconditions for participation to take place; through which mechanisms participation takes place (free press, assembly of citizens, etc.); and ultimately the extent to which participation influences local politicians choices and results in efficiency gains.

From the theoretical point of view, the analysis of accountability could also benefit from a deeper understanding and study of the issues of social capital. It is well known that participation to local public life is likely to suffer from the free-rider problem that plagues collective action (Olson 1963). Monitoring local politicians, though perceived as useful to improve the quality of the public service, is a costly activity. Because of this, each individual has the incentive to let others bear the cost of monitoring while still enjoying the benefits of enhanced local governance.

The existence of local social capital might lessen coordination problems and foster cooperation among citizens. Robert Putnam (1993) highlights the role of civic tradition in Italy in explaining the differential in economic performance of Northern and Southern regions. In a civic community, citizens perceive and internalize the link between their action, the common good, and the individual utility deriving from the common good and behave according to an "...“enlightened” rather than “myopic” self-interest.” (*ibidem*).

If we believe that the difficulty in the formation of social capital is mainly due to coordination problems, the intervention of government or of donor agencies might prove useful in promoting cooperation and orient citizens’ behavior more towards shared benefits. For example, community based projects might try to explicitly develop the interaction between the constituency and politicians and thereby foster citizens’ participation. This could then have positive spillovers for the successful implementation of decentralization reforms insofar as it lays the ground for the creation of a habit or culture of participation to public life.<sup>4</sup>

#### **IV. 2 Political incentives**

Participation to public life can be mediated by civic institutions – in the form of voluntary organization, individual participation, etc. – or by organized political action – in the form of political parties or groups of interest. Both civic institutions and organized political action are likely to affect politicians and bureaucrats incentives and ultimately the quality and quantity of public service provided. In this section, we try to exemplify how politicians’ incentives change as the country moves towards a more decentralized organization.

The shift of political power to lower-tier governments is likely to have different effects on the public choice outcome depending on many issues, such as (i) the electoral mechanism in place; (ii) the objectives pursued by central and local politicians; (iii) the relative weight of interest groups at the local and at the central level (Bardhan and Mokherjee (1998)).

To illustrate how moving towards decentralization affects the choice of policy to be adopted, we will describe a simple example of voting over redistribution under

---

<sup>4</sup> Putnam’s work suggests however that the scope for policy intervention in developing social capital might be quite limited. His analysis traces regional success in 20<sup>th</sup> century Italy back to the civil legacy of medieval *comuni* society, when, according to his analysis, social capital took shape.

centralization and decentralization in two cases: the baseline case of majority voting, and the case where interest groups are active at the local and country level.

From the political science literature, we know that with majority voting the choice of the median voter will prevail, provided that a number of conditions obtain (Roberts 1977). In particular, redistribution will occur if the mean income lies above the median income or, in other words, if the voter who decides (median) is poorer than the average voter and the country's (region's) distribution is "skewed to the right" (see Meltzer and Richard 1981). If this is the case, electoral outcomes under centralization and decentralization will differ according to the relative distribution of voters over the income scale in the country as a whole as opposed to the individual regions. Consider an example where citizens choose the size of the redistributive budget under centralization (for the country as a whole) and under decentralization (for each region separately). The country consists of two regions A and B, with approximately equal population. Region A is on average poorer than region B but income distribution is uniform in each region (i.e. that in each region everybody earns the same (average) level of income). It trivially follows that median income in each region coincides with average income. In the country as whole, instead, as long 50%+1 citizens live in region A, the median income in the country will coincide with region's A income and will be lower than average income.

In decentralized balloting, each region will decide on zero redistribution within the region because there is no difference between the median (the pivotal) voter and the average income recipient. If ballot is instead centralized, the country's median voter (a citizen of region A) will decide on a positive amount of redistribution, in general a function of the gap between her income and the average income.

The predictions of how much redistribution will be chosen under centralization or decentralization will likely change if we introduce a dynamic dimension to the political game and explicitly allow for politicians' desire for reelection. The typical way in which the literature deals with this issue is to assume that politicians choose policies to maximize a weighted average of the citizens' preferred policies (usually the median voter preferred policy) and campaign contributions (that help them get re-elected).

Again, we should expect that policies chosen by local politicians will differ from policies chosen by central government politicians. As the previous case, we expect that policies chosen by local politicians will be closer to local citizens' preferences (because politicians' give some weight in their choice to the preferences of their electorate), but also we expect policies to be biased towards the objectives of those who contribute to the electoral campaign.

In a more realistic version of our initial example, where some income inequality exists in each region (for example, with region A being the one with more unequally distributed income), we would expect that the difference between policies chosen under decentralization and policies chosen under centralization will depend on two factors: the local and the country-wide preference for redistribution (represented by the relative position of the median voter in the region and in the country) and on the relative strength of special interests in the region relative to the country. Issues like territorial distribution of the special interest groups will matter for how different the outcome of public choice at the central or at the local level are. For example, special interest groups might be concentrated in few regions and therefore be able to condition decisions taken by local politicians. Vice versa they could be relatively powerless at the country level and therefore be unable to influence political outcomes there. If we think of policy choice on budget allocation, for example, we could find mayors to be overly attentive to the needs

and preferences of local wealthy citizens because the last are important campaign contributors. This might imply allocating resources away for social assistance – unlikely to benefit the rich – to build infrastructure that would benefit industrial interests. A symmetric argument can be made for the issue of protection of minorities. Ethnic or linguistic minorities that are territorially concentrated might be better off in a system of local elections because they will have higher chances to get their voices heard (both because they are many and they might be able to tilt the electoral outcome numerically to their favor and because they might be a more powerful interest group). Minorities that are instead scattered throughout the whole country territory might be better off under a centralized system.

### **IV.3 Information**

As we have seen, information constraints are often quoted as mechanisms limiting the effectiveness of central government actions and, thus, as a powerful argument in favor of decentralization. For example, it is often said that decentralization can achieve better targeting because local governments possess better information. Usually, the informational advantage of local governments is assumed on account of their geographical “closeness” to the source of information.

As Tanzi (1996) has first noted, deconcentrated institutions (which, as we have seen, are just territorial branches of the central government) and decentralized (devolved) institutions (local governments) enjoy the same geographical “closeness” to the citizens and, in principle, should be able to collect the same information. Moreover, technological progress now allows information to be transferred easily independently of distance.

If we believe that differences in the ability to collect information actually exist, and that geography is not a plausible explanation, it is safe to think that deconcentrated institutions might collect less information than devolved institutions because they have incentives to do so. The fact that local councils are elected bodies and territorial offices of the central government are not as well as the likely difference in bureaucratic structure are candidate explanations for these differences. The fact is though, that no theoretical nor empirical research has addressed these specific issues nor there is no much concrete evidence that deconcentrated *actually* have less information than devolved institutions.

### **IV.5 Principal-agent models**

Earlier we saw that the relationship between the central and local governments can be seen in terms of a principal-agent model whenever the arrangement takes the form of delegation. Delegation arrangements are quite common and encompass the systems where the central government sets guidelines for and finances some policies while it is up to local governments to use the funds to implement the policies within the set guidelines. Because the agenda of the local government (the agent) might not coincide with that of the central government (the principal), it is often argued that, *ceteris paribus*, the central government might be better off implementing policy itself than going through the intermediation of the local administration. Nonetheless, this argument misses the intrinsic complexity of governmental institutions and compares policy implementation under centralization and delegation with the implicit assumption that the central government acts as a monolithic agent. A fairer and more informative comparison would be one that compares policy implementation under delegation and under deconcentration. A

principal-agent relationship is there in both arrangements – either between central government and its territorial offices or between the central government and local governments. What differs is the fact that in the first case the principal agent relationship operates within a bureaucratic setting while in the second case it operates between two elected bodies. This is a topic that is worth researching more in depth.

The twist of principal-agent models is that principal and agent pursue different objectives and the principal should try to set up monetary rewards to ensure that the agent does what the principal wants (incentive compatibility constraint) and that the agent does not walk off of the agreement (individual rationality constraint). Applying this type of models to central-local government relationship is not trivial, because, the ultimate principal of the central government (the country's electorate) is the aggregation of the ultimate principals of local governments (the local electorates). We have seen that differences in income distribution between regions, relative power of interest groups in the regions and at the center, and the type of public good that is being considered deeply affect the wedge between the agendas of regional and central government. These different considerations can make the principal-agent framework more or less apt to capture the essence of the interplay between central and local governments.

Using straightforward principal-agent models to explain the relationship between central and local governments has been criticized on other grounds. For example, Jack (2000) suggest that many of the tasks that are object of contracts between central and local government might be difficult to describe, especially in the social sector. This would suggest that the recently developed tool of incomplete contracts can actually allow better insights in how central and local governments interact. In general, “the most useful question to ask is not what the optimal contract between the principal (central government) and agent (local authority) should be, but more basically who should the principal be? That is, is it better to have a central government bureaucrat, answerable to a central ministry, monitor the behavior of a service provider, or to have a local politician answerable to the local population perform this function?” (*ibidem*). This again brings us back to the issue of how accountability operates in practice, issue that we have claimed to be crucial to many other angles of the centralization/decentralization debate.

## **V. Designing Decentralization**

The profusion of theoretical arguments for and against decentralization of functions to lower levels of government suggests that the optimal level of decentralization differs across types of public goods. The arguments reviewed also highlight that, in the choice of the most appropriate level of decentralization, institutional design should take into consideration a number of different aspects, including (i) the objectives being pursued by the central as well as the local governments; (ii) the potential for inter-regional inequity; (iii) the institutional capacity of the level of government to which the task is assigned; (iv) the incentive faced by each level of government in the interaction with each other and in relation to the relevant constituency.

In what follows, we will investigate what is, if any, the consensus in the literature on how responsibilities and decisionmaking power should be distributed over different levels of government.

## V. 1 Raising revenues

Ideally, assignment of taxes across levels of government should respect economic and administrative efficiency. Economies of scale in administrative costs and problems with the mobility of the tax base suggest that tax on mobile factors such as corporate and personal income tax, VAT, and trade taxation should be made competence of central government. Taxes on immobile factors (real estate and land), on vehicles, and user charges should instead be domain of local governments.<sup>5</sup> Economic efficiency would also dictate that each government finances its own expenditure with its own taxes, so that a link between cost and benefit of public expenditure is preserved. Moreover, a direct correspondence between taxpayers and beneficiaries can help constituencies to fully internalize the costs of their choices and therefore avoid free-riding problems. For example, local constituencies that pay only a small fraction of the cost of a public good might be tempted to overspend.

An obvious trade-off between these objectives arises, as the taxes that are more suitable for local taxation (property, etc.) only rarely generate revenues sufficient to grant financial autonomy to localities. Furthermore, if the fiscal capacity of local governments is limited to their ability to raise revenues locally, strong inter-regional inequality in fiscal capacity and in the ability of providing public service are likely to ensue.

The accepted practice is to have local governments collect own revenues through property taxes and supplement those revenues through (i) a system of intergovernmental transfers (see further); (ii) allowing local government to levy a broadly based tax, best if in the form of a flat rate surcharge on the income tax, to be collected by the central government (to minimize administrative costs) (see Litvak et al. 1999); (iii) allowing local governments to borrow from capital markets (see further).

Local authorities also recur often to user charges to recover costs.<sup>6</sup> User fees are also believed to reduce excess demand for services and to improve service quality as customers tend to demand better and more tailored services when they pay for them directly. Nonetheless, levying user charges may have negative repercussions for equity and universal access. The considerations are particularly important for the social sector. Therefore, it is usually argued that primary and secondary education should be free as well as primary health care, although some costs recovery might be justified for drugs and hospitals; also users should contribute for the recurrent (but not for capital) cost of water (Klugman 1994).

User fees also raise though important efficiency issues. For example, if there are significant externalities linked to the provision of a service (i.e. externalities associated with immunization), the user fee should be lower than the marginal cost and the remainder should be financed from general revenues.

---

<sup>5</sup> It has been argued that, to the extent that local governments are responsible for provision of the bulk of education, health and social assistance services, local governments should probably tax their constituencies more than efficiency warrants, as the benefits from accountability might outweigh efficiency losses (Litvak et al. 1999).

<sup>6</sup> User fees account for around 1/3 of all locally raised revenues in 25 developing countries surveyed by the World Bank in 1988 (Klugman 1994).



## V.2 Expenditure assignment

When evaluating how the provision of a public good or service should be carried out, it is important to keep in mind the distinction between related but distinct issues: who should decide about the quantity or the level of the service provided, who should pay for it, and who should deliver it.

The desirable arrangements with respect to who decides, who pays and who delivers the goods are very specific to each good. In assigning the responsibility for who should decide on the amount of the good to provide, the evaluation of externalities; spillovers; economies of scale; inter-regional equity and in general geographical span of the benefit associated with the public good should be of guidance.

Oates' (1972) analysis suggests that decisionmaking should occur at the lowest level of government capable of internalizing economic externalities (the principle of economic federalism or subsidiarity). Therefore, public services with geographically dispersed benefits and significant externalities should be provided by the central government. The decision of who should pay for the good is an essential element in order to ensure that correct incentives are in place. For example, to the extent that localities have decision power on whether and how much of a good to provide, but do not bear the related cost, regions might engage in overspending. Vice versa, if decisions for the provision of public goods with inter-regional spillovers are left to localities without an appropriate system of interregional transfers, regions might under-invest and choose to provide less of the good than socially desirable.

Arrangements for the delivery of the good/service vary greatly. It is often the case that implementation is carried out by a different level of government than that which is paying and deciding for the provision. If the two do not coincide, it is important that roles are clearly defined and that an appropriate monitoring system is in place. In this context, local governments might choose to deliver public goods themselves or contract out delivery to private providers.

The aforementioned principles imply that such government activities as defense spending, diplomacy, basic research, stabilization and redistribution policies should be of central government's competence.

National defense, diplomacy, and basic research are activities with benefits that extend to the whole population of a country and entail strong economies of scale.

The recommendation that subnational government should not take an active part in trying to stabilize the economy is based on the observation that in some federalist countries constitutional limitations exist on the size of subnational government deficits (this is the case of some states in the US) or, if these limitations, do not exist, subnational deficits and/or subnational borrowing can achieve the opposite effect and bring about macroeconomic destabilization (see further).

There is also consensus on the fact that central government should finance and decide on redistribution policies. Redistribution implies that resources are reallocated from relatively richer individuals/households (who are taxed) to relatively poorer individuals/households (who receive cash or in-kind benefits) so as to result in as equitable a distribution of resources across the population as it is politically acceptable within the country. The collection of taxation for redistribution purposes should be decided in a national ballot as well as applied uniformly on the whole country territory. If voting over the extent of redistribution (the tax rate) were left to regional ballots, different regions would be likely to vote for different tax rates (depending on their

preferences for redistribution and on the distribution of income within each region – see example in section IV. 2). If some regions are on average poorer than others and redistribution is carried over regionally/locally, fewer resources will be available to address issues of poverty exactly in those regions that are more in need. In this case, even achieving minimum standards in terms of equity could be problematic. More importantly, if different tax rates are to such a mobile tax base as personal income (the candidate tax base for redistribution purposes) competition among regions to attract tax base might lead to a collapse of revenues and to the impossibility of addressing redistribution issues (Buchanan and Wagner 1971 and Tresch 1981).

It is also widely agreed that “classic local public expenditure” such as urban planning, local transportation, sewage systems, refuse collection and water supply should be exclusive domain of local administrations. Since these public services are likely to generate limited spillovers and are subject to congestion, small communities are more likely to produce them efficiently.

For other type of expenditure, mainly in the social sectors, sharing of responsibility, financing, and decisionmaking across the different levels of government is very common, and arrangements differ widely across different type of service provision.

### V.3 Intergovernmental transfers

Intergovernmental transfers are an important source of revenues for sub-national governments. The economic literature has found a number of rationales for the use of inter-governmental transfers:<sup>7</sup>

- Transfers are used to address *vertical imbalances*. Very often, the central government retains a substantial share of a country’s revenue base, thereby leaving the local governments insufficient resources to provide for their expenditure responsibilities. Transfers are then used to fill this gap.
- Transfers can be used to reduce *horizontal imbalances*. They might be directed at equalizing fiscal capacities – often the result of an unequal distribution of resources and income across regions –, at guaranteeing a minimum standard of public service across subnational units, and at cushioning asymmetric regional shocks (Le Houerou and Rutkowski 1996).
- Finally, transfers can address the *inter-regional spillover effects* that some local public policies entail. Examples are pollution, highways, higher education. To the extent that localities are not the only beneficiaries of these activities, they might not internalize the benefits and therefore invest in them less than socially optimal.

It is generally agreed that a well designed transfers system should (i) grant sufficient revenues to sub-national governments; (ii) provide support that varies directly with local needs and inversely with fiscal capacity; (iii) guarantee transparency and stability. In particular, transfers should be based on a simple and publicized rule so as to avoid political manipulation and also should be stable for at least 3-5 years to allow long-term budget

---

<sup>7</sup> See Ma (1997) for an extensive discussion of the role of inter-governmental transfers.

planning from the localities. Periodical renegotiation can guarantee the necessary flexibility (Ma, 1997, Wetzel and Dunn 1998).

Most importantly, transfers should be set trying to trade-off the objective of inter-regional equalization and the need to control moral hazard on the part of receiving administrations. If moral hazard were not a constraint, fully compensating deficits of poor localities would be in principle an optimal strategy for a central government aiming at reducing inter-regional inequalities. Nonetheless, in a world where asymmetric information prevails, this strategy would provide local governments with distorted incentives. Localities could overspend or spend public resources on items with high political visibility while relying on central government's grants to support spending on low visibility but structurally necessary items such as education, health, etc. Because of the risk of a soft budget constraint, transfers should be engineered more to reflect structural regional features that are directly correlated with poverty in localities (such as for example, the percent of rural households, age and demographic composition of the population, etc.) than to compensate the consequences of local politicians' decisions.

In practice, transfers can be of two types:

- **conditional** (categorical). With conditional grants, central governments specify the purpose for which the money should be spent. Conditional grants are often used to compensate for inter-regional spillover and in general to finance activities that represent important priorities for the central government but might not be on top of the priority list for local governments. Categorical grants might require that the recipient matches the amount of transfers to some degree (matching grants). This mechanism is supposed to ensure some degree of ownership for the project on the side of the local government. At the same time, matching grants tend to discriminate towards those local governments that can mobilize the necessary resources to match the central government spending, thereby partially contradicting the principle that transfers should vary inversely with fiscal capacity. As usual, a trade-off emerges. Matching grants can be closed-ended, if the central government specifies a ceiling to its contribution, or open-ended, where the burden for the central donor depends ultimately on the willingness to participate financially to the project of the local government. Non-matching categorical grants are simply fixed-sum transfers to be spent on a specified activity.
- **general**. General grants are transfers of resources without any restriction on the use of funds. These grants usually serve equalization purposes and can take the form of revenue sharing (as in many Eastern European countries), of direct transfers from the central government (as in Canada, the United Kingdom, Australia, etc.), or of transfers from regions/state with income above the national average to regions with income below average (this is the case of the interstate equalization payments in Germany). Usually general grants allocation is based on formulas accounting for the gap between the average fiscal capacities, expenditure needs, and structural characteristics and those of the specific localities. General grants entail a high degree of budget flexibility and are therefore preferable on efficiency grounds.

#### V.4 Sub-national borrowing

Local governments might want to resort to borrowing to cover their revenue-expenditure gap. Taxation smoothing theory suggests that borrowing might be an efficient way to finance lumpy capital expenditure since these projects usually entail large outlays concentrated over relatively short periods of time and long-lasting benefits. It therefore makes sense that they are paid for as they are used – especially if they are revenues earning.

Sub-national governments can in principle borrow from a number of sources: (i) the central government; (ii) through a public financial intermediary; (iii) or directly on the capital market.

Although borrowing from the central government can provide local governments with long term finance, this lending can be subject to political interference and ultimately to destabilizing instances of soft budget constraints. In theory, access to capital market can instead improve political accountability insofar as pricing or credit rationing in financial markets reflects the credibility of sub-national governments.

Sub-national borrowing has been implemented successfully in many countries (in France since 1990, in Italy, etc.). Nonetheless, the recent crisis of subnational borrowing in Brazil and Argentina and the municipal bankruptcies in the United States in the 1970s and 1980s have proven that decentralized borrowing is not without dangers, as it can create strong pressure for expensive bailouts from the central government and, as a consequence, lead to macroeconomic destabilization. Moreover, local government bankruptcies might jeopardize the delivery of basic social services over long periods of time.

Because of this, there is consensus in the literature that sub-national borrowing on capital markets - particularly in countries with weak institutions – should be encouraged only if a strong regulatory framework is in place.

Regulatory measures should mainly be geared at

(i) *improving transparency*. To this purpose, sub-national governments are encouraged to develop standardized accounting procedures to account in a transparent way for actual liabilities and repayment capacities and to set explicit bankruptcy procedures (examples are the financial control boards in the United States, Amhad, 1999);

(ii) *reducing moral hazard*. The perception that the central government might act as a rescuer of last resort if local governments go bankrupt might lead local governments to undertake more exposure than optimal. Even implicit access to central government resources can create destabilizing mechanisms. One example is the local government crisis in Argentina, where provincial government deficits had been partly financed by provincial banks. When some of the banks went bankrupt, the central government stepped in to rescue them, thereby providing provincial governments with an implicit financing. This would suggest that financial and fiscal sectors should be kept separate. Other mechanisms can also help curbing moral hazard and improve access to capital markets. For example, local governments should have access to an economically meaningful own tax base that can be used as collateral; borrowing might be subject to caps; or local governments might be prevented from borrowing against current

expenditure by balanced budget requirements. In general, it is also recommended that borrowing modalities are monitored quite closely (Ahmad 1999).

## VI. Decentralization across countries: patterns and determinants

Figures 4 and 5 plot two straightforward measures of fiscal decentralization: the average share of local and state expenditure over total (central, state and local) expenditure (DECEXP) over the years 1975-1990 and the average share of local and state revenue over total (central, state and local) revenue (DECREV).<sup>8</sup>

As it is apparent from the graphs, the degree of fiscal decentralization varies greatly across countries. Decentralization in expenditure ranges from virtually complete centralization in Gambia to more than 50% of expenditure being carried out by regions in Canada.

The high correlation between the two indicators (correlation coefficient of 0.93), suggests that the attribution of expenditure responsibility is approximately in line with fiscal capacity. Nonetheless, even from these simple averages, a few cases of mismatch are apparent. For example, in Italy during the 70s and 80s, 21% of expenditure was carried out by local authorities (“*regioni*” e “*province*”) while they had command on only 7% of total revenues. This divergence has been often cited as a serious flaw in institutional design – *regioni* had the incentive to overspend given that the bulk of the cost was covered by transfers from the central government.

Over the years 1975-1990, the extent of expenditure decentralization has been the highest in OECD countries (with an average of 29% of total outlays attributed to regional and local governments), followed by Latin America and South East Asia (where DECEXP is around 12%) and by Sub Saharan Africa, where only 8% of expenditure is decentralized. These measures provide us with an interesting first cut at the extent of decentralization across countries, but we should keep in mind that they are only imperfect measures of the actual degree of decentralization. In particular, they do not give any information about the degree to which sub-national governments have autonomy in setting tax rates, defining tax bases, or introducing new taxes. Similarly, they do not give indication on whether local governments have any actual discretionary power on spending decision or, instead, expenditure is mandated from above while still appearing in the budgets of the local entities (this is for example the case with many Eastern European countries).

A few studies have analyzed the issues of decentralization from a *positive* perspective (as opposed to the *normative* arguments that we reviewed in section II) and performed regression analysis, mainly across countries, to identify which correlations might explain the actual degree of decentralization in different countries.

Oates (1972) was the first to analyze econometrically the determinants of decentralization in a cross section of 58 countries.<sup>9</sup> The author explores a number of hypotheses and finds that the degree of decentralization in a country is positively associated with (i) population; (ii) level of income; (iii) “sectionalism” understood as the extent to which people in geographical subareas of a country identify “self-consciously

---

<sup>8</sup> The underlying data for these calculations come from the International Monetary Fund's *Government Finance Statistics* (GFS).

<sup>9</sup> Oates measures the degree of decentralization as the share of local and state outlays over total using data from the World Tables.

and distinctively with that area”; (iv) the existence of a federal statute. He also finds that dummy variables indicating whether a country is homogenous religiously and ethnically could not explain the degree of decentralization at any standard level of significance.

The result of Oates’ econometric estimates are overall not surprising. We would expect larger countries to be more likely to decentralize public service, possibly to address diseconomies due to the excessive scale of their programs. Moreover, as the population grows larger, it becomes efficient for decentralized jurisdictions, because of their own individual significant size, to provide a wide range of public service. The population in larger countries might also have more diverse tastes on the type of public good and this also would suggest that decentralization might be a good solution. The positive correlation between decentralization and income level suggest, according to Oates, that federalism might be a luxury good and that only affluent countries might be able to afford it.

It is instead quite surprising that the indicator variable for ethnically diversified countries did not appear to be significant in the regression. We might expect that in countries where demand for public goods is more likely to be diverse, more autonomy would be attributed to sub-national authorities so as to better cater to local/group preferences and address potential demand for secession from minority groups. In a recent work, Panizza (1999) addresses again this question. Using a more sophisticated measure of ethnic heterogeneity, he finds that decentralization is correlated with ethnic fragmentation.<sup>10</sup> He also confirms Oates’ (1972) findings of a robust correlation between country size and income per capita, and decentralization. Moreover, he finds that democratic countries tend to be more decentralized than countries with authoritarian regimes.

Although these studies are informative about some important regularities of the extent decentralization around the world, they suffer from a strong data limitations. Data on decentralized revenues and expenditure from GFS are available only for a limited number of countries. More importantly, as noted above, these data do not necessarily correspond to the actual degree of discretionary power of central and local authorities. Finally, no sectoral split is available. Compiling a comprehensive dataset that combines extensive quantitative information on revenues and expenditure across different levels of government and for different sectors with qualitative information on the degree of fiscal autonomy would contribute significantly to our understanding of these issues.

---

<sup>10</sup> Panizza (1999) uses the index linguistic ethnic fractionalization compiled by Hudson and Taylor in 1972 as a measure for ethnic diversity within a country. He points out though that his result is mainly driven by the presence of Yugoslavia in the sample.

## **Intergovernmental relationship in OECD countries**

OECD countries have the highest average degree of decentralization – measured by the share of lower-tier government outlays (revenues) over the total of government outlays (revenues) – in the world.<sup>1</sup> Nonetheless, a closer look reveals that decentralization arrangements differ greatly across these countries.<sup>2</sup> When looking at institutional arrangements prevalent in OECD countries, we can distinguish between

- **federal countries**, such as the United States, Australia, Canada, Mexico, Germany, Austria, where the existence and autonomy of states, territories, provinces, and Länders is usually directly recognized and protected by the constitution. Switzerland is an atypical federal system where the confederation is an emanation of the cantons. Similar to the Helvetic confederation is the case of Belgium, where the autonomy of language based communities is far-reaching, since they can promulgate rules with the same legal weight as federal ones.
- **unitary countries**. Among these are countries influenced by the British tradition (such as United Kingdom, Ireland, and New Zealand), “Napoleonic-style” countries (such as France, Greece, Luxembourg, the Netherlands, Portugal, and Turkey) that have inherited the concept of unity and indivisibility of the state from the French model, and Nordic countries (Sweden, Norway, Iceland, and Finland), characterized by substantial freedom of action of local governments and by a tradition of strong citizens’ participation.
- and **countries with strong regions**, such as Spain and Italy. These countries have evolved from centralism to regionalism quite recently (the introduction of the system of regions in Italy dates back to the early 70s) and their constitutions define the status and responsibilities of the regions.

---

<sup>1</sup>As we saw that decentralization seems to be more frequent in richer countries, this finding shouldn’t be surprising.

<sup>2</sup> See OECD (1997) for a detailed analysis of decentralization modes in OECD countries.

Figure 4. Local and State Expenditure as a % of Total Government Expenditure

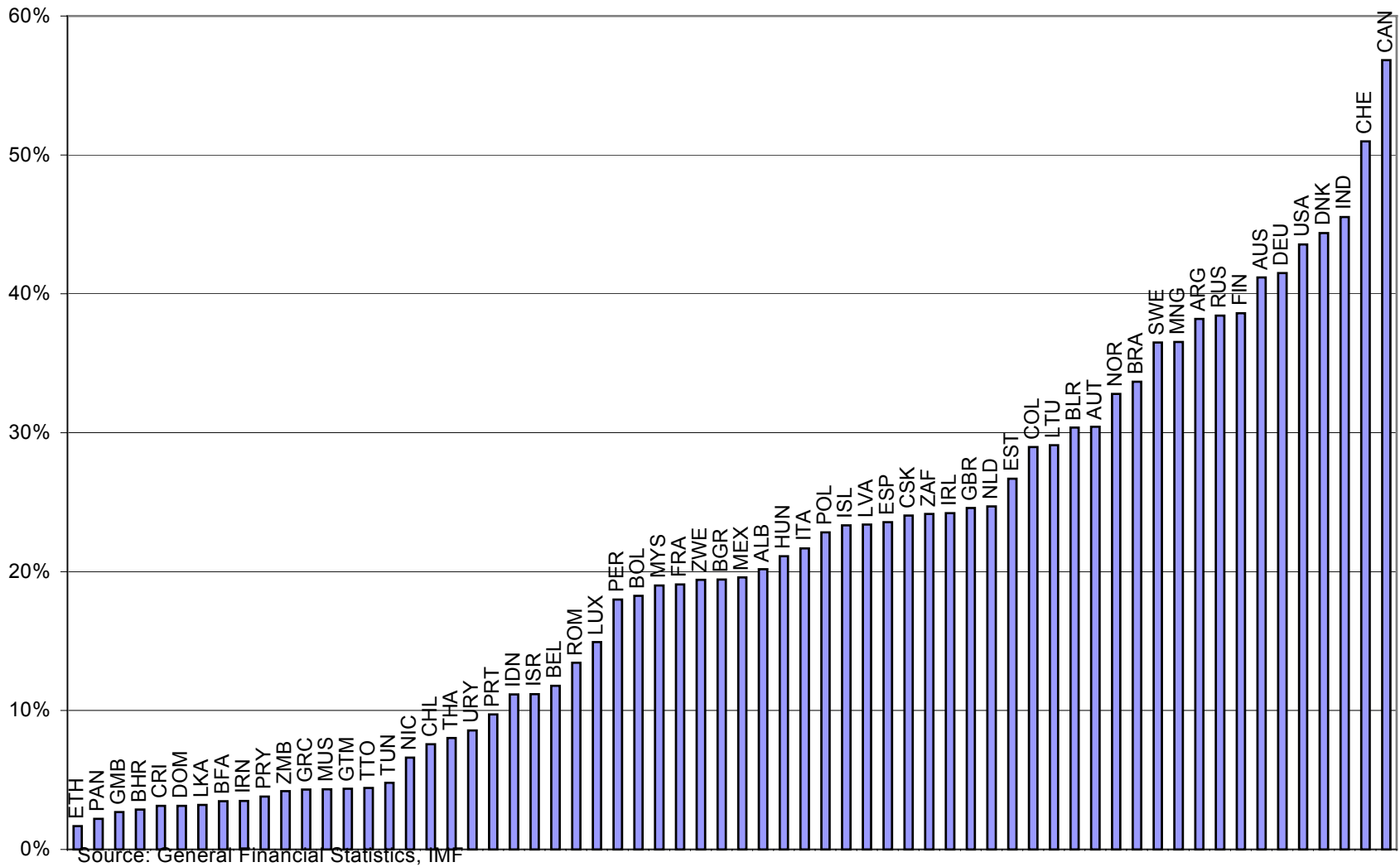
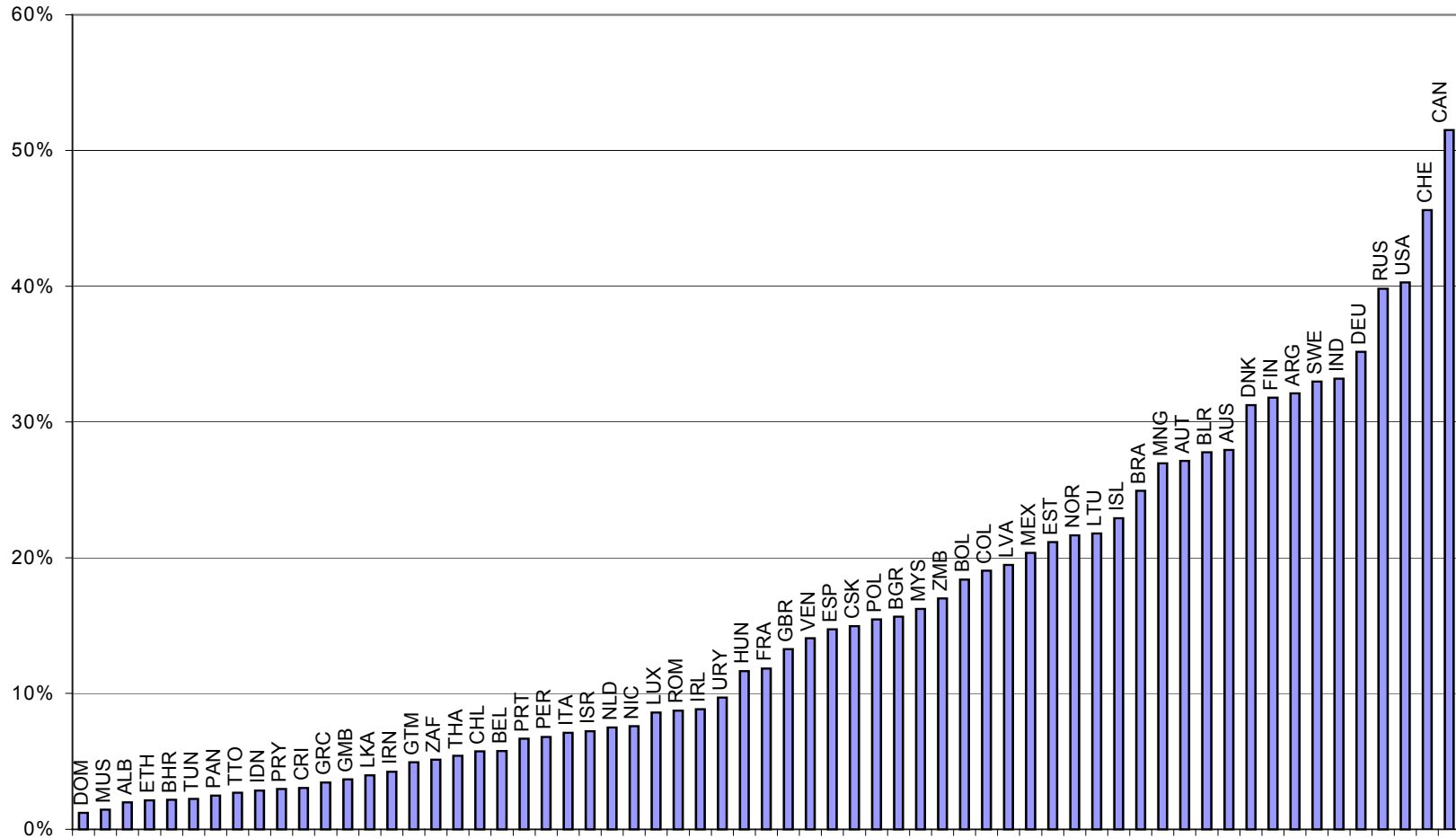




Figure 5. Local and State Revenues as a % of Total Government Revenues



Source: General Financial Statistics, IMF

## **VII. Decentralization and social service delivery: the case of education**

The following sections will bring the decentralization/centralization debate down to the concrete case of delivery of education services. In parallel with the rest of the text, we will review the theoretical arguments for and against decentralization that are specific to the delivery of education services and the different forms that decentralization can take. We will also discuss the areas of consensus in the literature regarding what is the optimal design of decision making across different level of government and for the many tasks that delivery of education services entail. Finally, while drawing from concrete country experiences, we will discuss what might have driven decentralization in many countries around the world and, in particular, in OECD countries.

### **VII.1 Decentralizing Education: what the theory says**

Not surprisingly perhaps, we find that in the literature the debate about centralization and decentralization of education revolves mainly around the efficiency/equity trade-off.

If for a moment we approach this debate strictly from the financial perspective, we should look for an answer to the following two questions: Which design of school finance guarantees that individuals and families invest in schooling to a socially optimal level? Moreover, which mechanism can ensure that everyone, regardless of his/her background or income, is in a position to achieve this optimal investment?

The first question addresses the issue of allocative efficiency. A system is in line with allocative efficiency if it provides individuals and institutions the incentives to achieve the socially optimal amount of education. In this context, optimality means that each individual obtains (i) as much education as it will benefit that person, or (ii) that individuals might get even more education than it is privately beneficial if public benefits (for example human capital spillovers) are attached to the investment in education. Technical efficiency is getting that amount of education at the least cost (see Hoxby 1996).

The second question addresses the issue of equity.

Public intervention in the provision of education services addressed a number of important problems. The impossibility for a child to borrow against her future earnings or for parents to do so in her behalf (i.e. the presence of liquidity constraints) would create serious challenges on both efficiency and equity grounds in the absence of public funding for education. Children's schooling years coincide with the time in life when parents' earnings and accumulation are relatively low. Without substantial government funding, parents who are unable to borrow from the formal market or from an extended family would be forced to spread their children's schooling over many years. This would strongly reduce the value of education for the child and give rise to clear inefficiencies. Moreover, poor parents would be much less likely to be able to afford to invest in their children's schooling.

Secondly, public intervention in the provision of education might also be justified by the fact that the presence of human capital spillovers might drive a wedge between

private and social benefits of education. School finance should create the incentives for people to internalize spillovers and invest in the right amount of schooling.<sup>11</sup>

The question then becomes which financing mechanism is able to strike the best balance between allocative efficiency and equity without compromising technical efficiency.

In this context, the advantages and limitations of local finance of education have been object of much attention, particularly in the context of the US system where schools are in part financed out of property tax revenues collected within the district or regional unit.

A number of authors (Hamilton, 1976, Bruekner, 1979, Hoxby, 1996) pointed out that with a local property-based school finance system the Tiebout's mechanism is at work and because of this high levels of allocative efficiency can be achieved even under public provision of education. Loosely speaking, this is because differences in the quality of schools across districts are capitalized in house prices. Then, when deciding where to locate, people sort themselves according to their demand for education and willingness (and ability – on this more further) to pay for it via the house price. In this way, marginal benefits and the marginal costs of education are linked and allocative efficiency is respected. More importantly, this mechanism of public financing relaxes liquidity constraints. Property taxation redistributes across households in different stages of the life cycle – from households with higher accumulated wealth and whose children might already be past schooling age to “younger” households with lower accumulated wealth but children in schooling age, and thus high demand for schooling. In this process, older households will still want to support the quality of local schooling since this is capitalized into the value of their property.

One can therefore argue that property tax-based local finance of schooling has found a way to link marginal benefits to marginal cost of schooling, thereby guaranteeing an allocative efficient provision of the service, even if the provision is public.

Hoxby (1995) argues that property-based local financing can also address important issues in technical efficiency. The provision of education can be characterized as a principal-agent relationship where teachers are the agents and parents are the principals. Writing contracts between parents and teachers is difficult, because families cannot verify many important factors contributing to students' performance, such as teachers' effort, students' ability, and quality of teaching. In these conditions, local finance – through the capitalization of changes in the school quality/cost ratio in the property value – can provide direct budget rewards/penalties to producers of services for their performance. For example, if the quality/cost ratio of the local school improves, property value will increase and this will reflect, almost in an automatic way, in a higher tax base for property tax and in more resources available for the school.

Finally, it has been argued that local finance might, at least in principle, fare not so badly in addressing the issue of human capital spillovers, as long as households sort themselves out *à la* Tiebout according to their demand for spillovers.

The main limitation associated with local finance is that it creates or perpetuates strong inequalities in the access to education. In particular, poor families with high demand for education will not be able to afford expensive houses and will be kept out of

---

<sup>11</sup> Hoxby (1996) suggests that spillovers might be small compared to the private benefit of schooling. Moreover, there exist market incentives that induce people to internalize some forms of human capital spillovers. Examples include cases where employers bid up salary of educated employees if their presence has positive spillovers on other workers' productivity.

good schooling districts. Ensuring equality of opportunity is one of the strongest arguments usually mentioned in the literature in favor of a higher degree of centralized funding, especially when income inequality is high (Burki et al. 1999).

Nonetheless, addressing equity issues by increasing the share of central funding can break the marginal benefit-marginal cost link that is so crucial for efficiency. Hoxby (1996) suggests that accompanying local finance with so-called “foundation” aid – amounting to a redistribution from rich to poor districts that guarantees a per-pupil spending floor – goes a long way in ensuring uniformity in minimum standards without compromising efficiency. Moreover, categorical aid for low-income students, i.e. means-tested aid financed out of income tax, could address the issue of access to good quality schooling on a case-by-case basis without upsetting marginal incentives, which, again, depend on property tax revenue.

These mechanisms (in particular means-tested categorical aid) might be theoretically superior to centralized funding but might also be very costly to implement. In other words, they might be appropriate solutions for a rich country such as the US, but cumbersome administrative options for poorer countries. In general, there is a broad consensus that grants should be based on the capitation method where financing is distributed on a per-pupil basis within the jurisdiction (as opposed to an input basis). By doing so, the central government can avoid costly overspending in those regions that are able to overstate their need for financing through lobbying activities and political connections.

Obviously, financing is only one of the aspects of the decentralization/centralization debate. Another important issue is what is known as “functional decentralization”, that refers on how decision making is distributed across the different levels of government. Important issues such as curricula, personnel management, and decision over infrastructure can be (and have been) decided upon by local or central governments around the world. In this field the contribution of the theoretical literature is limited as the pro and cons of attributing to the local or the central government specific decision power are better understood in a practical and country-by-country context. In paragraph VI.4 we will discuss how decision making power has been distributed across levels of government in different countries and what is, if any, the consensus in the literature on the subject. Since OECD countries often represent an important point of reference for many developing countries, we will briefly review their standard practices in the distribution of decision power across levels of government.

### **VII. 3 Why did some countries decentralize the provision of education and how did decentralization performed?**

From an historical perspective, education systems across the world can be traced to two different tradition – the French system, centralized and shared by Prussia, the Netherlands, and the socialist states; and the Anglo-Saxon decentralized system that developed in Britain and, subsequently, in the US (Cummings et al. 1992). Notwithstanding this historical dichotomy, decentralization of education expenditure and responsibilities has recently emerged as a truly global phenomenon.

Case studies of decentralization reform around the world cite a variety of underlying objectives for this trend, highlighting the desire to bring education services closer to people’s preferences; to improve access and participation; to decrease costs and, in

general, to improve efficiency; and to decrease bureaucratization and thus foster democracy (Winkler 1989, Fiske 1996).

Decentralization took different forms in different countries, partly as a consequence of the diverse motivation driving the reform. Decentralization of education always involves a transfer of powers from higher to lower levels of government, but differs as to which decisionmaking powers are transferred and which level of government receives those powers. Moreover arrangements differ also according to the level of education involved. For example, vocational training and higher education tend to be *delegated* to autonomous organizations (public corporations and regional development agencies). These agencies, such as for example SENA, an autonomous training agency in Colombia, manage and deliver vocational training and are attributed revenues often in the form of earmarked payroll taxes (Winkler 1989). Similarly, universities are autonomous bodies carrying out higher education under a delegation agreement.

Often instead decisionmaking is deconcentrated. An example of *deconcentration* is the organization of regional directorates. Deconcentration has been a common form of decentralization in many countries of Latin America (Peru, Colombia, Chile) and of Eastern Europe.

The creation of autonomous and independent subnational units with the authority to raise revenues and spend resources characterizes what is known as *devolution* of powers. Devolution has occurred in a number of countries. For example, in 1950 India's constitution devolved education to state governments. Following 1992, primary and secondary education has been further devolved and assigned to the *panchayati raj* – locally elected bodies that operate according to a three-tier structure at the district, intermediate and local level.

Some of the recent reforms were focused instead on *school autonomy* and shifted management responsibility and resources directly to schools. This type of reform has been undertaken recently in many diverse settings, such as Colombia, El Salvador, Nicaragua, Brazil, and New Zealand (see box).

While devolution of education to local governments have almost always been undertaken in the context of more general decentralization of government activities, reforms resulting in more school autonomy have often been undertaken in response to concern for poor school performance and with the hope that bringing decisionmaking closer to actual producers would improve efficiency and effectiveness of instruction (Burki et al. 1999 and King, et al. 1999). Usually, following these reforms, schools' management, allocation of resources, election of the school principal and sometimes even decisions on curricula are taken by a board or council consisting of elected teachers, parents, and students. In a way, one could think of school autonomy as bringing the school under the management of an elected body (the board) that is even closer to those who benefit from the school activities (students and parents) than the municipality council.

Evaluating the impact of individual decentralization reforms – let alone comparing the performance of different types of reform (devolution versus school autonomy) – is a very difficult task. Time series of data on outcomes (students' performance, years of schooling) are seldom available. Moreover, outcomes respond to policy changes very slowly. More importantly, disentangling the actual cause for change in outcomes is a very complex process. Not only might external shocks confuse the impact of reforms, but also, and more importantly, very few reforms are designed to mimic randomized experiments.

In general, it is believed that school-based reforms are more likely to succeed than reforms where the district administration is the focal point for changes. In these analyses, political factors have often proven to be crucial to a good development of a decentralization reform. In particular, the lack of political consensus around decentralization has often been a major obstacle to an effective reform. Fiske (1996) cites the cases of Venezuela in the early 1970s, Colombia, and Mexico where reforms were carried out in a top-down fashion without eliciting the support of civil society or trade unions and where the lack of broad consensus has been an important determinant of failure of the reforms.

#### **VII.4 Who decides for what?**

The provision of education entails a number of different functions: school organization, curriculum development, examinations and supervision, teacher recruitment and compensation, school construction and finance, and finally finance of recurrent expenditures. Although the design of education systems is highly country specific, some consensus is emerging in the literature on which level of government should be assigned which specific task.

Mainly because of concern for equity of opportunity and for the belief that central governments might be better equipped and/or more willing to address problematic issues in poor or marginal regions, school organization (the establishment of minimum schooling requirements, the right of children to education, etc.) is usually undertaken by the central government. Exceptions are some federalist countries (such as the United States) where decisions about setting and monitoring standards are delegated to states or provinces.

For similar reasons, curricula tend to be designed by experts under the supervision of the Ministry of Education. In some cases though (such as for example Nigeria) local governments are given some freedom to adapt the curricula to the specificity of their region or language. This usually happens in countries characterized by strong ethnic heterogeneity. On the other hand, a school curriculum uniform across the whole country might provide a minimum common cultural basis to people belonging to different ethnicities. Cameroon provides an example in this direction – the country is one of the most ethnically and linguistically diverse in the world but the school curriculum (which follows the French model) is identical in all regions.

It is usually believed that some form of nation-wide student evaluation should exist and centralized intervention is very common across the world – Chile, Mexico, Nicaragua, Romania have nationally set exams. Centralization is also extreme in many former British colonies (for example in Jamaica) where exams are designed and graded in the UK.

A very important functional area is that of school supervision. This translates basically in who has the power over appointing the chief administrative officer of a school or of a group of schools. Typical of school-based decentralization reforms is to attribute the power to hire and fire the school director to the school or school board itself. This is believed to increase the accountability of the director towards her immediate constituency.

Hiring and firing of teachers has traditionally been the realm of central government – in most countries, teachers are central government civil servants and their conditions of employment are determined centrally. Collective bargaining for salary has also been

traditionally carried out at the central government level in many countries. As a matter of fact, teachers trade unions have often resisted reforms that would have placed them under regional or district jurisdiction because such reforms would have diluted their power in wage bargaining. This led some countries to simply keep bargaining at the central level even if other aspects of the education system were decentralized (for example in the state of Minas Gerais in Brazil). In general, this suggests that consulting trade unions to create consensus around decentralization is an important step towards a successful reform.

## **VII.5 Who decides and pays for what in OECD countries?**

OECD countries are often seen as a point of reference from which developing countries often draw lessons for policymaking.

Sources of education financing and *loci* of decisionmaking vary widely across OECD countries (see OECD 1998).

For what concerns financing sources, a clear divide emerges between tertiary on one side and primary and secondary education on the other.

Tertiary education is overwhelmingly financed by the central government. In 1995, in 20 out of 27 OECD countries more than 85% of expenditure for universities is provided by the central government. A handful of federal countries (Germany, Belgium, the US, Switzerland, and Canada) together with Spain are the exception to this regularity, with more than 50% of tertiary education expenditure funded by regional governments. Local communities do not in general have an important role in financing tertiary education.

For primary and secondary education, financing patterns are more diversified.

Regional government is the main source of funding in most federal governments (Flemish Belgium, Australia, Germany, Canada) and in countries where regional governments are strong such as Japan and Spain. In two other federal countries, Switzerland and the US, regional and local governments share almost equally the responsibility for more than 90% of the funding. In Denmark, the UK, and Norway, local governments are the main source of funds. Central government is responsible for most of primary and secondary education funding in the remaining countries. Table 3 details the percentages of funds coming from different levels of government in primary and secondary education.

Most decisions are taken at the central level of government in Turkey, Greece, Portugal. In federal countries or in countries with strong regional governments, such as Germany and Flemish Belgium and Spain, regional authorities are the locus for most decisionmaking. Local authorities deal with the bulk of decisionmaking in the US, Finland, Scotland, Norway, and French-speaking Belgium. Finally, schools are decision center for most decisions in the Netherlands, Sweden, England, New Zealand (see box). The remaining countries have a somewhat balanced division of powers across the different nodes of decision. Table 4 highlights how these decisionmaking powers are distributed across different functional areas, such as personnel management, organization of instruction (textbooks, teaching methods)

On average, over the 21 OECD countries for which data are available, 55% of funds for primary and secondary education derive from the central budget and only 25% of decision are taken at the central level. If we look at the correlation between the percentage of decisions taken at the central level and the percentage of expenditure funded at the central level, we find this correlation to be quite low (0.23). This suggests not only that fewer decisions are taken at the central level than expenditure is financed,

but that countries where the central government contributes more in relative terms to supporting education are not necessarily those where the central government has retained the higher decision power.

#### **Decentralization of education around the world: lessons from case studies<sup>‡</sup>**

The education reform in **Spain** in the early 80s was mainly driven by the need to confront the existence of strongly diverse cultural and historical regional identities within the country. The reform resulted in a school based management system where local schools are run by elected school councils of parents, teachers, and students. Councils have the power to elect school directors, while the central ministry retains control over hiring and firing of teachers. Funding is provided through block grants transferred from the central government to regional bodies. The results of the reform are believed to be mixed: although overall funding increased and, in general, schooling has improved, the council-based school management was not very effective in providing incentives to teachers, mostly because it did not have control on salary level. From the political point of view, though, the reform was perceived as a success, since it crossed party barriers and help consolidating a newly established democracy.

The reform in the Brazilian state of **Minas Gerais** in the early nineties was instead mainly driven by the desire to improve the widespread poor quality of education. The reform resulted in granting strong autonomy to schools. Now schools receive grants on enrollment basis and elected boards consisting of parents, students, and teachers, decide democratically how to allocate the budget. The board also elects the principal and decides on other important functions such as curricula and calendar. The reform clearly improved transparency in decisionmaking and at the same time managed not to upset important equilibria (for example it did not affect centralized bargaining between teacher union and the government) and therefore enjoyed good support across the whole political spectrum. As for the impact on outcomes (students' performance), the reform is very recent and still might have not produced all its effect, but early results appear encouraging (Fiske 1997).

A particularly well crafted decentralization reform is the one initiated in the late 1980s in **New Zealand**, mainly as a reaction to a perceived overcentralization of the education apparatus. The reform implied a substantial decentralization of decision making (the intermediation of the regional administration was eliminated, and responsibility for budget allocation and employment were shifted directly to the school level) while financing was still provided by the central government on a capitation basis (most likely to ensure that disadvantaged groups such as the Maori population could be ensured access to education).

**Zimbabwe** provides an example of an unsuccessful attempt at decentralizing education provision. In the early eighties, responsibility for primary education was shared between the central government and local communities. The central government designed curricula, conducted examination, was responsible for training and paying teachers, and provided funding through a per-pupil grant. Local communities (in general councils or even NGOs) would be responsible for the construction and management of schools. They would also receive grants to pay for teachers salaries and general administration. This partnership between the central government and local communities did not fulfill expectations, as teachers salaries were not paid regularly, the central government grants were diverted from education to other expenses and the central government found out that often it was paying for "phantom" teachers.

<sup>‡</sup> Fiske (1997) provides a quick review of many decentralization reforms around the world.



## VIII. Conclusions

According to Tiebout's and Oates's seminal contributions, countries should opt for higher or lower degrees of decentralization of the provision of specific public goods according to the spatial characteristics or the good themselves. In particular, local provision should be advocated for goods with benefits that accrue to the constituencies of citizens who ultimately pay for them. When public goods generate important inter-jurisdictional spillovers, the provision should instead be centralized, so that the externalities can be properly internalized.

Grounding the choice of decentralizing some functions only on the basis of the existence of externalities (or lack thereof) is quite restrictive and can be misleading. For example, centralization is not necessarily the best and only solution to correct externality problems. Local provision accompanied by a carefully designed system of intergovernmental transfers can mimic the centralization outcome and produce socially optimal investments for public goods with significant spillovers.

Borrowing from the theory of the firm and the political economy literature, the recent literature has stressed the importance of issues such as incentives, institutional capacity, and politics when thinking of intergovernmental relationship design. In this context the issue of accountability of local governments has emerged as a crucial ingredient to successful decentralizations.

There is little solid empirical evidence to help us discriminate among the many theories of decentralization. This is due not only to the lack of disaggregated public finance data per level of government, but also to the very nature of the decentralization phenomenon. The degree of decentralization of governmental activities is highly influenced by historical heritage and political choices. This makes discerning the impact of decentralization on economic outcomes (such as efficiency) very difficult.

We have seen that decentralization varies greatly around the world. Richer, larger, and, to some extent, more ethnically diverse countries delegate on average larger shares of government activities to lower government tiers.

In recent years, many countries have undertaken wide-scale decentralization reforms. This trend has been typical also of the delivery of education services, the case that we have analyzed in more detail. Decentralization reforms of education systems have been motivated by a wide array of reasons, including trying to improve the quality of education, reducing costs, and bringing education closer to citizens' preferences.

Reforms have resulted in very diverse systems. Whenever the reform of the school was part of wider-scale decentralization effort, decisionmaking and responsibilities tended to be moved to local administration. The decentralization reforms that were instead initiated with the specific objective of improving the school system have more often resulted in greater school autonomy, for example with school boards entrusted with decisions over allocation of resources and personnel management. This type of reform is believed to have brought about better results. Nonetheless, only recently education reforms have been subject to careful empirical scrutiny. Better data and systematic evaluation of reforms are needed to confirm whether decentralization has actually improved efficiency and students' performance.

**Table 3. Initial sources of public education funds and final purchasers of educational resources by level of government for primary and secondary education (1995)**

	Initial funds (before transfers between levels of government)				Final Funds (after transfers between levels of government)			
	Central	Region	Local	Total	Central	Region	Local	Total
Australia	27	73		100	19	81		100
Austria	37	41	22	100	37	41	23	100
Belgium (French)		96	4	100		95	5	100
Canada	3	63	34	100	3	11	87	100
Czech Republic	82		18	100	82		18	100
Denmark	29	12	59	100	33	12	55	100
Finland	49		51	100	13		87	100
France	72	11	16	100	71	13	16	100
Germany	3	74	24	100	2	68	30	100
Greece	100			100	97	3		100
Hungary	56		44	100	6		94	100
Iceland				100				100
Ireland	100		17	100	81		19	100
Italy	81	3		100	81	3	17	100
Japan	24	76		100		80	19	100
Korea	95	5		100		100		100
Luxembourg					72		28	
Mexico	80	20		100	36	64		100
Netherlands	94		6	100	75		25	100
New Zealand	100			100	100			100
Norway	43		59	100	17		85	100
Poland	91		9	100	64		36	100
Portugal								
Spain	45	49	6	100	45	49	6	100
Sweden				100				100
Switzerland	4	52	44	100	1	57	42	100
Turkey	100			100	100			100
United Kingdom	20		80	100	16		84	100
United States	8	49	43	100	1	1	98	100
<b>Mean</b>	<b>54</b>	<b>26</b>	<b>22</b>	<b>100</b>	<b>78</b>	<b>18</b>	<b>4</b>	<b>100</b>

Source: OECD (1998).

**Table 4. Percentage of decisions taken at each level of government in public lower secondary education (1998)\***

	Central	State	Provincial/ Regional	Sub- Regional	Local	School
Austria	35	18			22	25
Belgium (French)		10	2	61		26
Czech Republic	17			21	10	52
Denmark	26				43	31
Finland					64	36
France	32		11	27		29
Germany	4	28	15		16	37
Greece	56		22			23
Hungary					35	65
Ireland	47					53
Italy	39		25		3	33
Korea	37		31	7		25
Netherlands	24				3	73
New Zealand	34					66
Norway	35				55	9
Portugal	69		7			24
Spain	3	46	10			41
Sweden	13				22	66
Turkey	94					6
UK (England)	20				18	62
UK (Scotland)	9				51	40
United States				2	69	29

Source: OECD (1998).

\*Secondary lower education is considered representative for primary and secondary education.

Source: OECD (1998).

**Table 5. Percentage of decisions taken at each level of government in public lower secondary education, by domain, in OECD countries (1998)**

	Organization of instruction						Personnel Management						Planning and structure						Resources						
	* C	S	P/r	S-r	L	Sc.	C	S	P/r	S-r	L	Sc	C	S	P/r	S-r	L	Sc	C	S	P/r	S-r	L	Sc	
Austria	17					83	58	25			17		67	17				17					29		71
Belgium (French Community)		13		13		75		15	8	77						86		14				13		71	17
Czech Republic	14					86	4			29		67	45				20	35	4				55	22	19
Denmark					25	75	42				33	25	64				28	7						83	17
Finland						100					83	17					71	29							100
France	13			13		75	67		25		8	50		7	43						13	54			33
Germany		13				88	17	37	15		10	21		50	29			21		13	17			54	17
Greece	38					63	100						43		29			29	42			58			
Hungary						100				33	67						40	60						67	33
Ireland						100	42					58	71					29	75						25
Italy	13					88	83		17				43		29			29	17			54		13	17
Korea	13			13		75	50		42		8	86				14						83			17
Netherlands						100	21				79	36						64	38					13	50
New Zealand	19					81	17				83	60						40	42						58
Norway	25				38	38	44			56			71				29								100
Portugal	25					75	91		5		5	100							58			25			17
Spain	13					88		86			14			42	17			42		56	22				22
Sweden					13	88	8			25	67	42					25	33						25	75
Turkey	75					25	100						100						100						
UK (England)						100					100	79					14	7						58	42
UK (Scotland)					25	75	17				71	13	20				40	40						67	33
United States					31	69				8	83	8					95	5						67	33

Blanks indicate that the level of government does not have primary responsibility for the types of decisions covered in this domain. Source: OECD Education Database.

\* C =Central; S=State; P/r =Provincial/regional; S-r =Sub-Regional; L =Local; Sc. =School . Source: OECD (1998)

## References

- Ahmad, Junaid (1999). "Decentralizing borrowing powers," PREM Thematic Notes, The World Bank.
- Alesina, Alberto and Enrico Spolaore (1997). "On the Number and Size of Nations," *Quarterly Journal of Economics*, vol. CXII, no.4.
- Bardhan, Pranab and Dilip Mookherjee (1998). "Expenditure Decentralization and the Delivery of Public Services in Developing Countries," Department of Economics, University of California, Berkeley, mimeo.
- Besley, Timothy and Stephen Coate (1999). "Centralized versus Decentralized Provision of Local Public Goods: A Political Economy Analysis," *NBER Working Paper* no. 7084.
- Breton A. and Scott A. (1978). *The Economic Constitution of Federal States*, University of Toronto Press.
- Brueckner, Jan (1999). "Fiscal Decentralization in LDCs: The Effects of Local Corruption and Tax Evasion," Department of Economics, University of Illinois at Urbana-Champaign, mimeo.
- (1979). "Property Value, Local Public Expenditure, and Economic Efficiency," *Journal of Public Economics*, vol. 11, no.2.
- Burki, Shaid Javed, Guillermo Perry, and William Dillinger (1999). "Beyond the Center: Decentralizing the State," *World Bank Latin American and Caribbean Studies*.
- Cremer, Jacques, Antonio Estache, and Paul Seabright (1994). "The Decentralization of Public Services," *World Bank Policy Research Working Paper* no.1345.
- Cummings William, Abby Riddel with Felisa Tibbitts (1992). "Alternative Policies for the Finance, Control, and Delivery of Basic Education," *Development Discussion Paper*, Harvard Institute of International Development.
- Fiske, Edward (1996). *Decentralization of Education: Politics and Consensus*, Directions in Development, The World Bank.
- Fisman, Ray and Gatti Roberta (2000). "Decentralization and Corruption: Evidence Across Countries," World Bank Policy Research Working Paper, no. 2290, forthcoming in *Journal of Public Economics*.
- Hamilton, Bruce (1976). "Capitalization of Intrajurisdictional Differences in Local Tax Levels," *American Economics Review*, vol. 66, no.5.

- Hoxby, Caroline Minter (1996). "Are Efficiency and Equity in School Finance Substitutes or Complements?," *Journal of Economic Perspectives*, vol. 10, no.4.
- (1995). "Is there an Equity-Efficiency Trade-off in School Finance? Tiebout and a Theory of the Local Public Goods Producer," *NBER Working Paper*, no. 5265.
- Huther, Jeff and Anwar Shah (1998). "Applying a Simple Measure of Good Governance to the Debate on Fiscal Decentralization," *Policy Research Working Paper*, no. 1894, The World Bank.
- International Monetary Fund. *Government Finance Statistics*, various years.
- Jack, William (2000). "Decentralization of Service Provision in the Health Sector: An Incomplete Contracts Approach," Manuscript, The World Bank.
- King, Elizabeth, Berk Ozler and Laura Rawlings (1999). "Nicaragua's School Autonomy Reform: Fact or Fiction?," *Working Paper Series on Impact Evaluation of Education Reforms*, no.19, The World Bank.
- Klugman, Jeni (1994) "Decentralization: A Survey of the Literature from a Human Development Perspective," Occasional Paper 13, UNDP.
- Le Houerou, Philippe and Michal Rutkowski (1996). "Federal Transfers in Russia: Their Impact on Regional Revenues and Incomes," *Comparative Economic Studies*, vol. 38, no.2/3.
- Litvack, Jennie (1994). "Regional Demands and Fiscal Federalism," in Christine wallich. ed. *Russia and the Challenge of Fiscal Federalism*, World Bank.
- , Junai Ahmand and Richard Bird (1999) "Rethinking Decentralization in Developing Countries," The World Bank Sectoral Studies Series.
- Ma, Jun (1997). "Intergovernmental fiscal Transfer: A Comparison of Nine Countries," *Policy Research Working Paper* 1822, The World Bank.
- Meltzer, Alan and Scott Richard (1981). "A Rational Theory of the Size of Government," *Journal of Political Economy*, vol. 89, no.5.
- Oates, Wallace (1972). *Fiscal Federalism*, Harcourt Brace Jovanovich, Inc.
- OECD (1998). *Education at a Glance, OECD Indicators*.
- (1997). *Managaing across Levels of Government. Part One: Overview*.
- Palomba, Geremia (1999). Decentralization in Economic Theory, Manuscript, The World Bank.

- Panizza, Ugo (1998). "Decentralization as a Mechanism to Prevent secession," *Economic Notes*, vol. 27, no.2.
- Panizza, Ugo (1999). "On the Determinants of Fiscal Centralization: Theory and Evidence," *Journal of Public Economics*, vol. 74.
- Putnam, Robert (1993). *Making Democracy Work*, Princeton University Press.
- Roberts, Kevin (1977). "Voting over Tax Schedules," *Journal of Public Economics*, vol. 8.
- Rondinelli, Dennis (1981) "Government Decentralization in Comparative Perspective. Theory and Practice in Developing Countries," *International Review of Administrative Science* no.47.
- Shah, Anwar (1998). "Balance, Accountability, and Responsiveness: Lessons about Decentralization," *Policy Research Working Paper* no. 2021, The World Bank.
- Tanzi, Vito (1995). "Fiscal Federalism and Efficiency: A Review of Some Efficiency and Macroeconomic Aspects," in M. Bruno and B. Pleskovic, eds., *Annual World Bank Conference on Development Economics*. Washington, D.C.: World Bank.
- Tiebout, Charles (1956). "A Pure Theory of Local Expenditures," *Journal of Political Economy*, vol. 64, pp. 416-24.
- Wade, Robert (1997). "How Infrastructure Agencies Motivate Staff: Canal Irrigation in India and the Republic of Korea," in *Infrastructure Strategies in East Asia*, Ashoka Mody, ed., World Bank.
- Wetzel Deborah and Jonathan Dunn (1998). "Decentralization in the ECA Region: Progress and Prospects," World Bank.
- Winkler, Donald (1989). "Decentralization in Education: An Economic Perspective," *Policy, Planning, and Research Working Papers*, The World Bank.