IMF Publication

Macro Policy Lessons for a Sound Design of Fiscal Decentralization

INTERNATIONAL MONETARY FUND

INTERNATIONAL MONETARY FUND

Macro Policy Lessons for a Sound Design of Fiscal Decentralization

Prepared by the Fiscal Affairs Department

Approved by Carlo Cottarelli

July 2009

Contents | Page

Boxes

EXECUTIVE SUMMARY

Fiscal decentralization has been, and remains high on the policy agenda of many countries. It is mainly driven by political pressures, which tend to be especially evident in countries with multiple ethnicities, and/or wide regional disparities in incomes or resource endowments. More generally, decentralization pressures frequently reflect a desire for more participatory government and greater voice of local constituents in the allocation of budgetary resources. Regardless of its motivation, fiscal decentralization can have important macroeconomic implications. Therefore, Fund advice to member countries (whether in the context of surveillance, program design, or technical assistance) has often focused on the design and implementation of intergovernmental fiscal arrangements. This paper distills the main lessons from the Fund's engagement with member countries in this area, drawing in particular, (but not exclusively) on technical assistance (TA) provided by the Fiscal Affairs Department (FAD) to ten countries which are broadly representative of the range of members that have requested assistance in this area.

The design of intergovernmental fiscal arrangements is one of the more complex areas of public finance, since it spans a number of policy and institution-building issues, requiring careful coordination and sequencing, and it is strongly influenced by historical, political, and social, as well as economic, factors. Accordingly, the Fund has recognized that there is no single "right" model in this area, and has strived to tailor its advice to each country's specific circumstances, taking into account macroeconomic constraints; the need to strike a balance between efficiency and distributional considerations; and the need to reflect relevant institutional factors. Nevertheless, despite differences, some general lessons can be drawn from the range of experiences in this area. These can be briefly summarized as follows.

- The sequencing of decentralization matters, as resources should be made available to subnational governments *pari passu* with the assignment of spending responsibilities.

- At the same time, the pace of decentralization should be as much as possible linked to the capacity of subnational governments to carry out effectively the functions assigned to them. This implies that increased devolution of expenditure functions should be conditioned on compliance by the subnational governments with a minimum set of public financial management (PFM) requirements; and could proceed at different speed as capacity varies across subnational governments (asymmetric arrangements).

- In order to facilitate the enforcement of effective budget constraints on subnational governments, the latter should be provided with an overall envelope of resources (own revenue and transfers) that *ex ante* would allow them to carry out their assigned spending responsibilities at an average level of efficiency.

- Control over a portion of own resources is key to promoting accountability of subnational governments to their constituents, as well as fiscal responsibility. The assignment of own revenue sources to subnational governments must take into account economic considerations (such as the degree of mobility of the tax base) as well as institutional ones (in particular the capacity of subnational tax administrations).

- As subnational own resources typically fall well short of spending responsibilities, intergovernmental transfers (including revenue-sharing) are needed to offset the resulting vertical imbalances. They should be carefully designed with a view to minimizing subnational governments' fiscal vulnerability to cyclical fluctuations. Intergovernmental transfers are also used to moderate horizontal imbalances within each government level. This is best achieved through a system of equalization transfers taking into account as best as possible—given relevant data availability—relative taxing capacities and spending needs of the subnational governments.

- Subnational borrowing controls need to be carefully designed to ensure adequate fiscal discipline. Sole reliance on market discipline is not advisable in many countries, as they do not meet the stringent conditions for its effectiveness. A combination of reasonably flexible rules with market discipline can work better, provided timely and adequately reliable information is available on subnational finances (including contingent liabilities).

The effectiveness of Fund advice in the fiscal decentralization area has varied significantly across countries and over time. This has reflected first and foremost the degree of political commitment of national authorities to the recommended reforms. As decentralization continues to advance worldwide, the Fund will need to remain engaged in the provision of advice on the more macroeconomically relevant aspects of the process. It should also continue to cooperate with other multilateral and bilateral providers of assistance in this area.

I. INTRODUCTION[1]

1. **Decentralization pressures have become more evident over the years**. Decentralization is commonly understood as the transfer of authority and responsibility for public functions from the central government to subnational entities. Typically a political phenomenon, decentralization frequently, but not necessarily, takes on a “fiscal” dimension (hence the term “fiscal decentralization”) when changes in a country’s system of intergovernmental fiscal relations take place.[2]

2. **Changes in the assignment of spending responsibilities and their financing (taxes, transfers, or borrowing) across government levels can have important macroeconomic implications**. It is from this perspective—namely, that fiscal decentralization can significantly affect macroeconomic management, and more specifically governments’ budgetary balances and debt positions—that the Fund has provided policy advice to member countries undertaking reforms in this area.[3]

3. **This paper presents an overview of advice provided by the Fund, and in particular FAD, to member countries on intergovernmental fiscal relations**. This advice, which has been provided in the context of surveillance, Use of Fund Resources (UFR), and/or TA, has spanned the gamut of issues involved in such relations (expenditure and revenue assignments; design of intergovernmental transfers; systems of PFM and revenue administration at the subnational level; subnational borrowing, and so on). FAD has also contributed to the academic debate on these issues through its analytical work.[4]

4. **Overall, the Fund’s advice has been tailored to countries’ specific circumstances**. Recognizing the largely political nature of a country’s decentralization agenda, FAD has not taken an a priori position in favor or against it; and has focused its advice on the appropriate sequencing and design of decentralization, with a view to minimizing risks to

---

[1] This paper has been prepared by Annalisa Fedelino (FAD) and Teresa Ter-Minassian (former FAD Director) based on earlier contributions from Ehtisham Ahmad (former FAD staff).

[2] This paper does not make a distinction between different forms of government (unitary versus federal), and uses the term “subnational governments” for the levels of government below the central/federal government (states in a federation, and/or other jurisdictions in unitary/federal countries).

[3] This paper looks at “downward” decentralization, that is, the arrangements between a sovereign/national state and its lower level of governments. As political and economic processes and activities are becoming global and require global action (Tanzi, 2008, and Bordignon, 2006), there are increasing examples of upward devolution of powers, raising issues of coordination, monitoring, and control of behavior of member countries. The European Union, in its enlargement and the establishment of a monetary union, is one such example.

[4] The main examples are the IMF volume on “Fiscal Federalism in Theory and Practice” (Ter-Minassian (ed.), 1997); the proceedings of a 2000 International Conference on Managing Fiscal Decentralization (Ahmad and Tanzi, 2002); and the “Handbook on Fiscal Federalism” (Ahmad and Brosio, 2007).

macroeconomic stability and debt sustainability, while safeguarding the provision of public services. This paper seeks to distill some key lessons from advice on various aspects of intergovernmental fiscal relations, based particularly (but not exclusively) on FAD's engagement with ten countries in this area.[5]

5. **The paper is structured as follows**. Section II reviews some key issues in intergovernmental fiscal relations, based on a brief review of the relevant literature. Section III focuses on the main building blocks of such relations: defining spending assignments and strengthening their management; and designing financing mechanisms, namely revenue assignments, transfers, and borrowing arrangements. These building blocks need to be coherently structured and managed, so that subnational governments face a credible "hard budget constraint" and respond to incentives to behave in a fiscally responsible manner. The main lessons and future challenges for the Fund's role in the fiscal decentralization policy debate are outlined in Section IV.

II. Fiscal Decentralization: Key Issues

A. A Brief Literature Review

6. Fiscal decentralization involves a redefinition of the roles and responsibilities of the various government levels in the conduct of fiscal policy. Traditional theories of public finance provide a normative framework for assigning the three government functions—stabilization, redistribution, and resource allocation—across government levels.[6] While the center should be assigned the first two (Table 1 reviews briefly the main rationale), there is scope to improve allocation in the public sector through decentralization. The basic tenet of these theories is that governments/politicians behave like benevolent welfare maximizers; and when preferences differ, there may be welfare gains through diversification of local public outputs.[7] This is for two reasons: first, local politicians know better than the central government consumers' preferences in their jurisdictions and therefore can better align the provision of local outputs to those preferences (allocative efficiency);[8] and second, consumers can move to jurisdictions where their preferences are better satisfied (the

[5] These countries are Bolivia, People's Republic of China, Colombia, Democratic Republic of Congo, Indonesia, Kosovo, Liberia, F.Y.R. Macedonia, Mexico, and Nigeria. For more information, see "Macro Policy Lessons for a Sound Design of Fiscal Decentralization: Background Studies."

[6] Musgrave (1959), Tiebout (1956), and Oates (1972). Oates (2005) provides a summary of these theories, also called "First Generation Theories" of fiscal decentralization.

[7] Local public outputs are goods and services whose consumption patterns are less than national in scope.

[8] Oates (2005) notes that even in cases where the central government is not affected by an asymmetry of information vis-à-vis subnationals, a diversified provision of public services by the center may not be politically sustainable, as the center cannot be seen as favoring some jurisdictions versus others. This would still justify a decentralized provision of (some) public services.

Table 1. The Policy Rationale for Fiscal Decentralization

Objectives of fiscal policy	**Rationale in favor of centralized government**	**Rationale in favor of decentralized government**
Stabilization (stability considerations)	• Stabilization policies could be undermined if a large share of taxes/spending is undertaken by subnational governments; or policies across government levels differ. • Centralizing stabilization policies: – allows better/easier policy coordination – exploits scale economies (access to larger tax base and better borrowing conditions) – provide risk-sharing opportunities	None
Redistribution (equity considerations)	• In a decentralized framework, there may be insufficient federal/central funds for proper equalization to mitigate interregional inequalities. • If redistributive policies are decentralized, adverse selection may arise (net contributors move to low-tax/transfers areas, and net beneficiaries concentrate in high-tax/transfers areas).	• Better targeting of decentralized social services
Allocation (efficiency considerations)	Decentralizing allocative functions may be detrimental when: • Preferences are fairly homogenous and basic, so the "informational advantage" argument may not apply. • Externalities arise (subnationals do not take into account the effects on their decisions on other jurisdictions, leading to inefficiencies). • Excessive competition among local jurisdictions becomes damaging. • Corruption may prevail when decision making is removed from center (elite capture).	• Local jurisdictions enjoy an informational advantage: politicians know consumers'/voters' preferences better, leading to optimal resource allocation (allocative efficiency). • Decentralization improves efficiency of public service delivery (productive efficiency), as local politicians respond to incentives to perform better (more accountability and less corruption) and compete to attract mobile labor and capital.

Source: Based on Ter-Minassian (1997); and Shah (2008).

Tiebout's argument of "voting with one's feet"). Therefore, subnational governments face competitive pressures to attract consumers of their outputs, resulting in a more efficient (and possibly more innovative) provision of public services (productive efficiency).[9] These issues are further developed in Section II.B.

7. **In practice, normative considerations seldom drive the assignment of functions**. Experiences with fiscal decentralization lend little support to the welfare maximizing predictions of these theories. In fact, fiscal decentralization is largely driven by political motives, also reflecting historical and cultural legacies; and fiscal decentralization has also shown a "dark side" in countries where subnational fiscal policies have played a large role in

[9] Even without the mobility assumption, subnational governments may engage in "yardstick competition" as citizens observe what neighboring jurisdictions offer and demand comparable treatment from their politicians (Besley and Case, 1995).

macroeconomic disruptions and debt crises—as for example in some Latin American countries during the 1980s. Fiscal decentralization can also enhance opportunities for corruption and abuse (Brennan and Buchanan, 1980, Prud'homme, 1995, and Tanzi, 1996). The realization of the potential dangers of decentralization has called into question the relevance of traditional *normative* models, and has given way to a *positive* strand of literature, which attempts to understand the political and institutional conditions under which greater fiscal decentralization may enhance or undermine efficiency, when politicians behave as self-interested individuals with their own objective functions.[10]

8. **Two main sources of distortions may hinder the effectiveness of fiscal decentralization**. First, local policymakers fail to internalize fully the cost of local spending when they can finance their marginal expenditure with central transfers or shared revenue that are funded by taxpayers in other jurisdictions (that is, the marginal benefits of additional spending exceed their marginal costs). This "common pool" problem often results in overspending and deficit bias. Second, local politicians may expect the central government to bail them out in case of need, thus undermining their incentives to behave in a fiscally responsible manner. This "soft budget constraint" problem arises when the central government cannot credibly commit to enforcing budget constraints for subnational governments that are consistent over time. A crucial issue is how to design and manage policies and institutions to mitigate the distortions created by the common pool and soft budget constraints problems. This issue will be covered in more detail in the following sections.

B. Macrofiscal Implications of Decentralization

9. **Empirical evidence on the impact of fiscal decentralization on macroeconomic performance is mixed**. Empirical studies seeking to quantify the relationship between measures of fiscal decentralization and macroeconomic variables, such as growth and inflation, have yielded contradictory results. This is partly due to difficulties in compiling comparable measures of fiscal decentralization across countries, as available data suffer from a number of shortcomings (Box 1); and in controlling for the other possible factors (beyond decentralization) affecting macroeconomic performance. Last, but certainly not least, it is the design of intergovernmental fiscal relations, more than the degree of decentralization, that affects efficiency and growth, as well as macrostabilization.[11] As discussed in the previous section, decentralization can enhance or reduce efficiency, depending on the ability of

---

[10] These are also called "Second Generation Theories" of fiscal decentralization (Oates, 2005, and Weingast, 2008). Ahmad and Brosio (2007) provide an extensive review of political economy theories.

[11] Theoretical models in this literature seek to determine subnational budget shares that maximize output growth; for a comprehensive review, see Batbold et al. (forthcoming). Some scholars have posited that fiscal decentralization may actually be neutral in its impact. For example, Treisman (2003) presents a simple model implying that decentralization neither promotes nor inhibits growth, as any positive effect of decentralization on local governments will be offset by its negative effect on central government, and vice versa. One issue in these studies is related to identification problems, for example, the direction of causality is not clear.

Box 1. Measures of Fiscal Decentralization

Measures of fiscal decentralization abound in the literature. Empirical studies on various dimensions of fiscal decentralization use both quantitative (typically subnational shares in total spending and revenue as well as measures of reliance on transfers) and qualitative indicators (capturing aspects of the institutional and regulatory framework for subnational government finances). For example, the World Bank identifies 18 indicators of fiscal decentralization. However, despite the seeming abundance of indicators, "measuring decentralization is both difficult and controversial" (Treisman, 2003), due to a number of factors.

Data availability is relatively (sometimes severely) limited. The Government Finance Statistics (GFS) database remains the best source of internationally comparable data on fiscal variables by government level. It currently contains data for 152 countries, including local government data for 87 countries (Table). The database includes a statement of government operations and detailed tables on revenue, expenses, and transactions in assets and liabilities. However, general lack of standardized recording and reporting across government levels and even among jurisdictions at the same level hampers the collection of subnational fiscal statistics. Such a limited coverage can lead to sample selection bias: countries reporting GFS data are more likely to have well-developed subnational governments with better defined responsibilities, and may not be representative of the majority of decentralized countries.

Country Coverage of GFS Data

Total IMF members	185
Countries reporting GFS statistics	152
of which: with published central government data 1/	87
of which: with published data of all government levels 1/	60

Source: GFS database

1/ The exercise tallies countries with published data during the period 2002-06, with data for at least one year.

Available data tend to overestimate the true degree of decentralization. Usually no distinction is made between "autonomous" versus "mandated" revenue and spending. For example, a large amount of expenditure undertaken by subnationals under mandate from the central government would not necessarily indicate that subnational governments are decentralized, as they could merely operate as deconcentrated agents of the center. Similarly, subnational revenue would not adequately distinguish between "own-source" revenue (where subnationals have some degree of discretion over tax rates and tax bases) and "shared" revenue (with little or no subnational taxing autonomy). These are well-known limitations of GFS data.

Data are typically aggregated by government level, possibly masking important differences within levels. Aggregation in GFS data loses out information that could be useful in assessing differences and variation among subnational entities' fiscal operations and capacities.

Quantitative data also eschew important institutional dimensions. There is much more to fiscal decentralization than quantitative measures suggest. Qualitative information is also very relevant, although not always available. The World Bank and OECD (the latter under the Fiscal Federalism Network) have promoted efforts to collect such information, relating to the design and management of expenditure and revenue assignments, transfers and borrowing arrangements. Coverage of indicators remains limited (for example, information on revenue assignment is available for 31 countries, of which 20 are OECD countries).

Sources: GFS database; Ebel and Yilmaz (2002); and World Bank Fiscal Decentralization website (available at http://go.worldbank.org/6YJ412AQY0).

subnational governments to carry out effectively increased responsibilities. Similarly, decentralization can in certain circumstances affect negatively the conduct of short term-fiscal stabilization, or medium-term fiscal sustainability. This section discusses briefly interactions between various aspects of intergovernmental fiscal arrangements and macroeconomic management.

10. **When subnational governments hold the key to a large share of spending, the center is less able to conduct stabilization through fiscal policy**. In case fiscal adjustment is needed, the center has limited room to carry it out when it only controls a small share of spending. Many countries, for instance in Latin America, have experienced such difficulties. Even when the overall level of subnational spending is constrained by taxation and borrowing arrangements, a (budget neutral) shift in the composition of such spending can in principle affect aggregate demand in ways that counter the center's stabilization policies. This may happen, for example, when the share of subnational spending with relatively larger multiplier effects, increases. At the opposite side of the spectrum, central governments' efforts to inject stimulus in the economy may be partly offset by subnational procyclical fiscal retrenchment in downsides—as it has happened in a number of countries during the current financial crisis.

11. **Similarly, when a significant share of revenue is managed by subnational governments, the center may not have sufficient resources for stabilization and redistribution purposes; or even to carry out its own spending responsibilities.** A large pool of central resources provides risk-sharing opportunities; while a smaller size of central taxes inevitably limits insurance in the face of region-specific shocks. Central revenue may also prove insufficient to cover the center's spending responsibilities, especially for entitlement programs (such as health care and pensions) whose costs are set to increase due to population aging. This is happening for instance in some industrial countries which are facing rapidly rising aging-related spending needs, but in which existing revenue-sharing formulas do not take into account differential dynamics in spending responsibilities of the central and the subnational governments.

12. **In certain circumstances fiscal decentralization can contribute to a weakening of fiscal discipline**. The more decentralized spending and taxing decisions are, the more difficult it is for the central government to ensure compliance with fiscal targets for the general government as a whole, as its policy instruments, and its capacity to offset slippages at the subnational level, are more limited. The experience of European Union countries, where the Stability and Growth Pact requires compliance with fiscal targets for the general government, but central/federal governments are directly responsible for meeting them, is illustrative in this respect (Balassone and Franco, 2001; and Balassone et al., 2004).

13. **In such settings, nationally binding rules, and/or effective intergovernmental cooperation mechanisms, are needed to promote both short-term fiscal stabilization and**

medium-term fiscal sustainability. Some countries (e.g., Germany, Austria, Switzerland, and some Northern European countries) have used cooperative arrangements between the center and the subnational governments to formulate shared economic and fiscal objectives. In such cases, the incentive problem is addressed through moral suasion and peer pressures, and although forging an agreement may be complex and time-consuming, greater ownership and flexibility often result from this process. In other countries, fiscal rules for subnational governments are being used; for example, in some European countries, Domestic Stability Pacts—the subnational counterpart to the Growth and Stability Pact for central governments—are increasingly been applied (Italy, Belgium, Spain).[12] Fiscal rules offer the advantage of direct and immediate applicability; still, they may give rise to "creative" accounting and may not be politically sustainable if too rigid. Overall, fiscal rules may be a useful device to address coordination problems, but not necessarily to solve it. Box 2 reviews some issues on subnational fiscal rules.[13]

14. **Lack of fiscal discipline at the subnational level—and related excessive borrowing—may result in unsustainable debt levels**. This can happen either through direct bailouts from the central government, which are financed through debt accumulation, or through the creation of explicit or contingent liabilities at the subnational level that eventually add to government debt—as shown by the Latin American debt crises in the 1980s, and Argentina's crisis in the late 1990s. Subnational governments are generally less exposed to the financial repercussions of excessive public debt accumulation, such as higher expected inflation and interest rates, and therefore, again, may be less concerned about it.

15. **For these reasons, the focus of Fund conditionality has generally been placed on the general government fiscal balance.** The Fund has advised countries to seek mechanisms, appropriate to their political and legal environment, to promote adherence by the subnational governments to national fiscal objectives (e.g., through the enactment of national or subnational fiscal responsibility laws). In some cases, however, the lack of timely and reliable data on subnational fiscal outturns has made unavoidable the use of central government balances as quantitative conditionality in Fund-supported programs.

16. **There is also evidence that subnational fiscal policies tend to be procyclical**. There are various reasons for this (Wibbels and Rodden, 2006). First, subnationals may be heavily dependent on income-sensitive revenues. Second, the central government may play a

---

[12] The United States provides another example where fiscal rules are applied to the subnational (state) level, as virtually all states apply (some sort of) balanced budget rule. However, these rules have been self-imposed by the states, and not by the federal government. It could still be said that their credibility is enhanced by an effective no-bailout policy of the federal government.

[13] These issues are further explored in Section III.E, on mechanisms to control borrowing. In practice, solutions are not clear cut as described here, and eclectic approaches are applied; for example, fiscal rules may be formulated in a cooperative framework (Franco and Zotteri, 2008).

Box 2. Fiscal Rules for Subnational Governments

Fiscal rules at the subnational level act to modify the incentives faced by these governments. They offer a number of desirable features, such as transparency, reduction in the level of uncertainty in the economic environment by increasing the predictability of governments' behavior, and even-handedness in promoting fiscal responsibility; to be effective, it is critical that they be credible (that is, they do not set unrealistic targets) and be consistently enforced (to avoid expectations of bailouts from the central government).

Fiscal rules can be of a procedural or of a numerical nature. Procedural rules aim to enhance transparency, accountability, and fiscal management. They typically require the government to commit upfront to a monitorable fiscal policy strategy, usually for a multi-year period, and to routinely report and publish fiscal outcomes and strategy changes. New Zealand pioneered this approach, and applied procedural rules within a Fiscal Responsibility Law. Cross-country evidence suggests that, in countries with a weak record of policy implementation, procedural rules may work better than numerical rules. At the same time, the successful implementation of procedural rules requires modern budget systems and a high degree of fiscal transparency, and a substantial constituency for fiscal discipline and responsibility.

Numerical fiscal rules refer to specific quantitative targets. They are intended to impose permanent constraints on fiscal policy, typically defined in terms of an indicator of overall fiscal performance (such as the budget balance and/or the public debt). Examples of numerical rules abound at the central/general government level. For instance, in the European Union, ceilings are specified for deficit and debt ratios. The United States implemented an expenditure cap mechanism (Budget Enforcement Act) from 1991 to 2002. Canada resorted to both legislated spending caps (Federal Spending Control Act, 1991–96) and unlegislated policy rules.

Numerical rules can help contain a deficit or expenditure bias, and address time inconsistency problems. However, they also introduce policy inflexibility and may create incentives to resort to low-quality measures to meet numerical targets. For example, in some countries the application of numerical rules has led to creative accounting practices aimed at circumventing the rules, including reclassification of expenditures, accumulation of arrears, and the use of public entities off-budget to perform government operations. The existence of an effective public financial management system is a necessary condition for proper implementation of numerical fiscal rules.

Fiscal rules need to allow for flexibility over the cycle. A possible solution would be to define numerical fiscal rules in cyclically-adjusted terms, although it is computationally difficult to assess "local" cycles. In the United States, "rainy day" funds have been used to introduce flexibility in fiscal policy implementation, as part of the fiscal rules in almost all states. In combination with rules calling for balanced budgets (exclusive of accumulation, or drawdown of the funds) "rainy day" funds have provided a transparent mechanism to save during good times, and have proved useful in smoothing the impact of cyclical revenue fluctuations on state expenditures. Experience indicates that rainy day funds cannot be relied upon for prolonged fiscal crises, as confirmed by financial difficulties of the U.S. states in recent months.

Source: Ter-Minassian (2005), Balassone et al. (2007).

limited role in stabilizing subnational fiscal positions through transfers over the cycle.[14] In a normative world, a welfare-maximizing central government would strive to mitigate the procyclicality of subnational finances—as highlighted in Table 1, central/federal

---

[14] A vast empirical literature finds that asymmetric shocks on regional incomes are managed through the tax-transfer system providing insurance mechanisms (Canada and the United States, for example Bayoumi and Masson (1995); for Germany, von Hagen and Hepp (2001) find that the transfer system ensures against revenue shocks, not shocks to regional incomes. Thus, the transfer system acts as a mechanism for insuring state budgets rather than regional economies). However, this literature has focused on the management of shocks, not the conduct of fiscal policy over the cycle.

governments are typically better placed to conduct countercyclical policies, and withstand the impact of cyclical shocks, relative to subnational governments, given their broader access to resources (larger tax base and better borrowing conditions) and their "privileged" role in policy coordination. However, the central government may face little incentive to do so; in fact, opportunistic central governments have an incentive to push the costs of adjustment onto subnationals, by cutting transfers in downturns—thus exacerbating procyclicality—or shifting spending (the so called unfunded mandates).[15] Indeed, in most federations transfers are found to be procyclical, or at best a-cyclical.[16] Finally, lack of access to borrowing may add to procyclicality, when subnationals cannot smooth spending through access to credit in order to offset lower revenue during downturns (and have not accumulated buffers as insurance for "rainy days," as highlighted in Box 2).

17. **Thus, not only the degree of fiscal decentralization, but also its design matter for macroeconomic management**. The impact of subnational fiscal operations on fiscal discipline and procyclicality does not simply depend on the share of these operations in overall spending and revenue, but also on how they are financed. The discussion above has underlined the role that central transfers play in shaping incentives at the subnational level. This issue is very relevant, as in practically all countries, subnational spending shares are larger than revenue shares; thus, varying degrees of central transfers are required to cover the resulting *vertical fiscal gaps* (in Figure 1, all countries are located below the 45 degree). In addition, these gaps appear to have been increasing over time, further underlining the importance of establishing appropriate policies to deal with these issues (Figure 2).[17]

18. **The impact on fiscal discipline and the conduct of fiscal policy are the main macrofiscal issues confronting countries considering fiscal decentralization reforms.** When the roles and responsibilities of government levels are modified, what should be the appropriate expenditure and tax policies to ensure fiscal discipline and a hard budget constraint? How should the transfer system be designed to provide appropriate funding for subnational operations, while ensuring an adequate level of equalization without blunting incentives to pursue sound policies? What would be the supporting institutional mechanisms to ensure accountability for good results? Providing possible answers to these (and other related) questions has been at the heart of the Fund's work on fiscal decentralization, in its policy dialogue with member countries, as explored in the following sections.

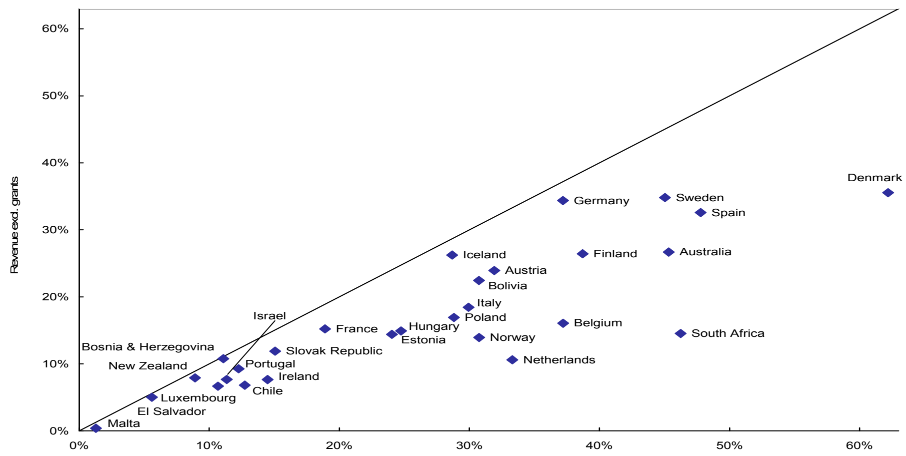
---

[15] Wibbels and Rodden suggest that an independent agency with an explicit countercyclical mandate would ensure that transfers are countercyclical. They also conclude that the trend toward increasing decentralization, especially in EMU countries, will complicate attempts to avoid procyclicality.

[16] Stehn and Fedelino (2009) find that vertical transfers in Germany are procyclical.

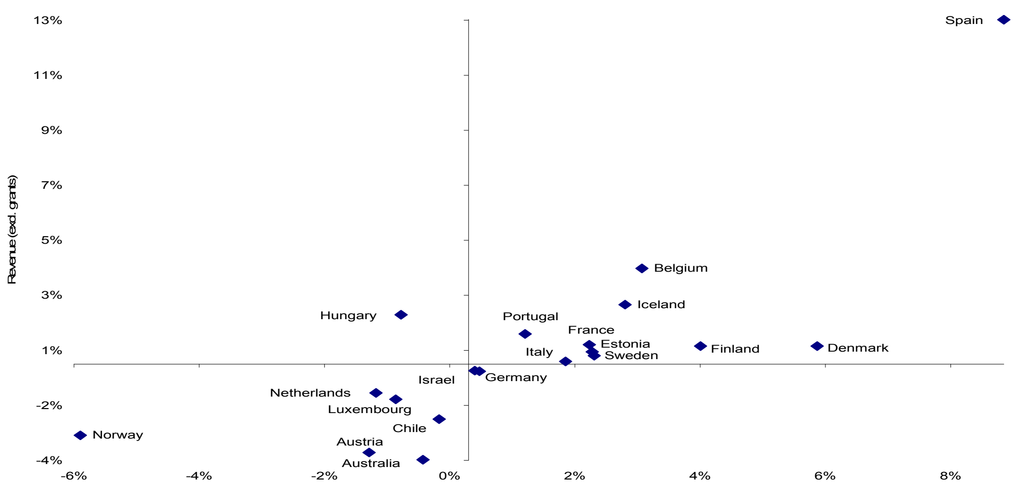
[17] Treisman (2004) finds a strong positive relationship between economic development (measured as increases in GNP per capita) and *expenditure* decentralization, while the relationship with revenue decentralization does not appear to be significant. This could further explain why vertical fiscal gaps tend to widen over time.

Figure 1. Shares of Subnational Revenues and Expenditures, 2006
(In percent of general government)



Source: GFS data.

Figure 2. Changes in Shares of Subnational Revenues and Expenditures, 2000 and 2006
(In percent of general government)



Source: GFS data.

III. The Fund's Advice on Designing and Managing Fiscal Decentralization

19. **A necessary, albeit not sufficient, condition for fiscal discipline is a broad ex ante matching of spending responsibilities with overall resources at each level of government**. Therefore, an appropriate sequencing of decentralization requires the devolution of spending responsibilities to subnational governments to be closely coordinated with the corresponding assignment of own-revenue sources and transfers from the center. This is the case for a number of reasons. First, the required level of subnational resources has

to be defined in relation to the aggregate estimate of subnational expenditure needs. Second, an appropriate mix of taxes and transfers can best be determined once expenditure responsibilities are defined. Finally, unless revenue assignments and transfers are adequately clarified, it is difficult to impose effectively a hard budget constraint on subnational governments.

20. **However, political, and sometimes economic, pressures frequently prevent such an orderly process**. Devolution of resources has often proceeded unmatched by a corresponding reassignment of spending responsibilities. This was the experience of Colombia in the 1990s, Indonesia in 2000, and Nigeria in the recent oil-boom years; currently, it may be happening in the Democratic Republic of Congo (DRC) and Kosovo, as these countries move toward decentralization. In such cases, while in an initial phase, administrative weaknesses may limit the subnational governments' capacity to spend the devolved resources (as it happened initially in Indonesia), over time the increased revenue availability tends to promote additional (and frequently inefficient) spending. As a result, emerging deficits at the central government level may not be offset by surpluses at the subnational level, leading over time to deteriorating budget and debt positions of the general government as a whole (or requiring additional increases in the overall tax burden). In other cases (for example, the transition economies in the early nineties) fiscal stress at the central government level led the latter to push spending responsibilities down to the subnational level, without passing on the corresponding resources. In these circumstances, subnationals had to make recourse to unsustainable borrowing (or accumulation of arrears), and/or the quality of devolved services (e.g., health and education) deteriorated sharply.

21. **The design, implementation and enforcement of policies that ensure a hard budget constraint are, however, challenging tasks**. Unless a "hard budget constraint" can be effectively enforced on subnationals, ex ante matching of spending responsibilities with resources does not ensure ex post adequate maintenance of fiscal discipline. In the absence of such a constraint, subnational governments may overspend, and/or slacken their revenue effort, eventually resulting in fiscal pressures for the general government.

22. **For these reasons, designing fiscal decentralization reforms requires a consistent and well coordinated package of measures**. Countries have typically displayed a tendency toward changing some specific aspects of their system of intergovernmental fiscal relations "in isolation" (for example, modifying expenditure mandates; introducing new revenue-sharing schemes; or changing the transfer system). If not assessed and designed as part of a comprehensive framework, these "isolated" changes may eventually create inconsistencies and imbalances across government levels, undermining the effectiveness of fiscal policy.

23. **Institutional and political arrangements at the subnational level—although not immediately related to the Fund mandate—have also been taken into account in Fund advice on fiscal decentralization**. In countries where there are too many (or too small to be viable) subnational entities, issues of spending/tax assignments cannot be properly addressed

in the absence of some form of territorial reorganization, whereby subnational governments are streamlined and their role refocused. This has been noted in Liberia and Macedonia, for example. Similarly, there may be merit in increasing local participation in economic decision making outside of formal channels, for example by seeking increased consultation with local communities. While not a substitute for devolution of actual fiscal powers, these and other similar steps might mitigate the political imperative driving fiscal decentralization, so as to allow more time to prepare properly for its design and implementation. Finally, there must be sound and viable political mechanisms to identify and express local preferences, as this is the channel through which fiscal decentralization can deliver its promises of better services. In this respect, political mechanisms such as local elections should be in place to help local preferences to be revealed and accountability to subnational constituents to be established. As the background paper notes, introducing local elections of mayors contributed to the success of fiscal decentralization in Colombia.

A. Defining Spending Responsibilities

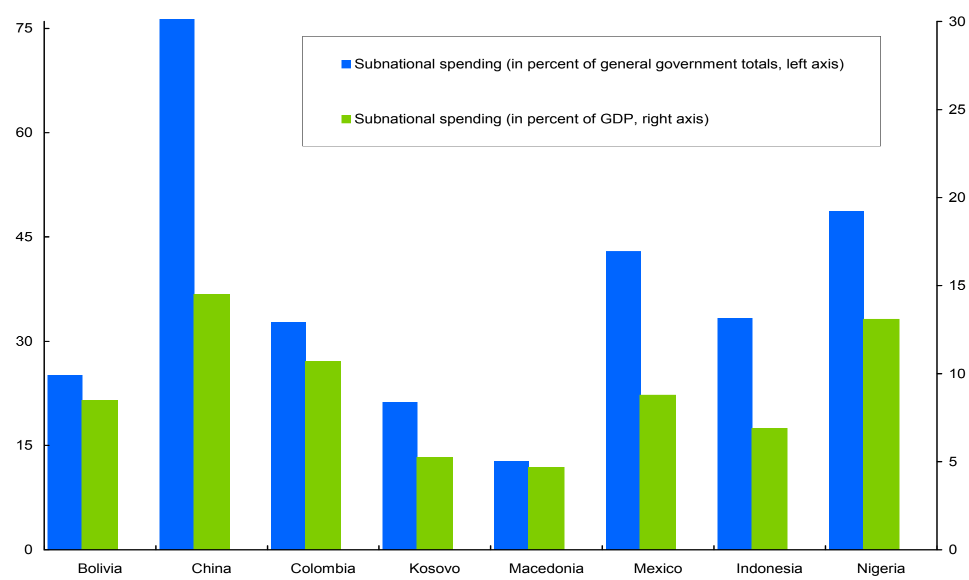
24. **Earlier normative theories of fiscal decentralization provide some guidance on the assignment of expenditure responsibilities across government levels**. As indicated in the previous section, efficiency considerations should drive the assignment of spending responsibilities to subnational governments; according to the so-called decentralization theorem, "each public service should be provided by the jurisdiction having control over the minimum geographic area that would internalize the benefits and costs of such provision" (Oates, 1972). At the same time, national public goods (benefiting all citizens and involving externalities, such as defense, foreign affairs, and macroeconomic stabilization) should be centrally provided.

25. **In practice, however, most public outputs do not lend themselves neatly to a categorization into national (centralized) versus local (decentralized) assignments; and concurrent/joint assignments are common**. Beyond a few functions that can be predominantly and exclusively assigned either to the center (as in the examples above) or to lower tiers of governments (such as local garbage collection and street cleaning) on the basis of considerations of "internalized benefits," most spending assignments are jointly undertaken by different government levels. More generally, spending assignments reflect "political jurisdictions," not "economic clubs" based on normative benefit considerations (Dafflon, 2006): in practice, identifying "minimum geographic areas" where the costs and benefits and costs of public service provision can be internalized is generally not feasible.

26. **Most spending assignments/functions tend to overlap**. The assignment of spending responsibilities covers three main decisions: which level of government should *formulate* a spending program; which level should *finance* it; and, finally, which level should *implement*

the related spending.[18] Accordingly, it is not uncommon to find that different levels of government are responsible for a certain aspect of a given spending function, thus creating concurrent assignments. For example, a given service may be considered a national priority, so that the center retains some legislative and regulatory control in the definition of related policies and standards, and provides some or all financing; while lower levels of government are directly involved in the provision of such service. Typical examples of concurrent assignment are healthcare, education, social welfare, environment, infrastructure, and water and sanitation. The case studies confirm this pattern, regardless of the degree of spending decentralization (as measured by the subnational spending shares, Figure 3). Therefore, there are reasons why overlapping functions exist; and fiscal decentralization reforms should aim at clarifying responsibilities and identifying appropriate resources for their financing, rather than seeking a complete remapping of spending assignments based on optimal allocation of functions—as this would be a neither feasible nor useful task.[19]

Figure 3. Subnational Spending in Case Study Countries



Source: Case studies in "Macro Policy Lessons for a Sound Design of Fiscal Decentralization: Background Studies." Data for DRC and Liberia are not available.

---

[18] See Ahmad, Hewitt, and Ruggiero (1997). Implementation of public spending, in turn, covers two dimensions: (i) providing or administering a service; and (ii) actually producing a good or delivering a service. For example, municipalities may provide garbage collection services, but the actual service may be delivered by a private operator contracted by the local government (Feruglio, Martinez-Vasquez, and Timofeev, 2008).

[19] Rodden (2004) also notes that in practice decentralization often does not involve a clean transfer of new responsibilities, but adding new layers of responsibility for the local governments.

27. **Concurrent responsibilities may nonetheless be problematic, when clarity in their definition and execution is lacking**. This may be related to a number of factors. First, existing constitutional and legal provisions on the role and authority of the different government levels may be unclear or inadequate. Second, there may be duplication of tasks and weak coordination between the different tiers in implementing their responsibilities, possibly resulting in excessive spending and waste. Third, lower levels of government may display insufficient involvement and ownership; and when providing politically sensitive social programs, they may opt for suboptimally low levels of services, relying on the center to become the natural "financier of last resort."

28. **Lack of clarity in spending assignments is therefore a root cause of soft budget constraint problems**. One immediate implication of unclear spending assignments is that accountability is weakened: if voters do not know which level of government to hold responsible for possible shortcomings in service provision, politicians can play a "blame game" and avoid taking responsibility and corrective action. The difficult situation of health care in Italy is a case in point: while the center sets standards and largely provides financing, the regions are mainly responsible for administering service provision. There have been repeated episodes of "ex post" bailouts, as regional financing needs for health have exceeded the center's allocations (Bordignon, 2006).[20]

29. **Difficulties with overlapping expenditure assignments are apparent in many countries**. In Colombia, the 1991 Constitution envisaged that education and health care would be provided by the local or municipal level, and provided for earmarked transfers for this purpose. However, the responsibility for hiring and firing teachers and health care workers remained with the center—attempts to move these to municipalities were thwarted by powerful unions. In Bolivia, municipalities are responsible for building infrastructure for education and health care, and for their operation and maintenance; departments hire the teachers; and the central government pays for them. In addition, municipalities certify hours worked. In the circumstances, information on *total* spending on education or the actual number of teachers/health care personnel is not available; at the same time, different government levels may operate in their areas of competency without proper consideration for, and coordination with, other levels' operations (for example, school facilities may be built without taking into account staffing availability; or teachers may be hired without considering the availability of school facilities). Similar cases of divided responsibilities arise in Africa.[21] In Nigeria, under the new constitution, primary education was assigned to the lowest tier—districts. However, most lacked the capacity to manage this function, and the financing from transfers was not effectively used for this purpose, with resulting shortfalls in the payment of teachers' wages. An effective "recentralization" of this function then took

[20] These issues were also covered in IMF (2000).

[21] See Gershberg and Winkler (2004).

place, with the hiring and management of teachers by the states, and the financing through a special purpose or earmarked grant from the center.

30. **The need to clarify roles and responsibilities of government levels has been emphasized in FAD advice**. Without a proper definition of which government level is responsible for what, the appropriate balance between spending mandates and resources to fund them cannot be addressed. Thus, FAD has often called for rationalizing the legal framework, and, where possible, eliminating overlaps that could lead to waste and duplication (Table 2 summarizes the main policy recommendations in the case study countries). At the same time, assignments should reflect the subnational governments' implementation capacity. When this is limited and/or varying, there is scope for asymmetric options to allow a more rapid take-up of responsibilities, for example, in advanced regions and the main urban centers, while continuing to build capacity. This approach was recommended in Macedonia, a very centralized country where significant devolution of spending was planned; specific phasing was devised to help safeguard fiscal sustainability, ensure continued service quality, and avoid straining limited capacity at the municipal level.[22] Finally, in China (one of the most decentralized countries, Figure 3), decentralization of pension provision to, in some cases, the lowest government tiers has put an excessive burden on jurisdictions and undermined risk sharing. Therefore, FAD has recommended pooling of pension provisions, if not at the central level, at least at the provincial one.

31. **Decentralization of spending responsibilities could start in areas where success is more likely to be rapid, and where accountability can be easily established**. This would give rise to "asymmetric" sectoral decentralization. In Macedonia, for example, it was recommended that specific strategies and the timeframe needed for decentralization vary by sector. In that case, it was noted that fiscal decentralization in the education sector might be easier to achieve than in the health sector, and it should therefore proceed at a sector-specific pace. Some general guidance was provided on specific stages, starting from the transfer of physical assets (e.g., buildings) to the municipalities alongside with the responsibility for maintaining them, moving on to responsibilities for personnel decisions (e.g., recruiting teachers) over time, and, in the final stage, for paying a significant share of current expenditures (e.g., at least part of the wage bill). Decisions on which sectors could be best candidates for decentralization should be informed by advice of specialists, for example from the World Bank (as recommended in Macedonia, as well as in Kosovo).

---

[22] Even when not explicitly recognized, asymmetric arrangements tend to prevail, for example in the case of capital cities or major urban centers (such as Bogotá in Colombia, Skopje in Macedonia, and Shanghai in China).The use of contracts among levels of government to address assignments is an interesting area of research (for example, see Spahn, 2006).

Table 2. Main Recommendations on Spending Assignments in Case Countries

Countries	Main issues	Fund advice
Clarification and definition of expenditure assignments		
DRC	Constitution does not clearly define "shared expenditure responsibilities." Institutional capacity on the provincial level is very weak, particularly in the reunified Eastern provinces.	Aim for a clear delineation of expenditure responsibilities. Transfer expenditure responsibilities gradually, in line with progress in strengthening provincial capacities, including PFM. Full and immediate transfer to largely unprepared provincial authorities implies high risks for the quality of spending, including large-scale misappropriation of funds.
Liberia	Liberia operates a deconcentrated model, with counties operating as agents of central line ministries. Limited spending autonomy is taking place through the County Development Fund (CDF), with some merits and shortcomings.	As counties have limited capacity, precede a move to fiscal decentralization with structural reforms and legislative initiatives. Meanwhile, pursue increased deconcentration to promote a stronger role of government in the provision of needed services at the local level. Improve procedures for CDF operations.
Nigeria	Lack of clarity in certain areas (both through omission and shared responsibility), and poor coordination of intergovernmental expenditure policy. Proliferation of deductions-at-source practice by higher levels of government to undertake some spending responsibilities assigned to lower government levels.	Subject to national legislation the detailed distribution of functions relating to individual public services, such as education and health. Establish streamlined special-purpose transfers to achieve national objectives in fundamental areas. Ensure that the availability of financial resources for a level of government be broadly commensurate with the devolution of expenditure responsibilities.
Bolivia	Spending responsibilities overlap in many sectors, including health and education; are not in line with revenue assignments and do not reflect differences in subnational capacities.	Clarify and review spending responsibilities.
Colombia	Unclear legal framework with overlapping jurisdictions.	Clarify legal framework and eliminate overlap.
Mexico	Expenditure responsibilities are not clearly defined, with health and education being two main areas of overlapping responsibilities. Subnational spending is dominated by personnel expenses, while spending on goods and services (including investment) is limited.	Clarify *functional* spending responsibilities for lower levels of government, while allowing full control over the choice of *economic inputs* (wages and salaries, operations and maintenance, and so on).
Kosovo	Status resolution would bring increased spending responsibilities to municipalities, and introduce asymmetric arrangements for Serb-majority jurisdictions.	Clarify spending responsibilities--often defined in legislation but blurred in practice. Assign increased responsibilities in line with proved capacity to execute functions and based on well-defined accountability mechanisms.
Indonesia	Spending responsibilities overlap in many sectors, including health and education; are not in line with revenue assignments; and do not reflect differences in subnational capacities.	Clarify and review spending responsibilities. Be careful to consider all levels of service delivery and limit cost shifting.
Asymmetric options for spending devolution		
Macedonia	This has been very centralized country; while fiscal decentralization reforms are driven by political considerations, assigning spending mandates to municipalities will require careful sequencing and avoidance of duplication of spending.	Expenditure assignments should be transferred gradually, starting from some basic administrative tasks at no or small financial cost; and progressively expanded to decision-making powers. The devolution of spending should proceed at different pace in different sectors, and across different municipalities (asymmetric options).
Centralization of devolved spending		
China	Local governments have replaced the state-owned enterprise sector as the main provider of social services (health and education) and social security (pension). These burgeoning spending mandates are not clearly defined or financed.	Clarify and review spending responsibilities. Centralize social security (pensions) to allow better pooling of risks.

Source: "Macro-Policy Lessons for a Sound Design of Fiscal Decentralization: Background Studies."

32. **An additional important issue is the impact of spending decentralization on the quality of service delivery**. In principle, the assignment of expenditure responsibilities among government levels could be a valuable tool for improving performance of the overall public sector, by generating some efficiency gains in the management of existing resources and strengthening accountability—one of the key rationales for decentralized provision of some public services. In practice, however, evidence of a positive relationship between decentralized spending and improvements in service delivery is hard to come by, not least because measures of outcomes of subnational spending—needed to measure performance—are often lacking. Conclusive evidence on the positive impact of decentralization on the quality of public services remains limited.[23] Service efficiency hinges on strong accountability links between the players in the delivery chain—service providers, customers/citizens, and policymakers. Decentralization can either strengthen or weaken these accountability links, depending on how it affects the incentives of the various players, thus yielding on average mixed results on service outcomes. For example, in cases where "partial decentralization" is implemented—with citizens not being able to hold local governments accountable for budgetary allocations and their outcomes—the successful provision of decentralized public services cannot take place and the promised gains of decentralization in terms of better quality services do not materialize.[24]

33. **By their nature, issues of expenditure assignments are inextricably linked to sectoral policies**. This has been the experience in a number of countries where FAD has provided advice on fiscal decentralization, and where specific recommendations required dedicated expertise of specific sectors. Therefore in a number of cases, FAD's TA has benefited from World Bank's inputs, most notably on health and education (Nigeria, Macedonia, Kosovo), but also on social assistance (China).

B. Ensuring Sound Public Financial Management

34. **A clear and transparent PFM framework, at the subnational as well as the central government level, is a key ingredient of effective fiscal decentralization**. It facilitates consistent decision-making to ensure macroeconomic stability and accountability for an effective use of public resources. Sound PFM arrangements need to be supplemented by other legal provisions and institutional mechanisms governing the responsibilities and financing of different levels of government, so as to generate the incentives to manage resources in an efficient manner. In countries where subnational PFM systems do not meet minimum adequacy standards—for example, where budget formulation is incomplete, and information and reporting of government operations is limited, inaccurate, and not timely—

[23] Ahmad and Brosio (2009) review the literature on these issues, and provide a series of case studies.

[24] Under "partial decentralization," local governments have no discretion to choose among competing uses subject to a budget constraint, and citizens are not aware and cannot evaluate government's decisions (for example, when the central government provides earmarked grants for capital expenditures. Devarajan, et al., (2009) explore these issues in more detail.

FAD has emphasized that strengthening PFM arrangements should be a pre-requisite for increasing decentralization (for example, this was the position taken in countries like Bolivia, the DRC, Indonesia, Kenya, Kosovo, Liberia, and Nigeria).

35. **There are several critical elements of good PFM and governance at the subnational level**. These include a realistic budget envelope prepared in a timely manner; an adequate budget classification system, preferably compatible with international standards (e.g., the *GFS2001*—especially for the economic and functional classifications), and an accounting framework consistent with such classification; effective audit and control mechanisms, with a high probability of detection of, and penalties for, misuse of public funds; and firmly enforced requirements for timely and accurate reporting.

36. **The budget framework should encompass all government levels**. In order to facilitate consistent decision-making across the whole general government, it is important that the budgets of all jurisdictions be based on common macroeconomic assumptions, utilize a harmonized budget classification, and be formulated and executed on well coordinated schedules. Problems arise when operations of all government levels, and their financial interactions, are not fully captured in the budget. For example, in Nigeria, a part of the transfers to states and local governments is netted out against subnational mandatory spending (including for teachers' salaries), a practice that significantly reduces the coverage of the budget and weakens transparency and accountability. In Liberia, where the budget document does not include information on operations at the county level, FAD advised to start including in the budget an annex showing consolidated projected spending by county, as transparency and more informed decisions would also lead to a rationalization of such spending, thus paving the way for effective further devolution of functions to counties in the future. In some cases, the budget calendar does not allow coordination among government levels—a problem that is exacerbated in countries where the fiscal years differ across government levels;[25] or where the central budget is adopted late and subnationals do not receive information on their allocations until late in the fiscal year—a problem experienced in China.

37. **In cases where the center cannot "impose" a common framework legislation, consensus can be forged to introduce it**. This has been the strategy in Nigeria, where the government is seeking to institutionalize a framework for the sharing and spending of oil revenue, as well as mechanisms to coordinate policy priorities and spending levels between the federal government and the states. Similarly, the states have been encouraged to approve fiscal responsibility legislation that parallels that of the federal government, which enshrines a fiscal framework based on an oil price-based rule. The 2007 Nigerian Fiscal Responsibility

[25] This, for example, used to be a problem in Tanzania, where the central government followed a July-June fiscal year, and the subnational governments adhered to the calendar year. As of 2008, the subnational fiscal year was aligned to that of the central government.

Act also sets out transparency requirements, sanctions, compliance provisions, and guidelines for budgetary practices. In Brazil, the passage of a national Fiscal Responsibility Law binding for all levels of government was much facilitated by a comprehensive and effective consensus building effort by the federal government with subnational governments, as well as the federal congress and the public opinion at large.

38. **Timely monitoring and transparent reporting of fiscal operations at all government levels, including guidance for subnationals on the content and format of reporting, are important for effective macroeconomic management**. A common framework for accounting and reporting—consistent with the budget classification—is critical in establishing transparency and accountability. Among various issues in this area, the importance of an adequate information management system cannot be overemphasized. While systems can differ across government tiers, especially in larger/federal countries, they need to interface to allow comprehensive reporting. Effective auditing and control systems, together with firmly enforced sanctions for noncompliance, constitute additional conditions for good governance.

39. **FAD's advice on strengthening subnational PFM systems has focused on different aspects in different countries, depending on the specific needs and circumstances of the requesting country (Table 3)**. It has focused especially on those elements of PFM systems that are most critical from a macroeconomic standpoint. In a number of countries, it has emphasized strengthening the framework legislation for PFM, which provides the basis for sound budget formulation, execution, accounting, and reporting. For example, FAD and LEG have collaborated in recent years to provide inputs for the Financial Management Legislation in Iraq (2004), and more recently for planned reforms to framework legislation for financial management for all government levels in Bolivia and Peru.

40. **FAD's advice has also emphasized the importance of TSA.**[26] TSAs are used in modern administrations to consolidate the government's cash, minimize borrowing requirements, facilitate asset and debt management, and also establish a better record of who spends what and when. They also make it less likely that government funds, which might otherwise be held in thousands of bank accounts with little oversight, are misused. The establishment of a TSA, even if shared with the central government on an agency basis—one of the options recommended in Mexico, for example—need not impair the autonomy of subnational governments. On the contrary, it could serve as a vehicle for increased transparency and, hence, better decision-making. In Kosovo, where municipal operations are covered by the central TSA, this provides the main source for reporting on municipal finances and cash flows. Whether subnationals should have their own TSAs or use a

[26] A standard TSA is a bank account or a set of linked bank accounts through which the government, including its entities and spending units, transacts all receipts and payments, and consolidates its cash balances.

Table 3. Main Recommendations on Public Financial Management in Case Countries

Countries	Problem	Fund advice
DRC	Institutional capacity of subnational governments in budget preparation and execution, as well as treasury management, is weak. Harmonized accounting and computer systems are inexistent.	Strengthen local governments' PFM capacity and harmonize accounting standards.
Liberia	The centralized system has hampered the development of PFM capacity at the county level. All financial transactions take place in the capital. Weak or inexistent capacity poses a risk to the successful devolution of funds and functions.	Adopt a sequenced approach, starting with increased transparency and coverage of county-level operations in the budget. Establish county treasuries to provide treasury services and ensure better use of cash resources and provide regular reporting of county financial transactions. Prepare the legal framework and the institutional framework for decentralization, including through the establishment of a small unit at the MOF.
Nigeria	There was no common macroeconomic framework for all levels of government; no reporting of information on subnational fiscal developments; no harmonized system of budget classification and accounting for all levels of government; and there was a lack of a well-defined treasury system at the subnational level.	Ensure that the budgets of all three levels of governments are consistent with the same basic underlying macroeconomic assumptions. Make public the transfers from the Federation Account, as well as subnational budgets and their outturn. Establish a comprehensive coverage of fiscal accounts. Prepare a uniform set of guidelines for budget preparation and accounting to be followed by all tiers of government. Establish a consolidated single account for the states at the central bank.
Bolivia	Weak budget process does not impose hard budget constraints. Economic classification, link with chart of accounts remain inadequate. The poor budgetary procedures and the related information system (SIGMA) precludes up to date reporting of subnational finances.	Adopt a new organic budget framework law (BFL). Assess options for the information system (as the existing system is inadequate; it may prove more costly to fix it than design a new one or get it off the shelf).
Colombia	Lack of effective macroeconomic coordination across levels of government hinders policy formulation and implementation, along with lack of consolidated fiscal accounts.	Consolidate the data coming from eight different sources that collect local fiscal data. Introduce a fiscal coordination council.
Mexico	Lack of standardized and timely information on fiscal performance of states and municipalities. Only a few states have modern information systems (GFMIS) that integrate budget and accounting. This prevents federal government from producing information on general government fiscal operations, and does not allow states and municipalities to compare with respect to others.	Establish a common budget classification and accounting framework consistent with international standards, at all levels of government. Determine reporting standards and introduce sanctions for noncompliance. Ensure GFMIS fully integrate budget modules and accounting, and design of interfaces for the effective flows of information. Federal government, with assistance of Bank of Mexico, should also begin below-the-line tracking of subnational operations.
Kosovo	Despite significant improvements in budget preparation, execution, and reporting at the municipal level, there was still a need to consolidate progress in PFM, in particular regarding the public investment process	Continue to pursue PFM reforms and build capacity; and execute municipal budgets through the central treasury system. Introduce a more stringent certification scheme for municipalities. Strengthen the public investment process, including project selection, planning and execution. Allocate funds for municipal projects directly (albeit gradually) to municipalities, rather than line ministries, within a well-specified medium-term framework.
Macedonia	All stages of the municipal budget process (including budget preparation, execution, reporting, and audit) were in need of improvement. Absent a significant PFM reform at the municipal level, fiscal decentralization would be bound to fail.	Strengthen PFM system, by establishing comprehensive and timely reporting mechanisms on budget execution, as well as strengthening human capacity in these areas (including via training of municipal financial officers). Introduce penalties for noncompliance.
China	Budget formulation, execution and reporting showed weaknesses at the subnational level, making it difficult to monitor subnational operations.	Adopt a modern budget classification (and revised the chart of accounts consistent with it) across levels of governments, to improve the transparency of government operations. Design and implement nested subnational information systems and TSAs.
Indonesia	Budget classification structure used by regions was not aligned with the central government; there was no regional government reporting mechanism; data on subnational governments were provided with a two year delay, with no information available on local spending during the year.	MoF to provide guidance to the regions on classification. Develop budget planning allowing for smoothing large variances in regional transfers. Establish regional reporting framework, with monthly reports on expenditures provided to the MoF. Introduce penalties for subnational governments failing to report to the MOF budget documents, via reducing central government transfers.

Source: "Macro-Policy Lessons for a Sound Design of Fiscal Decentralization: Background Studies".

centralized TSA depends on institutional arrangements and political preferences, as long as ledger accounts (used in a TSA in lieu of bank accounts) are used to track spending, by enabling the identification of the resource use.

41. **In cases where the "above-the-line" information is either inaccurate or not available, FAD has advised to monitor "below-the-line" subnational operations**. In Mexico, staff recommended tracking subnational fiscal operations from bank transactions, with assistance from the Bank of Mexico. As this would not cover the possible build-up of arrears as well as contingent liabilities, establishing and maintaining subnational debt and risk registries was also recommended in some countries (in Bolivia, China, and Mexico).

42. **FAD has also provided on occasion advice on organizational issues**. Decentralization typically places responsibilities on the MoF to guide and monitor fiscal relations with subnational governments. While the degree of MoF oversight over intergovernmental relations varies across countries, the basic set of MoF responsibilities include preparing and disseminating financial management instructions for subnationals; providing them with guidance for budget preparation; collecting, consolidating, and publishing subnational budgets and budget execution data; and monitoring adherence to financial rules and PFM legal framework. As these tasks require full-time, dedicated staff with computerized support, ideally, a special unit should be established within the MoF, with clear reporting responsibilities both within the MoF and with other government ministries. The size of this unit will depend on the complexity of the devolved government system and the role assigned to the MoF.[27]

43. **Preparations for the creation of a dedicated unit—or the assignment of dedicated staff—should begin early in the fiscal decentralization process**. Planning should begin at an early stage, in particular identification of job descriptions, skills, and training. In Liberia, FAD advised to start working on this once the main law establishing local governments had been adopted. In Nigeria, it recommended the establishment of a Fiscal Analysis Unit, in charge of providing a common macroeconomic framework for fiscal policy formulation and monitoring fiscal developments at all government levels.

C. Defining Intergovernmental Revenue Arrangements

44. **One of the basic tenets of fiscal decentralization is that funds should follow functions; thus, resources assigned to different levels of government should be linked to the scope of the functions devolved to them**. This "matching principle" has two main implications: subnational governments' spending responsibilities should be adequately

[27] For example, South Africa has over 80 staff in the Intergovernmental Fiscal Relations (IGFR) Directorate of the National Treasury responsible for this area, whereas Tanzania and Rwanda have only a few staff located within their respective budget departments. In the case of South Africa, the IGFR Directorate is also responsible for planning at the local government level, as well as budgeting and financial reporting.

financed through a combination of own-source revenue, shared taxes, transfers, and, to the extent allowed, borrowing; and revenue assignments should be preceded by a transparent and clear definition and assignment of functions they are intended to fund. This is often neglected in practice, as sometimes political pressures emerge to devolve taxes to (or share them with) subnational governments, without due consideration for the use of such funds. For example, this is a risk arising in the DRC, where the planned decentralization strategy would assign some 40 percent of overall revenue to provinces while these would only be responsible for some 20 percent of overall spending (see Background Study); it could also be a risk in Liberia, if pressures to share large resource revenue flows are heeded before counties are ready to take up new spending responsibilities. As explained above, in these cases the central government's fiscal space is significantly eroded, and the ability of the center to undertake stabilization and redistributive policies is hampered.

45. **Defining the right financing mix requires a delicate balancing act**. Allowing access to own revenue (where subnational governments have discretion over tax rates and bases) at the margin through local taxation is essential to promote fiscal discipline and accountability, as access to own taxes can help curb perceptions of soft budget constraints. If considerable expenditure responsibilities are devolved, at the margin access to significant tax handles may be needed at the subnational level, to ensure that local spending decisions are linked to financing by those who benefit from these expenditures. However, excessive tax autonomy may create inefficiencies and widen disparities across jurisdictions, and undermine the stabilization role of the central government. Thus, the right degree of taxing autonomy is a matter of judgment, and reflects historical, political, and other country-specific factors.

46. **Normative theories of fiscal federalism emphasize a number of principles for "optimal" tax assignments**. In this literature, the assignment of taxes derives directly from the optimal assignment of government functions (as described earlier in Table 1). Taxes with large and elastic bases—such as income taxes—should be assigned to the central government as the best instruments for both macroeconomic stabilization and income redistribution. For allocation functions, benefit taxation should be used by various government tiers; accordingly, the provision of local services (such as public utilities and local transportation) should be subject to user charges and fees; services with a local benefit zone (parks, roads) should be financed with local taxes; while goods and services with significant externalities should be financed with region-wide taxes or transfers. In order to prevent revenue losses/tax erosion due to tax competition, local tax bases should be relatively immobile; bases should also be evenly distributed across jurisdictions, to avoid horizontal fiscal imbalances; and their yield should be relatively stable, to allow subnational governments to rely on steady and predictable revenue streams. These principles rest on the assumption that governments behave as benevolent welfare-maximizers. When this tenet is challenged—as in public choice approach (Brennan and Buchanan, 1980)—the opposite conclusion derives, namely, that subnational taxes should be imposed on mobile factors to promote competition among "rapacious" governments; less availability of taxes would help limit the size of governments

(the "starve the beast" argument). As explained earlier, however, the main limitation of these normative theories is that they do not explain tax assignments in the "real" world.

47. **More recent positive theories underline the political interactions among government levels—and the incentives faced by politicians—as key factors in the distribution of taxing powers**. However, while these theories help explain some of the observed intergovernmental tax systems, "no clear indication concerning the optimal tax assignment to different levels of government emerges from them" (Bordignon and Ambrosanio, 2006).

48. **In practice, revenue assignments are guided by a number of considerations**. In addition to ensuring funding adequacy and promoting accountability, administrative feasibility is an important consideration in defining revenue assignments. As discussed below, some tax handles that are appropriate for countries with sophisticated administrations at the subnational level, may not be advisable for ones with weaker administrations at the same level. This is recognized by both normative and positive theories of revenue assignments. On this basis, most major tax handles—such as the VAT and income taxes—tend to be assigned to the central government, given that their administration within a multi-layered government presents particular challenges.[28] Import duties also are typically assigned to the center. These assignments tend to create vertical imbalances in favor of the center, as the latter collects more revenue than needed to carry out its spending responsibilities. This opens up the possibility to redistribute resources according to various "equalization" criteria (see below).

49. **In addition, revenue assignments rarely take the form of full and exclusive assignments of taxes to one government level**. Rather, various options are possible (and countries have indeed adopted different models). In the same way as it is not possible to establish a one-function-one-government-level link, but rather an overlapping "continuum" of functions assigned to various government levels exists (Section III.A), so the sources of government funding also form a continuum of different yet overlapping alternatives.

50. **Options for intergovernmental revenue arrangements vary according to the degree of subnational revenue autonomy they allow**. Three main types of arrangements exist. First, own revenue assignments allow some degree of discretion to subnational governments, with a distinction between *own-source revenue*—when subnational government enjoy full legal control over both the definition of taxable bases and rate structure of the revenue source; and *surcharges or piggybacking on central taxes*—when they have limited or no subnational control over the specification of the tax base, but a

[28] The absence of border controls makes it difficult to administer a subnational VAT that is destination-based.

(typically bounded) degree of control over the tax rate(s).[29] Second, revenue-sharing arrangements allocate to subnational governments shares of taxes whose bases and rates are defined (and typically administered) by the central government; in this case, subnational governments have no control over these revenue sources (in some cases, though, subnational may collect and administer these taxes, as in the case of the states in the German federation). Finally, intergovernmental grants transfer budgetary resources to subnational governments; while the distinction between revenue-sharing and grants is a fine one, the latter are typically characterized by a higher level of central discretion than the former, to the point that subnational governments may not even be able to predict their amounts with any degree of confidence. Table 4 presents a taxonomy of subnational revenue assignments. These are further discussed below.

Table 4. A Taxonomy of Subnational Revenue Arrangements

	Subnational Control Over		
	Tax Base	Tax Rate	Administration
Own-revenue assignments			
Own-source revenue	Yes	Yes	Yes/Possibly
Surcharges on natinoal taxes	No	Yes	Possibly
Revenue-sharing	No	No	Possibly
Other intergovernmental transfers	No	No	No

Source: Authors.

Subnational own-revenue assignments

51. **Assigning own-revenue to subnationals is believed to provide incentives to promote improved economic performance**. When subnational governments can keep a share of the revenue raised in their jurisdictions, they have an interest in promoting business and market-friendly policies, as these would have a positive impact on local tax bases and revenues. In contrast, when a large portion of locally raised revenue is siphoned off to the center or other jurisdictions, local politicians have little incentive to increase revenue intakes, thus placing lower priority on stimulating economic activity through “good” policies.[30]

[29] Subnational governments may still see their effective room for maneuver constrained by economic factors, such as a high degree of mobility of the relevant tax base (e.g., income from capital).

[30] This argument has been used to explain China’s remarkable growth performance against Russia’s in the 1990s: in China, subnational governments had a secure share of local revenue, while in Russia the revenue share was low (Roland, 2000, and Jin, Qian, and Weingast, 2005). However, Treisman (2006) notes that the changes in the decentralization system in China in 1994, which led to a recentralization of revenue (see also “Background Case Studies”), do not seem to have affected market-friendly policies at the provincial level; and the growth surge in Russia since 1999 happened despite continued tax sharing and weak local incentives. These contrasting results underline that the design of tax assignments is only one aspect of fiscal decentralization, which should be looked at its entirety, as repeatedly stressed in this paper.

52. **Property and land taxes are typical subnational own-source taxes, for a number of reasons**. Their base is immobile, so taxpayers cannot easily shift location to avoid taxation; they reflect the benefit principle, as local services (e.g., roads, transportation, parks) confer benefits on properties and increase property values; they allow subnational governments to determine the desired level of services and raise revenue to pay for that level (as the property tax base is relatively inelastic, maintenance of the tax yield may require discretionary policy changes of tax rates or valuations)—this makes the tax highly visible and establishes a clear accountability link, by enhancing responsiveness of local politicians to local demands. However, determining the value of property tax bases is often difficult, thus complicating their administration, especially in countries where market valuation is hindered by limited real estate market activity, and/or limited information on market transactions. Hence determining the tax base is often a matter of judgment. International experience suggests that the yield from property taxes is usually limited.[31] Still, there is a general perception that property taxes remain largely underexploited (OECD, 2004).

53. **Benefit taxes, including user charges, are also an important revenue-raising tool for subnational operations at the margin.**[32] Yet in most cases the revenue potential remains limited relative to financing needs of subnational governments, mainly because of distributional or political considerations; and these taxes can become nuisance taxes if allowed to proliferate excessively. Similarly, excises of various kinds are sometimes used at the subnational level, and may be relevant at either the intermediate (regional) or local tiers of government. While from an efficiency standpoint excises should be levied on a destination basis (namely, in the place where the taxed good is consumed), this may give rise to smuggling and cross-border shopping if subnational jurisdictions apply significantly different rates.

54. **More mobile tax bases are increasingly being recommended in the literature for assignment to subnational governments**. Additional competition—within and across regions—may help promote spending discipline. However, these options remain subject to administrative feasibility and constraints. Given its strong long-term revenue potential, there is continued interest in the possibility of implementing the VAT as a subnational tax, which requires addressing the inherent difficulties noted above.[33] Experiences with subnational VATs in practice, however, have been mixed (Perry, 2009). For example, VAT could become a central-local tax, administered by either level of government on a jointly

[31] The share of property taxes in subnational revenue varies considerably, from as low as 5 percent in Turkey and 7 percent in Norway, to 90 percent in New Zealand and 100 percent in Australia, Ireland, and United Kingdom. As share of GDP, property taxes account on average for about 1 percent in unitary countries and 2 percent in federal countries.

[32] These taxes have long been supported in the literature (Musgrave, 1959).

[33] See Bird and Gendron (1998), and Keen (2000). McLure (2009) deals with these issues in the U.S. context.

determined base, but with each government level choosing its own rate (this is the so-called dual VAT). More sophisticated options exist, although these have not yet passed the empirical test and remain theoretical options.[34] Experiences with subnational VATs have been mixed. While these taxes represent important revenue handles, the lack of harmonization has increased compliance costs to taxpayers operating in different jurisdictions; and has also resulted in tax wars across states (as in the case of the ICMS, the state-level VAT in Brazil). The Canadian dual VAT appears more successful. Experience to date with the state VATs in India is too short to pass definitive judgments.

55. **In a few countries, local business taxes have been replaced by a subtraction-type origin-based VAT**. This is levied on a measure of value-added, calculated for each taxable entity as the difference (hence the name "subtraction-type") between revenue and purchases. This has proved to be a powerful and easy to administer revenue tool for subnational governments (the Italian regional business tax, *IRAP*, and the German local trade tax, *Gewerbesteuer*, provide good examples). This tax has a number of theoretical advantages, including the avoidance of cascading that might be present with traditional business taxes, and the fact that the tax base is essentially a measure of an entity's value-added.[35] To be effective, this tax should be levied at a single rate. However, although it is relatively simple to administer, it is not suitable where lower tax administration levels have limited capacity; in these cases, an alternative may be to have it administered by the central tax administration.

56. **The assignment of specific taxes reflects historical, political and institutional factors, as well as countries' level of capacity and development**. Table 5 highlights the main advantages and disadvantages of various tax assignments.

57. **Surcharges or "piggy-backing" on central taxes may provide additional subnational revenue, building on the central tax administration—indeed, a key source of subnational revenue in many countries.** These arrangements confer a more limited degree of autonomy to subnational jurisdictions, as the latter impose a surcharge on tax bases defined by the central government. Still, there may be incentives from both sides, as local authorities may have an advantage in identifying potential taxpayers, to the mutual benefit of both the center and the subnational governments. Surcharges are most typically levied on personal income taxe, but there are also cases of piggybacking of sales taxes and excises.

[34] These include the CVAT (compensating VAT) and VIVAT (vertically integrated VAT). The VIVAT makes a distinction between sales to registered traders and sales to households and unregistered traders; the former are subject to a uniform (national) rate, while different (local) rates apply to the latter. In the CVAT, sale to local purchasers (registered and unregistered traders, and households) are subject to a local VAT, but sales to purchasers in other jurisdictions are zero rated for central VAT and subject instead to a compensating VAT. For more detail, see Bird and Gendron, 1998, and Keen, 2000.

[35] Capital inputs can be either fully subtracted or, as in the case of Italy, only depreciation is taken out of the taxable base (thus making the tax an income-type, production-based VAT).

Table 5. Assignment of Taxes to Subnational Governments

Tax	Advantages	Disadvantages
Personal Income Tax	• Buoyant revenues • Visible (increases accountability) • Cost-effective if piggybacked on national taxation	• May create or aggravate horizontal imbalances • In areas where average incomes are below threshold, insufficient yield; also, as most people would not pay, the price-signal effect of the tax is weakened. • If levied at different rates among jurisdictions, it may create distortions if people are mobile.
Corporate Income Tax	Sometimes seen as a bit of a benefit tax.	• Mobile tax bases and complex administration make it suitable for collection by the center (except taxation of small businesses).
User fees and charges	• Low mobility tax base • No obvious horizontal or vertical imbalance problems • Visible • Linked to benefits	• Generally low yield • Low cost-efficiency
Property Tax	• Immobile tax base • Visible • Stable yield • Indirectly linked to benefits	• Difficult administration (especially in setting up well-functioning cadastres), often resulting in low yield.
Sales and Excise Tax	• No horizontal or vertical imbalance problems • Visible • Easy to administer	• May create cross-border shopping if levied at different rates among subnational jurisdictions.
Value-Added Tax	• If properly designed and administered, it could be a good local tax (see text)	• Complex tax administration • If applied on destination principle, border controls between local jurisdictions required; if applied on origin principle, tax exporting and transfer pricing may arise.
Resource Tax		• Significant horizontal imbalances • Difficult to administer • Excessively volatile

Source: Feyzioğlu and Norregaard (2008).

Surcharge tax rates are frequently subject to both upper and lower limits set by the central government. While surcharges are easy to administer, a possible drawback is the fact that they may create (or deepen) horizontal disparities, as revenue tends to be geographically concentrated in richer/more developed jurisdictions. This would require an appropriate equalization transfer system (see below).

58. **In its advice, FAD has attempted to balance normative principles with administrative capacity considerations and political economy constraints** (Table 6). In

Table 6. Main Recommendations on Own-Revenue Assignments in Case Countries

Countries	Problem	Fund advice
Clarify legal framework for sub-national taxation; streamline system of own source revenue; strengthen propery taxes		
DRC	Tax assignments are not clearly defined; and yields (especially for the property taxes) are insufficient to cover provinces' spending needs.	Establish well-defined tax assignments for subnational governments. Strengthen the design and collection of property taxes; review all subnational taxes with a view to streamlining/eliminating nuisance fees and taxes.
Indonesia	Limited own revenue resources. The taxes that can be levied by regions have low yields.	Include the land and building tax in the list of local taxes, with local governments allowed to set the assessment rate.
Liberia	The legal framework for taxation at county and city level is unclear; some local taxes exist, but these are unlikely to fund increasing spending mandates.	Clarify the legal framework for local taxation. Strengthen the design and administration of property taxes, potentially a good revenue handle for subnational governments.
Kosovo	Municipal own source revenues are limited. Property tax collections are low, also due to weaknesses in administration	Strengthen property taxes through: (i) establishing a national fiscal cadastre; and (ii) applying common and harmonized valuation procedures. Exploit fee-for-service instruments (such as municipal parking lots), which could support municipal own source revenue.
Macedonia	Municipal revenue were capped (those in excess of the cap were reallocated using not fully transparent criteria); volatile; and municipal revenue bases were insufficient to provide for increasing spending responsibilities.	Increase municipal tax collection, by giving municipalities bounded control over rates; remove caps on their revenue; and allow them to keep all property taxes. As expenditure mandates are broadened, monitor that revenue bases of municipalities are adequate, not only in the aggregate but also at the horizontal level (across municipalities).
Nigeria	Non-oil taxes of state and local governments (SLGs) have very low yield and productivity. SLGs do not control the rates of most of the taxes they levy, thus having very limited own source revenue.	Provide SLGs with additional sources of revenue, with some control over rates, including excises and business taxes, surcharges on utility bills, and improved property taxes. Repeal nuisance taxes at the local level. Transform oil revenue derivation rule into a royalty share and an explicit environmental excise.
Strengthen own-source revenue through piggybacking of national taxes		
Bolivia	Both municipalities and regions have limited autonomy regarding the tax base and/or the tax rates, which are mostly set by the central government, thus encouraging dependence on transfers and central government decisions. This undermines subnational incentives to raise revenue through better tax administration and/or through increasing revenue.	Assign subnational government significant own sources of revenues (i.e., enabling them to set rates for local taxes and impose, on the margin, surcharges on national taxes) in line with redefined spending responsibilities. Appropriate sequencing is needed in giving subnational governments access to new own revenue sources and the transfer of additional responsibilities. Only subnational governments that accept new responsibilities and perform them adequately should be given continued access to new tax resources.
China	Local governments have only limited power to set rates for a few local taxes. Revenue-generating capacity varies widely across provinces, contributing to the creation of significant disparities in service provision.	Give more control over tax rates to local governments. This would also help compensate the richer provinces losing from a more equalization-based system of transfers. To this end, for instance, allow provinces to levy surcharge on personal income tax; grant the power to level domestic excises; and increase freedom in setting property tax rates.
Introduce a new VAT-like tax		
Colombia	While the distribution of revenue bases across levels of government is broadly adequate (departments collect excise taxes and municipalities collect property taxes, a tax on turnover, and a surcharge on gasoline), the structure is complex.	Increase local own-source revenue via tax and tax administration measures. Convert the local turnover tax into a simplified (subtraction-based) local VAT.[1] Simplify departmental excises' procedures and administration; collect them as production (and not consumption) taxes and redistribute part of the proceeds among departments.
Mexico	States have limited own source revenues, and rely primarily on transfers.	Piggyback the IDTU (a new federal tax to be levied on business, akin to an income-type, origin-based VAT administered with the subtraction method.)[1] Alternatives would be to piggyback on the income tax and to revamp the property tax. These measures would create greater accountability through a major tax handle for states. Piggy backing could be introduced quickly and be administered by the federal government tax collection agency.

Source: "Macro-Policy Lessons for a Sound Design of Fiscal Decentralization: Background Studies."

[1] See the main text for a description of this tax.

most countries, the legal framework for local taxation is unclear; policy weaknesses are often compounded by shortcomings in revenue administrations, making yields from local own-source revenue inadequate to ensure spending accountability and proper funding of subnational operations. In these cases, advice has focused on clarifying and simplifying the legal framework, eliminating nuisance taxes, and improving the design and administration of a few "good" tax handles, most notably property taxes (for example, in the DRC, Indonesia, Kosovo, Liberia, Macedonia, and Nigeria). In countries with relatively advanced tax administration, "new" taxes were recommended, along the lines of a local VAT-type tax, either directly assigned to subnational governments (Colombia) or assigned to the national government with piggybacking arrangements for subnational governments (Mexico). In some other cases (Bolivia and China, among others) surcharges on national income taxes were suggested to bolster subnational taxation.

59. **Availability of own-source revenue is a necessary, but not sufficient, condition for accountability and fiscal discipline at the subnational level**. The fact that subnational governments can mobilize own-source revenue does not mean that they will have an incentive to do so. In fact, while the availability of own-source revenue helps mitigate the common pool problem, it does not necessarily eliminate the soft budget constraint problem (as illustrated by the Italian experience with regional health spending mentioned in Section III.A). This depends critically on how other elements of intergovernmental fiscal relations interact, more specifically the clarity of expenditure responsibilities and the scope and design of the transfer system and borrowing options.

Revenue-sharing

60. **Revenue-sharing, often used to close vertical fiscal imbalances, can be based on either individual taxes or total tax collection**. While revenue-sharing offers some of the advantages of surcharges—such as administrative simplicity—it does not constitute own-source revenue, in the sense that the subnational jurisdiction does not have control at the margin over the rate structure; and it generally does not provide equalization (see below). In aggregate terms, revenue-sharing may provide greater resources than own-source revenues, but—as indicated above—must be accompanied by the latter in order to promote accountability at the subnational level. As revenue-sharing makes the revenue of one government tier dependent on the choices of another (on tax bases and rates), it is often considered akin to transfers rather than a method of revenue assignment.[36]

61. **Similarly to transfers, revenue-sharing involves two main policy choices: how to define the revenue (or pool of revenue) to share, and how to allocate such share among**

[36] This also depends on the degree of discretion of the level of government "in charge:" when parameters of revenue-sharing are defined at the constitutional level (as in the case of VAT-sharing in Germany), revenue-sharing can protect subnational governments from the "political vagaries" of the central government (more so than transfers, if these can be decided on a discretionary basis).

subnational governments. If some taxes are shared and others are not, there is a built-in bias for central governments to maximize collections of those taxes that are not (or are less) shared. Taxes should also be shared at the same rates (a certain percentage of all taxes) to avoid distortions; extraordinary revenue, for example from the sales of assets, should not be shared. In addition, in order to reduce procyclicality of shared revenues, a moving average of revenue collected over the cycle could be used (or a fraction of a moving average of nominal GDP over the cycle, as recommended by FAD in Argentina). As to the distribution of shared revenue, very often revenues are shared on an origin basis (where revenues are collected; this is also called derivation principle). Other criteria are also applied, for example equal per capita allocations (see below).

62. **Natural resource revenues are not suitable for sharing arrangements, as they are very volatile and tend to be geographically concentrated**. Two main problems arise: revenue-sharing on an origin basis would create significant horizontal disparities; and subnational governments are typically not well equipped to deal with the inherent volatility of these revenues (Box 3). For these reasons, the Fund has recommended against sharing of resource revenues (for example, in the DRC, Liberia, Nigeria); rather, advice has focused on introducing production-related excises (together with equalization transfers) in lieu of natural resource revenue-sharing, for example in Indonesia, Nigeria and Bolivia. Such excises might be fully or partly assigned to lower levels of government as part of compensation for damage

Box 3. Sharing of Natural Resource Revenue

Even though the availability of large natural resource revenue typically exacerbates demands for decentralization (with producing jurisdictions claiming control of such revenue), sharing of such revenue should be avoided. Assignment of natural resource revenues to subnational entities has many disadvantages, especially in small countries.

- Attribution of volatile resource revenues to local governments can complicate fiscal management and macroeconomic policy at the central level: during price booms, large resource revenue tends to induce unsustainable expenditure levels; while during price downturns, basic expenditures assigned to subnational governments might come under pressure. This is now acutely felt in Nigeria, where the states (which receive a fixed share of the oil revenue) built in unsustainable levels of spending during the recent oil boom.
- Geology or geography differences should not determine the distribution of revenues from national resources; when shared on the basis of origin, significant horizontal imbalances would arise.
- Resource revenues bring with them little local accountability: this problem exists at the national level, but is probably exacerbated in local government.
- The size of resource revenues, relative to the size of the jurisdiction, may bring risks not only of absorptive capacity, but also of corruption.

The central government is often in a better position to smooth fluctuations in natural resource revenues, provided that these resources are transparently managed. While political economy considerations often suggest some sharing of natural resource revenues, in practice it is hard to arrive at an agreed percentage (resource-rich subnationals would always be better off by keeping 100 percent of all resource revenue)—a problem that is often exacerbated if there are ethnic or religious differences involved, as in Nigeria or Aceh in Indonesia.

to the environment and other costs, together with a transfer system that ensures that basic subnational spending can be adequately funded.

63. **Despite its administrative simplicity, revenue-sharing presents a number of drawbacks**. First, a major difficulty with sharing of revenues is the rigidity that it imposes on macroeconomic management. For example, if 50 percent of revenues are shared with subnational administrations, any required revenue adjustment would need to be substantially larger for the central government, as subnational governments may spend part or all of their shares.[37] Revenue-sharing also distorts incentives: if additional taxes have to be shared, governments do not gain much by raising additional revenue (this is believed to be the case in Germany, where the marginal transfer rate—the proportion of revenue at the margin to be transferred away—is significant, thus weakening incentives to raise revenue). Finally, as revenue-sharing on an origin basis exacerbates horizontal inequalities, it needs to be accompanied by redistributive transfers to compensate for inequalities in the distribution of financial resources.

64. **FAD advice in this area has focused on three main elements**. First, revenue-sharing should be considered as part of the overall financing framework for subnational governments; as revenue-sharing is conceptually akin to transfers, in some cases advice has focused on the design of transfer arrangements (for example, in Colombia and Kosovo). Second, sharing of revenue that tend to be geographically concentrated (such as natural resource revenue, as indicated above) should be avoided; for example, in the case of Macedonia, FAD advised in favor of sharing VAT rather than income taxes, as the former were more evenly distributed across municipalities. Finally, revenue-sharing should be accompanied by a proper equalization transfer system. Table 7 includes more detail on FAD policy recommendations in this area.

Other intergovernmental transfers

65. **The design of a transfer system has a significant impact on incentives to manage subnational operations efficiently**. As highlighted in Section II.B, sole reliance on grants, or transfers designed to automatically meet subnational deficits (gap-filling transfers) is likely to sap efficiency and reduce accountability, and should be avoided. The design of transfers has been a major focus in overall assessments of intergovernmental fiscal relations, as well as an area where Fund advice has been sought by member countries.

[37] In the case of Indonesia, the revenue-shares led to a substantial increase in funds for local governments that were *de facto* saved initially given local spending capacity constraints—however this is unlikely to remain over a period of time (see the case study).

Table 7. Main Recommendations on Revenue-Sharing in Case Countries

Countries	Problem	Fund advice
Bolivia	Distribution of hydrocarbons revenues generates vertical and horizontal imbalances and transfer volatility, and has resulted in low incentives to exploit tax bases at the subnational level.	Hydrocarbons taxation should accrue to the central government level only.
China	Revenue-sharing (based on taxes whose bases are stronger in richer provinces) has elements of regressivity, as it favors richer provinces.	Reform transfer system to make it consistent with delivering a minimum standard of public services and based on a rule-based equalization system.
DRC	Constitution grants provinces 40 percent of government revenue collected in their territory, but does not define the tax bases.	Full and immediate implementation of the 40 percent rule would create a major vertical imbalance (health and primary education, assigned to local governments, account for less than 20 percent of total expenditures). Revenue sharing mechanisms should be gradual and in line with the devolution of expenditure responsibilities.
Indonesia	Oil and gas revenues included as part of revenue-sharing thus creating imbalances and increased volatility of transfers. In addition, a floor was imposed on transfers.	Avoid sharing oil and gas revenues on an origin basis.
Liberia	Currently there is no revenue-sharing mechanism in place, but pressures are likely to arise to assign/share natural resource revenue on an origin basis.	Refrain from sharing natural resource revenues, as these would complicate financial management at the county level and would open horizontal gaps. In the initial stages of decentralization, limited spending assignments will likely not require funding through revenue-sharing.
Macedonia	No revenue-sharing in place at the time of the mission.	As larger spending assignments are transferred to municipalities, revenue-sharing could be used to close vertical imbalances. Sharing VAT should be preferred over sharing PIT: (i) VAT-sharing is administratively simpler; (ii) VAT revenue are more stable; and (iii) redistribution may be easier as local incidence matters less.
Mexico	Complex and not redistributive system based on revenue-sharing and earmarked transfers.	Reform revenue-sharing and fold it into a new transfer system, designed to reflect spending needs and revenue capacity.
Nigeria	All federally collected receipts are pooled and shared based on two formulas: one for the VAT and one for all other revenues, including oil revenue. Sharing of oil revenue is highly procyclical; increases the sensitivity of SLGs finances to volatile oil revenue; and creates marked horizontal imbalances at the state level. States are mandated to share 10 percent of all their receipts with local governments.	Repeal oil revenue-sharing and convert into a royalty share and an explicit environmental excise. Repeal the 10 percent sharing of internally generated revenue of states with their local governments, which has been erratically applied, and fold into properly designed revenue assignments (including piggybacking of PIT).

Source: "Macro-Policy Lessons for a Sound Design of Fiscal Decentralization: Background Studies".

Note: Colombia and Kosovo are not included (advice was provided more specifically on transfer design).

66. **Transfers typically satisfy a number of purposes**. They correct *vertical imbalances* between the spending responsibilities and tax revenues devolved to the local level. As most taxes tend to be assigned to the national level, while expenditure responsibilities are more easily decentralized, there is a need to cover the difference. In this case, *general purpose* (or *unconditional*) *transfers* are provided by the center to subnational governments for general funding purposes. Transfers (*equalization transfers)* are also used to correct *horizontal imbalances* among subnational governments created by differences in local tax bases. In other cases, transfers may be used to correct externalities among governments, or to promote specific types of expenditure at the local level, for example on some services particularly sensitive from the national point of view. In this case, *block grants* are used to provide funding for specific sectors; while *special purpose* (*or earmarked*) *grants* also mandate the

type of spending within a designated sector (these are also called *conditional* transfers, as they can only be used on some particular goods or services).

67. **A transfer system should not be designed in isolation and should complement the choices on the spending responsibilities and revenue assignments to subnational governments—a point typically stressed in the Fund advice to member countries**. In practice, most countries use combinations of special-purpose and unconditional transfers, with a view to balancing the preferences of the central government (or in some cases, of donors) with the priorities and resources of subnational governments.

68. **Transfers may require some degree of coparticipation (matching) from subnational governments**. This, however, may only divert resources from other important or basic spending, particularly with weak own-source revenue. Moreover, matching conditions may prevent poorer regions from accessing the transfers, and could exacerbate horizontal inequalities. FAD has often recommended that special-purpose grants be provided on the basis of costed programs, where possible; and that these be implemented in countries where the central government can monitor that the grants have been used for the specified purposes, a criterion that is difficult to satisfy in the context of weak PFM systems at the at the subnational level, as transferred funds are fungible. Another key issue is whether these grants should be taken into consideration in setting equalization grants, along with other unconditional grants.[38]

69. **Transfers also differ in the degree of central government discretion**. *Mandatory* transfers (entitlements) are rules-based obligations for the government providing the transfer; in these cases, transfer amounts and conditions are legally defined. Alternatively, transfers may be *discretionary*, so that their amounts and conditions for their disbursement are decided on an ad hoc basis. Discretionary transfers are usually temporary in nature, for example, for specific infrastructure projects or emergency assistance.

70. **Simple mechanisms to allocate transfers across jurisdictions tend to be based on criteria of spending needs, revenue capacities, or both**. Providing transfers on an equal per capita basis is the simplest way to achieve some degree of equalization. This formulation, however, does not take into account the differential needs of different groups of the population or of different regions, and more complex formulations use various poverty indices and geographic criteria to reflect cost differentials in service provision. At the same time, sole reliance on needs-based criteria does not account for differences in revenue capacities; while exclusive equalization of revenue capacities implicitly assumes that cost differentials are not significant. Thus, countries use a combination of expenditure needs and

[38] For example, FAD has recommended in China that financing to minimize the effects of natural disasters should be a central government responsibility, and that the grants should be treated as special purpose transfers and not included in the equalization framework.

revenue capacities to design equalization transfers. Australia and Denmark have advanced systems in this regard, and recent reforms in Sweden and Switzerland take them in the same direction. The trade-off, of course, rests with the availability of data and the difficulty of administering such transfers.

71. **FAD advice on transfers has focused on design issues**. In many countries, recommendations focused on simplifying transfer design and improving transfer formulas, by transparently including both spending needs and revenue-capacity criteria (Bolivia, Kosovo, Indonesia, Mexico, and Nigeria). In order to make transfers incentive-compatible, FAD has discouraged the use of equalizing criteria relative to historical/actual spending and revenue (as these could discourage revenue collection, or promote excessive spending (Kosovo). FAD has also often advised to simplify special purpose transfers, given their administrative costs (Colombia, China, Indonesia, and Nigeria). Finally, as "winners" and "losers" are likely to emerge when transfers are redesigned—with the latter creating political resistance, FAD has sometimes advised in favor of *hold-harmless provisions*, where the subnationals standing to lose out from the reform are guaranteed the same transfer amounts (usually in nominal terms) as in the year preceding the reform. The provisions were recommended by FAD in a few cases, including more recently in Mexico and Kosovo. Table 8 summarizes FAD advice on transfer design in the case study countries.

Managing revenue

72. **The choice between central and subnational tax administration is not easy, and tends to vary depending on country circumstances**. While FAD TA in this area has been limited, nonetheless advice has been provided when changes in the financing mechanisms of subnationals required a rethinking of existing tax administration arrangements. For example, in Colombia, advice focused on centralizing tax administration, while building necessary capacity at the subnational level. In Macedonia, where much of the revenue administration structure was still organized around the (pre-1997) 34 municipalities, these lacked capacity and incentives to strengthen tax compliance as collection of municipal taxes was assigned to the central government; thus, FAD advised to build capacity and align tax administration structures to a streamlined territorial organization of municipalities. In contrast, the Chinese revenue-sharing arrangements of 1994 were designed (in line with FAD advice) to give the central government additional tax handles, and also to establish a state administration of taxation for the center, separate from the local administrations.[39]

[39] See Ahmad et al. (1995), and Ahmad et al. (2002).

Table 8. Main Recommendations on Transfer Design in Case Countries

Countries	Problem	Fund advice
DRC	A planned equalization fund is unable to mitigate horizontal imbalances generated by revenue-sharing, as it is limited to investment financing.	Establish a transfer system based on an equalization formula with transparent and objective criteria (e.g., number of inhabitants and surface).
Liberia	Transfers are vertically inexistent, with the exception of the County Development Fund which assigns a certain nominal amount to counties for capital projects.	With decentralization, a transfer system will need to fund counties' operations. A simple formula should be adopted, based on transparent criteria.
Nigeria	Low correlation between transfers and states' relative needs. The derivation formula benefits mostly middle- and high-income states. No definition of minimum public services in return to the transfers.	Establish special purpose transfers in lieu of direct investment by the federal government. Over time, include a new general transfer system based on estimates of spending needs and own revenue-capacities; introduce a floor for transfers to ensure the continued provision of essential services, to be financed by savings from periods of high oil prices. Limit specific purpose grants to high-priority national objectives.
Bolivia	Transfers suffer from excessive earmarking, without due consideration for equity.	Reduce earmarking and reform transfer system to make it more equitable by taking into account spending needs and fiscal capacity.
Colombia	Transfers were excessively earmarked. At the time of the mission, transfer amounts were decided as a fixed amount, not linked to revenue (but this was due to change in 2008)	Maintain current framework of defined transfer growth, as transfers as a share of revenue would: (i) create rigidity for the central government; (ii) induce procyclicality in fiscal policy (as excess shared-revenues are spent by subnationals); and (iii) create volatility at the sub-national level. Reduce gradually earmarking of transfers.
Mexico	Complex and not redistributive system based on revenue-sharing and earmarked transfers.	Freeze in nominal terms the existing transfers (*hold-harmless provision,* to make the reform politically viable) and phase-in an equalizing system based on spending needs and revenue capacities. Clarify and simplify special-purpose transfers.
Kosovo	Formulas for earmarked transfers in health and education are not adequate to cover municipalities' spending mandates in these areas, while unconditional transfers are not providing any spending autonomy to municipalities, given their limited size.	Maintain close-ended transfer amounts, but increase size of unconditional transfers, based on equalization criteria, and link better block grants for health and education to spending needs. Over time, move gradually to general transfers, based on revenue capacity and spending needs. Include a *hold-harmless provision* to ensure that each municipality is at least provided with the same nominal level of transfer as in the year preceding the reform.
Macedonia	Transfers allocated using a nontransparent system.	Create Municipal Equalization Fund and adopt a formula-driven allocation rule for equalization across municipalities. As expenditure mandates expand, broaden revenue-sharing and/or transfer system.
China	The transfer system is complex and not fully transparent.	Reform transfer system to make it consistent with delivering a minimum standard of public services. Expand the use of well-designed rules-based equalization system. Clarify and simplify special-purpose transfers.
Indonesia	Oil and gas revenues are included as part of revenue-sharing thus creating imbalances and increased volatility of transfers. In addition, a floor was imposed on transfers.	Remove floor on transfers (which can create rigidities and complicate macro-economic management) while keeping the *hold-harmless rule* for the general purpose fund (DAU).

Source: "Macro-Policy Lessons for a Sound Design of Fiscal Decentralization: Background Studies."

73. **Revenue-sharing/surcharging may help circumvent the challenges associated with the administration of major taxes at the subnational level.** If there are taxes that can be collected with minimal additional effort, such as surcharges on income taxes (and where subnational information may be helpful to the center), there is unlikely to be much resistance from the central tax administration to collecting such taxes on behalf of other administrations. The issue of collecting a VAT on behalf of subnational administrations might be more problematic for national administrations. Subnational governments are often concerned that the central tax administration might not have the incentive to devote sufficient resources to collect subnational taxes—though this might be partially mitigated by well-structured service contracts with the central tax administration.

74. **Subnational tax administrations can be designed and operated on the basic principles of modern tax administration**. The large municipalities in Colombia have led to considerable improvements in own-revenue collection; while some Brazilian states have shown that it is possible to administer effectively subnational VATs, albeit origin-based ones. However, this is unlikely to be feasible in many developing countries. Setting up information systems and processes to support local tax collection may be costly, for example establishing a cadastre as the basis for assessing and collecting property taxes.[40] At the same time, complex rules for tax revenue assignment among national and subnational levels of governments may stand in the way of tax modernization efforts. This has been the case in Sudan, where a dual network of tax offices (i.e., the "national" and "states" offices) collects taxes on businesses, hampering the integration of VAT and income tax operations. In the DRC, FAD recommended that, in case the collection of local taxes were to be assigned to the central tax administration (*Direction Générale des Impôts*, DGI), the latter should be granted a larger share of such taxes as compensation for its services; if, on the other hand, the administration of local taxes were to be assigned to subnational tax administrations, their competencies should be limited to managing only local taxes, within a framework clearly defined by law.

D. Mechanisms to Control Borrowing

75. **An essential element of fiscal discipline is the avoidance of "excessive" borrowing by subnational governments**. Such borrowing entails adverse externalities for other subnational governments, as well as for the central government. This may happen through a number of channels, by preempting a disproportionate share of available financing, and thereby putting upward pressure on interest rates; or by pushing up risk premia on government bonds more generally; or through the cost of bailouts. The likelihood of such externalities constitutes the fundamental rationale for limitations on subnational borrowing.

76. **Borrowing controls can be grouped into four broad, not mutually exclusive, categories:** (i) reliance on market discipline; (ii) cooperation between central and subnational governments; (iii) rules-based controls; and (iv) administrative controls.[41] These are ranked according to the degree of central control over subnational borrowing, from maximum autonomy (accessing the markets) to maximum control (administrative measures, including an outright ban on subnational borrowing). Table 9 summarizes the main advantages and pre-conditions for these approaches, as well as providing examples of their application in different regions and countries.

[40] The World Bank is actively engaged in providing loans and assistance in this area (e.g., in Bolivia and Peru). Given limited resources, the Fund has not typically provided technical assistance to specific subnational tax administrations, with two exceptions in the 1990s (to the provinces of Cordoba and Buenos Aires in Argentina).

[41] See Ter-Minassian and Craig (1997) for a detailed discussion of these approaches.

Table 9. Approaches to Controlling Subnational Borrowing 1/

Approach	Market Discipline	Cooperative Approach	Rules-based Controls	Administrative Controls
Advantages	• Emphasis on self-control • Monitoring by credit rating agencies	• Promotes dialogue • Enhances responsibility of subnational policymakers	• Transparent • Avoids bargaining	• Potential central government (CG) control • Better terms and conditions • Useful for foreign borrowing
Preconditions	• Comprehensive, timely, and reliable information • Developed financial markets • No access to privileged financing • No previous history of bailouts	• Constitutional underpinnings • Culture of fiscal discipline • Existence of institutions for cooperative decision-making or strong bargaining position of central government	• Sound and credible rules (e.g., well defined, transparent, and flexible) • Clear coverage and full information needed	• Ability of CG to effectively monitor and implement controls
Examples	Canada Australia	Argentina’s bilateral pacts Austria Denmark DSPs in EU countries	Brazil Chile Spain United States	China France Japan United Kingdom

Source: Based on Ter-Minassian and Craig.
1/ As most countries use a combination of approaches, the examples primarily illustrate the relative reliance by the country in question on that approach.

77. **Sole reliance on market discipline in governing subnational borrowing requires a number of preconditions seldom met in practice**. It has worked in countries with high standards of transparency and governance at all government tiers (such as Australia, Canada, and Sweden), and with no significant history of bailouts. In most emerging markets and developing economies, as well as in some industrial countries, one or more of the preconditions for effective market discipline on subnational borrowing are lacking. In particular, information on subnational finances is frequently not accurate and comprehensive or subject to long delays; subnational governments often have access to privileged channels of financing (including through banks or enterprises they own); and many have significant histories of bailouts (through gap-filling transfers, or debt restructuring). At the same time, when investors perceive an implicit guarantee by the center, market signals do not work effectively; in the German federation, states (Länder) with significant debt levels have nonetheless enjoyed very high credit ratings. Many attribute this to the bailouts of Bremen

and Saarland in the 1990s, mandated by the constitutional court (Rodden, 2006, and Stehn and Fedelino, 2009).[42]

78. **A cooperative approach involves the setting of borrowing limits for individual subnational jurisdictions through negotiations with the center**. A variant of this approach involves bilateral negotiations of the central government with individual subnational entities, or groups of them. Examples include Australia's experience with the Loan Council; and EU countries (including through the so-called Domestic Stability Pacts), Brazil's debt agreements with states and municipalities, and Argentina's bilateral pacts between the nation and the provinces. The record of effectiveness of cooperative approaches is mixed. Preconditions for its success include the absence of severe fiscal stress; relative economic homogeneity of the subnationals (and, relatedly, absence of strong distributive conflicts); a tradition of cooperation in intergovernmental relations and/or a relatively strong bargaining position of the central government (as in Brazil's debt restructuring agreements); a stable institutional framework for the negotiations; and availability of reliable and timely information to assess compliance with agreed borrowing limits.

79. **Fiscal rules provide a third approach to control subnational borrowing**. These may take the form of quantitative ceilings on borrowing, debt and/or debt service of subnational governments (often specified in relation to these governments' revenues, as in Brazil and Colombia), or of procedural rules relating to their budget processes. These rules may be embodied in national legislation (e.g., in Brazil and Spain) or in subnational constitutions or laws (e.g., in some states of the United States and in some Canadian provinces). The effectiveness of such rules depends on their specificity, comprehensiveness of coverage, and, most importantly, the degree of political commitment to their observance and enforcement.[43] The design of the rules also matters, in particular a clear specification of appropriate escape clauses, and of credible sanctions for noncompliance. Reliance on a revenue-base for subnationals that is relatively stable over the business cycle is also useful to minimize the risk of procyclicality of quantitative ceilings on borrowing or debt for subnational governments. Needless to say, the availability of information to assess compliance on a timely basis is crucial to these rules' effectiveness.

80. **Finally, a number of countries (both industrial and developing) continue to rely to some extent on administrative/direct controls on subnational borrowing**. Given the constitutional status of subnational governments in federations, administrative controls tend to be used more in unitary states, and in particular vis-à-vis local governments. They vary in

[42] The recent rejection of a bailout request by Berlin may contribute to changing Länder and investors' perception of soft budget constraint and implicit federal guarantee.

[43] See for example, Kopits and Symansky (1998) and Ter-Minassian (2005). Some of these issues are also covered on Box 2 above.

comprehensiveness and degree of detail; increasingly, they have tended to focus on overall levels of borrowing (flow) or debt (stock), rather than on authorization of individual borrowing operations. In some cases, control is limited to external borrowing, while in others limits are set on banks' exposure to subnational governments. Administrative controls, especially when involving central authorization of individual subnational borrowing, carry a significant moral hazard risk, as the central government may be seen by lenders as implicitly backing the service of those loans. Their effectiveness as instruments to promote subnational fiscal discipline depends crucially on the de-politicization of the central government's decisions, and on the availability of information needed to shape these decisions and check their enforcement (including information on off-budget activities of the subnational government, and/or on arrears incurred by them).

81. **On balance, there is not a sole approach to subnational borrowing frameworks that may be preferable in all circumstances**. Rules-based approaches, underpinned by adequate enforcement mechanisms, may well have an edge in countries with inadequate basis for sole reliance on market discipline, and with a relatively weak record of use of discretion by the central government vis-à-vis subnational governments (or in countries where some of these governments have strong political influence on the center). Rules may be usefully complemented by increasing reliance on market discipline, as the preconditions for effective working of the latter are being put in place, through improvements in the transparency of subnational government operations, elimination of privileged financing channels for these governments, and establishment of a track record of no bailouts. Finally, subnational borrowing frameworks should also include ex post insolvency mechanisms, to help manage expectations about possible defaults and allow efficient resolution of distressed debt (Liu and Waibel, 2008).

82. **FAD has taken an eclectic approach in advising on the control of subnational borrowing**. Its advice has been shaped according to specific circumstances of the country in question, including any legal or constitutional limitations on the central government's powers vis-à-vis the subnational governments, and the presence or absence of preconditions for the effective working of market discipline. In some countries (for example, DRC, Kosovo, and Macedonia) advice has focused on building effective preconditions for borrowing arrangements at the subnational levels; allowing subnationals to borrow "prematurely" may severely undermine macroeconomic management and eventually lead to debt sustainability problems. In other cases, for example in China, the possibility of asymmetric arrangements, where more advanced provinces could seek credit ratings and start limited borrowing, was suggested. In countries where subnational borrowing was established (such as in Bolivia, Indonesia, Mexico, and Nigeria) FAD's advice focused on establishing guidelines (in some cases, establishing rules) for subnational borrowing, strengthening borrowing reporting frameworks, and creating professional capacity for debt management. Table 10 summarizes FAD advice in this area.

83. **Finally, FAD has also emphasized the possible fiscal risk arising from indirect borrowing mechanisms**. In many countries, subnational governments have entered (or have expressed an interest in entering) public-private partnerships (PPPs), generally based on the utilization of their land or other assets.[44] PPPs typically involve complex financial and legal arrangements, and may pose significant risks, in particular for inexperienced governments. Experience from various countries demonstrates that successful development of PPPs requires strong institutional and operational frameworks and a clear and transparent legal framework. PPPs have also to be subject to stringent investment planning and project evaluation, to be closely coordinated with other public investment projects. Finally there is a need for clear standards for disclosure of PPP arrangements in government budgets and accounts, and for transparent financial reporting about these projects. On this basis, the Fund advice has cautioned against possible PPP arrangements (for example, in Kosovo and Macedonia), until an appropriate legal framework is in place and, equally important, an appropriate level of expertise has been developed within the government sector to ensure that any level of risk is well understood and appraised.

84. **It should be emphasized that controls on subnational borrowing are only one of the elements of a sound system of intergovernmental fiscal relations.** Borrowing arrangements cannot be viewed in isolation. When subnationals demand more borrowing autonomy, it is usually because their financing means are not adequate—either their spending responsibilities are not sufficiently funded, or they do not face a hard budget constraint, possibly resulting in inefficient spending and prodeficit bias. This calls for a closer and more comprehensive assessment of other aspects of fiscal decentralization, as repeatedly stressed in this paper.

[44] For example, in some cases, developers may agree to finance public roads, in return for a long-term lease on land along the road that can be used for commercial purposes. There may also be additional payments, guarantees, and counterguarantees involved in such transactions.

Table 10. Main Recommendations on Borrowing Arrangements in Case Countries[1]

Countries	Main issues	Fund advice
Administrative controls on borrowing		
DRC	Draft decentralization law requires the ministry of interior to authorize all subnational borrowing operations, but does not specify the criteria to implement control on subnational borrowing.	Control mechanisms for subnational government debt should be defined (e.g., through direct controls or central government authorization of individual borrowing operations). Tight control over borrowing is necessary to avoid the risk of unsustainable spending at the provincial level and prevent conflicts with the fiscal stance determined at the national level.
Kosovo	Municipalities were not allowed to borrow, but pressures to release current ban were increasing. As municipalities' spending responsibilities expand, there will be a need to provide them with adequate financing mechanisms, including (possibly) borrowing.	A revision of borrowing arrangements—and a possible relaxation of the current ban—should be linked to further advances in public financial management system. In the meantime, proceed slowly and in small steps. A well-defined legal framework should lay out the preconditions for borrowing. Careful sequencing is required, as the institutional framework is not sufficiently strong and the banking system not sufficiently mature to prevent irresponsible municipal borrowing behavior.
Macedonia	Municipalities were not allowed to borrow, but increasing spending mandates would need additional financing	In the initial stage of decentralization, municipalities should continue not to be allowed to borrow. A Municipal Investment Fund could be created, from which municipalities would borrow to fund investment in a limited way.
Rule-based controls		
Indonesia	Weak subnational borrowing framework prior to decentralization as local governments can borrow directly from banks and no reporting framework.	Impose borrowing limits and strengthen borrowing reporting framework.
Mexico	Absence of standardized debt limits and fragmentation in subnational debt information. Proliferation of new instruments, such as securitization of revenues and PPPs.	Establish prudential limits on borrowing, linked to fiscal rules. Ensure total coverage of the subnational debt registry at the MOF. Develop a sound legal framework for PPPs. Greater oversight on credit rating assessments.
Nigeria	Lack of clear debt limits and reporting requirements by subnational governments.	Restrict domestic borrowing of local governments only to those with a balanced budget in the current and the previous year, and limit it to a certain percentage of local government's revenue. Maintain the practice of not allowing external borrowing by the local governments. Create professional capacity for debt management in the states' MOFs. Establish a system for all levels to provide the Debt Management Office (DMO) with information on all debt aspects.
Eclectic approaches		
Bolivia	Weak subnational borrowing framework and repeated tendency to bail out subnational governments.	Strengthen subnational borrowing framework and transparency. Lack of political will to implement sanctions and weaknesses in the framework provided incentives for excessive borrowing and soft budget constraint. Create a fiscal risk register to take stock of subnational liabilities and facilitate their management.
China	While subnational borrowing is not allowed, there is evidence that local governments are using indirect ways of indebtedness, with a possible related buildup of fiscal risks.	Adopt an asymmetric framework whereby certain local governments would be allow to borrow, provided certain preconditions are in place. Create incentives for local governments to strengthen their fiscal policy management, while allowing recourse to additional (and needed) resources to carry out their mandates. Establish sub-national fiscal risk registry, to be kept at the central treasury.

Source: "Macro-Policy Lessons for a Sound Design of Fiscal Decentralization: Background Studies."

1/ Colombia and Liberia are excluded, as TA did not cover the issue of borrowing arrangements.

IV. Lessons Learned and Challenges Ahead

85. **The design of intergovernmental fiscal arrangements is one of the more complex areas of public finance. This is the case because it spans a number of policy and institution-building issues requiring careful coordination and sequencing, and because it is shaped by economic, historical, political, and social factors**. Fund advice in this area, while focusing on macrorelevant aspects, in line with the institution's core mandate and expertise, has tried to recognize these complexities and adjust to them, particularly as there is no single "right" model for the design or reform of intergovernmental fiscal relations. These must take into account: (i) macroeconomic constraints; (ii) the need to strike a balance between efficiency and distributional considerations; and (iii) the need to reflect relevant institutional factors, such as constitutional and other legal constraints, and the capacity of subnational governments to spend well and raise own revenues. As relevant circumstances change over time and across countries, the Fund advice on fiscal decentralization has also evolved accordingly.

86. **Despite differences, some general lessons can still be drawn from the range of experiences of countries to which the Fund has provided advice in this area**. These lessons can be summarized as follows.

- *The sequencing of decentralization matters: resources should be made available to subnational governments pari passu with the assignment to them of spending responsibilities.* The importance of an appropriate sequencing of decentralization is borne out by the difficulties experienced by countries like Colombia or Nigeria, where the devolution of resources initially outpaced that of spending responsibilities, on the one hand, and by countries (like some transition economies in the 1990s) where spending mandates were pushed down to the subnational level, without adequate provision of resources to the affected governments, leading to accumulation of debt or arrears, or to a significant deterioration of the quality of the decentralized public services. As part of the sequencing, issues of territorial organization and political arrangements are also relevant, although not central to the Fund mandate (as noted in the case studies of Liberia and Macedonia).

- *At the same time, the pace of decentralization should be as much as possible linked to the capacity of subnational governments to carry out effectively the functions assigned to them.* Two corollaries derive: first, increased devolution of expenditure functions should be conditioned on compliance by the subnational governments with a minimum set of PFM requirements, in particular an orderly, transparent, and reasonably participatory budget process; second, as capacity varies within each level of government, there is scope for asymmetric arrangements (differentiated speed, based on clearly specified criteria) in the decentralization of public functions to individual jurisdictions, or groups thereof. Colombia has successfully shown that asymmetric decentralization is not only feasible, but also desirable to promote incentives for subnational politicians to implement "good" policies. Asymmetric arrangements would also suit well capital cities (or larger/more advanced

jurisdictions) that are, in many countries, more ready than other subnationals to take on additional responsibilities, as recommended in Kosovo, Liberia, and Macedonia (and in China, as a way to start relaxing borrowing arrangements for some provinces).

- *While inevitably spending responsibilities in some sectors (such as education and health) will overlap across levels of government, it is important to ensure adequate clarity of the role of each level of government in the provision of the services, to avoid duplication, waste, and loss of accountability.* The experiences of countries like Bolivia, DRC, Mexico, and Nigeria in this area, as outlined in the background paper, are illustrative of the costs of such lack of clarity.

- *Also needed in some cases are complementary policy reforms, such as in the civil service and regulatory frameworks.* For example, unless there is adequate scope for geographic or functional mobility of civil servants (including providers of health and education services), increased devolution of public services may result in a deterioration of the quality of the services in certain jurisdictions (e.g., in rural communities) and/or in increases of overall public employment. Similarly, devolution of subsidized public services (e.g., utilities) to local governments is unlikely to lead to a reduction of subsidies, or may result in a deterioration of such services, unless the local authorities are allowed to adjust their prices as needed. In fact, allowing some regulatory autonomy and supporting increased participation of subnational jurisdictions in public policy matters may go a long way in addressing decentralization pressures, while allowing more time for the institutional and legal changes required to implement fiscal decentralization in a successful way (see next point).

- *Realizing the potential efficiency gains of decentralization in the provision of public goods and services often requires significant investments in capacity-building and improvement of PFM systems at the subnational level, in particular aiming at improving transparency of the budget process in all its phases.* While technical assistance by multilateral and bilateral development partners, dissemination of good practices, and peer pressure can play useful (sometimes indispensable) roles in this respect, experience indicates that a strong commitment to such reforms by the central as well as the subnational governments is essential to ensure their lasting success, as shown by experiences in Colombia and Brazil. Unfortunately, such commitment has not always been present, undermining or reversing progress in this area. There is also a risk of spreading too thin limited resources of countries where capacity at the central level is being (re)built and skills are in short supply, as in post-conflict countries (DRC and Liberia). In these countries, the aim of decentralization should not distract from the fundamental need to continue on the path of PFM reforms at the central level.

- *In order to facilitate the effective implementation of a "hard budget constraint" on subnational governments, the latter must be provided with an overall resource envelope that ex ante would allow them to carry out their assigned spending responsibilities at an average level of efficiency.* A persistent significant mismatch of spending needs and resources of

subnational governments is likely to lead over time to inadequate provision of the devolved public services, and/or to fiscal indiscipline (typically resulting in inappropriate resort to borrowing, or accumulation of arrears). It should be recognized, however, that it is not generally easy to assess spending needs of subnational governments, given the frequent absence of reliable information on cost-effectiveness of spending programs at all levels of government. Sample studies, comparing cost-effectiveness of selected key spending programs in similar jurisdictions (for example, recent studies in the United States comparing the performance of hospitals in selected states and cities) can help shed light in this area.

- *Control over a portion of subnational resources is key to promoting accountability of those governments to their constituents, as well as fiscal responsibility*. The assignment of own-revenue sources to subnational governments must take into account economic considerations (such as the degree of mobility of the tax base), as well as institutional ones, in particular the capacity of the subnational tax administrations. When the latter is relatively weak, it may be desirable for subnational taxes to be administered by the central government on an agency basis. Potential candidates for own-revenue sources at the regional government level are surcharges on central/federal taxes (notably the personal income tax); retail sales taxes; and, in relatively advanced countries, some form of regional VAT (such as the Italian IRAP). However, as demonstrated by the experience with the Brazilian ICMS, a degree of coordination of subnational taxes, especially as regards the definition of the tax base, is important to avoid predatory tax competition, and to reduce compliance costs for taxpayers that transact across regional jurisdictions. For local governments, movable (e.g., motor vehicles) or immovable properties provide appropriate, albeit not always adequately exploited, tax handles. Advice has typically (but not exclusively) focused on strengthening the design and administration of property taxes (as shown by the case study countries).

- *As typically subnational own resources fall well short of spending responsibilities, intergovernmental transfers are needed to offset the resulting vertical imbalances.* Revenue-sharing is generally used to correct such imbalances, but it can expose the budgets of subnational governments to significant cyclical fluctuations, which they are generally less well placed to shoulder than the central government. To address this problem, the choice of least-cyclically sensitive taxes as own revenue handles, and/or the use of smoothing mechanisms (such as moving averages of central revenues as the basis for revenue-sharing) have been suggested. While this would attenuate the impact of cyclical fluctuations, it is unlikely to eliminate it. It is therefore desirable for subnational governments to build up cushions (such as the "rainy day funds" used by some U.S. states) during periods of boom, to be drawn down during cyclical downturns.

- *Intergovernmental transfers are also used to moderate horizontal imbalances within each level of government.* Horizontal redistribution is best made through a system of equalization transfers, designed to take into account as best as possible—given relevant data availability—relative taxing capacities and spending needs of subnational governments. Special-purpose, earmarked transfers should be used sparingly, because they impart rigidity

to subnational spending (as shown in the cases of Bolivia, Colombia, Mexico, Nigeria, and Indonesia at an earlier stage), and it is generally difficult to monitor effectively whether they are being used for the specified purpose.

- *Limits to subnational borrowing are in most cases needed to ensure adequate fiscal discipline*. Effective reliance on market discipline alone requires a number of preconditions (notably a significant history of no bailouts) that are met in relatively few countries (such as Canada and the United States). At the same time, market discipline can usefully complement other control mechanisms. The choice among alternative control methods (administrative, rules-based, or cooperative) depends on country circumstances, and in some cases a blend of different methods is most effective. In some countries, with less developed credit and bond markets and/or where availability of reliable information on government operations is not adequate to ensure proper monitoring, borrowing should be made conditional upon well-identified preconditions (possibly including certification that subnationals meet a minimum set of PFM requirements), as recommended in China, Kosovo, and Macedonia.

- *To enforce any form of control, availability of relevant information is crucial, including on floating debt and contingent liabilities (especially guarantees and PPPs)*. Countries should seek to establish a subnational debt registry (as recommended in Bolivia and Mexico) or a fiscal risk registry (as recommended in China), by consolidating various sources of information, especially on "below-the-line" financing flows to subnationals. It is also important to develop progressively the capacity of subnational governments to manage their own debt. Debt limits can be usefully complemented by strengthened prudential regulations on financial intermediaries lending to the subnationals. It is also crucial to have in place sound mechanisms for the resolution of subnational debt crisis, when they occur.

87. **As the case studies presented in the companion background paper indicate, the effectiveness of Fund advice in the fiscal decentralization area has varied significantly across countries and over time**. A fundamental factor in this respect has been the degree of political support for reforms that inevitably entail difficult trade-offs, as well as winners and losers. The degree of political commitment to such reforms has sometimes been enhanced by external factors, such as a financing crisis. Even then, however, it has proven easier to implement piece-meal reforms (for example a tightening of borrowing controls on subnational governments) rather than comprehensive ones that would have helped achieve more efficient and lasting outcomes.

88. **Looking ahead, as decentralization continues to advance even in countries that are currently relatively centralized, the Fund will need to remain engaged in the provision of advice on the more macroeconomically relevant aspects of the process**. It should also further strengthen its cooperation with other institutions (such as the World Bank, other multilateral institutions, and some bilateral donors) that are active in this area, and have resources to support capacity-building at the subnational level, as improvements in capacity are often key to the success of fiscal decentralization.

References

Ahmad, Ehtisham, Maria Albino-War, and Raju Singh, 2006, "Subnational Public Financial Management: Institutions and Macroeconomic Considerations" in *Handbook of Fiscal Federalism*, ed. E. Ahmad and G. Brosio, 405–27. Cheltenham, UK, Edward Elgar.

Ahmad, Ehtisham, Giorgio Brosio and Vito Tanzi, 2008, "Local Service Provision in Selected OECD Countries: Do Decentralized Operations Work Better?" IMF Working Paper 08/67.

Ahmad, Ehtisham, and Giorgio Brosio, eds., 2009, *Does Decentralization Enhance Service Delivery and Poverty Reduction?*, Edward Elgar (forthcoming).

Ahmad, Ehtisham, and Giorgio Brosio, eds., 2006, *Handbook of Fiscal Federalism.* Cheltenham, U.K.: Edward Elgar.

Ahmad, Ehtisham and Vito Tanzi, 2002, *Managing Fiscal Decentralization* Routledge, London.

Ahmad, Ehtisham, Li Keping, Tom Richardson, and Raju Singh, 2002, "Recentralization in China?" IMF Working Paper 02/168, 2002.

Ahmad, Ehtisham, David Hewitt, and Edgardo Ruggiero, 1997, "Assigning Expenditure Responsibilities" in Ter-Minassian, ed. 1997 *Fiscal Federalism in Theory and Practice*

Devarajan, Shantayanan, Stuti Khemani and Shekhar Shah, 2009, "The Politics of Partial Decentralization " in Ahmad E. and G. Brosio, eds., 2009, *Does Decentralization Enhance Service Delivery and Poverty Reduction?* Edward Elgar.

Ahmad, Ehtisham, Vito Tanzi, and Gao Qiang, 1995, *Reforming China's Public Finances,* IMF, 1995.

Ambrosanio, Flavia, and Massimo Bordignon, 2006, "Normative versus Positive Theories of Revenue Assignments in Federations" in *Handbook of Fiscal Federalism*, ed. E. Ahmad and G. Brosio, 306–38. Cheltenham, U.K.: Edward Elgar.

Balassone, Fabrizio and Daniele Franco, 2001, "Fiscal Federalism and the Stability and Growth Pact: A Difficult Union", in *Fiscal Rules: Papers Presented at the Bank of Italy Workshop held in Perugia, 1–3 February 2001* (Rome: Banca d'Italia)

Balassone, Fabrizio, Daniele Franco and Stefania Zotteri, 2004, "EMU Fiscal Rules and Fiscal Decentralization" *Presupuesto y Gasto Público*, No. 35, Instituto de Estudios

Batbold, Dulgum, Amine Mati and John Thornton, 2008, "Macroeconomic Aspects of Fiscal Decentralization: A Review of the Literature (mimeo).

Bayoumi Tamim and Paul R. Masson, 1995, "Fiscal Flows in the United States and Canada: Lesson for Monetary Union in Europe" European Economic Review, 39, 253–74.

Besley T. and A. Case, 1995, "Incumbent Behavior: Vote-Seeking, Tax-Setting, and Yardstick Competition" American Economic Review, 85, 25–45.

Bordignon, Massimo, 2006, "Fiscal Decentralization: How to Harden the Budget Constraint" in *Fiscal Policy Surveillance in Europe,* ed. Wierts P., S. Deroose, E. Flores, and A. Turini, Palgrave Mc Millan.

Bordignon, Massimo and Maria Flavia Ambrosanio, 2006, "Normative versus Positive Theories of Tax Assignments in Federations," Ahmad, Ehtisham, and Giorgio Brosio, eds., *Handbook of Fiscal Federalism.* Cheltenham, U.K.: Edward Elgar (Chapter 12).

Brennan G. and J. Buchanan, 1980, "The Power to Tax: Analytical Foundations of a Fiscal Constitution," Cambridge University Press, Cambridge.

Dafflon, Bernard, 2006, "The Assignment of Functions to Decentralized Government: From Theory to Practice," in E. Ahmad and G. Brosio (ed.), *Handbook on Fiscal Federalism*, Edward Elgar, Cheltenham.

Dillinger, William, 1991, *Urban Property Tax Reform,* Washington: World Bank.

Ebel Robert D., and Serdar Yilmaz, 2002, "On the Measurement and Impact of Fiscal Decentralization," Policy Research Working Paper No. 2809 (Washington, DC: World Bank).

Feruglio, Nicoletta, Jorge Martinez-Vasquez, and Andrey Timofeev, 2007 "Fiscal Decentralization in FYR Macedonia: An Assessment," International Studies Program Working Paper 08–14, Georgia State University.

Franco, Daniele and Stefania Zotteri, 2008, "Ensuring Fiscal Sustainability: Which Role for Fiscal Rules? The Experience of European Countries", paper presented at the conference on "Sustainability and Efficiency in Managing Public Expenditures" Honolulu, Hawaii, July 2008.

Franco, Daniele, Fabrizio Balassone and Stefania Zotteri, 2007, "Rainy Day Funds: Can They Make a Difference in Europe?" Bank of Italy Occasional Paper N. 11.

Franco, Daniele, Fabrizio Balassone, and Maura Francese, 2003, “Fiscal Policy in Europe: The Role of Fiscal Rules.” *National Tax Association Proceedings, Ninety-Fifth Annual Conference, 2002.* Washington, D.C.: National Tax Association: 7–17.

Gershberg A. and D. Winkler, 2004, “Education Decentralization in Africa, a Review of Recent Policy,” in *Building State Capacity in Africa,* ed. by Brian Levy and Sahr Kpundeh (WBI Development Studies, 2004).

International Monetary Fund, 2000, “The Evolving Role of Regions in Italy: The Financing and Management of Health Care Services” selected issue paper prepared for 2000 Article IV Consultation, Country Report 00/82.

Jin, Hehui, Yingyi Qian, and Barry R. Weingast R, 2005, “Regional Decentralization and Fiscal Incentives: Federalism Chinese Style,” *Journal of Public Economics*, 89 (9–10), pp. 1719–1742.Jin, Qian, and Weingast, 2005.

Kornai, Janos, Eric Maskin and Gerard Roland, 2003, “Understanding the Soft Budget Constraint,” Journal of Economic Literature, American Economic Association, vol. 41(4), pp. 1095–1136, December.

Kopits George and Steve Symansky, 1998, *Fiscal Policy Rules*, IMF Occasional Paper 162 (Washington D.C.).

Liu Lili and Michael Waibel, 2008, “Subnational Borrowing, Insolvency and Regulation” in Shah A. *Macro Federalism and Local Finance*, The World Bank (Washington D.C.).

McLure, Charles, 2009, "How to Coordinate State and Local Taxes with a Federal Value-Added Tax," mimeo, Hoover Institution, Stanford University.

Musgrave, Richard, 1959, *Theory of Public Finance,* New York: McGraw-Hill.

Oates, Wallace E. 1972, *Fiscal Federalism*. New York: Harcourt Brace Jovanovich.

Oates, Wallace E, 2005, “Toward a Second-Generation Theory of Fiscal Federalism” International Tax and Public Finance, Vol. 12, No. 4, 349–373.

Organization for Economic Co-operation and Development, 2004, “Sub-Central Taxing Powers,” Background paper prepared for OECD Meeting on Fiscal Relations across Levels of Government, Paris, 29–30 April, 2004 (Paris).

Qian, Yingyi, and Barry R. Weingast, 1997, “Federalism as a Commitment to Preserving Market Incentives.” *Journal of Economic Perspectives* 11 (Fall): 83–92.

Perry, Vicki (2009) "International Experience in Implementing VATs in Federal Jurisdictions, A Summary," Paper Presented at Conference of the American Tax Policy Institute, Washington, D.C., February 2009.

Pisauro, G., 2001, "Intergovernmental Relations and Fiscal Discipline: Between Commons and Soft Budget Constraint," IMF Working Paper 01/65 (Washington: International Monetary Fund).

Prud'homme, Remy, 1995, "The Dangers of Decentralization." *World Bank Research Observer* 10: 201–220.

Rodden, Jonathan A., 2006, "Achieving Fiscal Discipline in Federations: Germany and the EMU," in *Fiscal Policy Surveillance in Europe*, ed. by Peter Wierts and others (Palgrave Macmillan).

Rodden, Jonathan A., Gunnar S. Eskeland, and Jennie Litvack, 2003, *Fiscal Decentralization and the Challenge of Hard Budget Constraints*. Cambridge, MA: MIT Press.

Roland, Gérard, 2000, *Transition and Economics*, Chapter 2, MIT Press 2000.

Shah, Anwar, 2008, *A Global Dialogue on Federalism* Volume IV of "The Practice of Fiscal Federalism: Comparative Perspectives" McGill-Queen's University Press.

Spahn, Paul B., 2006, "Contract Federalism", in Ahmad and Brosio *Handbook of Fiscal Federalism.* Cheltenham, U.K.: Edward Elgar.

Stehn, Sven Jari and Annalisa Fedelino, 2009, "Fiscal Incentive Effects of the German Equalization System", IMF Working Paper No. 09/124 (Washington D.C.)

Tanzi, Vito, 2008, "The Future of Fiscal Federalism" European Journal of Political Economy, 24, pp. 705–712.

Tanzi, Vito, 1996, "Pitfalls on the Road to Fiscal Decentralization," Carnegie Paper No. 19, April 2001.

Ter-Minassian, Teresa, 2005, "Fiscal Rules for Subnational Governments: Can They Promote Fiscal Discipline?" mimeo based on a presentation at the 2005 Annual Meeting of the OECD Network on Intergovernmental Fiscal Relations (Paris, September 8–9).

Ter-Minassian, Teresa, ed., 1997, *Fiscal Federalism in Theory and Practice* (Washington: International Monetary Fund).

Ter-Minassian, Teresa and Jon Craig, 1997, "Controls of Subnational Government Borrowing" in *Fiscal Federalism in Theory and Practice*, edited by Teresa Ter-Minassian, pp. 156–172 (Washington: International Monetary Fund).

Tiebout, Charles M., 1956, "A Pure Theory of Local Expenditures" *Journal of Political Economy* 64 (October): 416–424.

Treisman, Daniel, 2003, "Explaining Fiscal Decentralization: Geography, Colonial History, Economic Development, and Political Institutions" *Journal of Commonwealth and Comparative Politics*, 44, 3.

Velasco, Andres, 2000, "Debts and Deficits with Fragmented Fiscal Policymaking," *Journal of Public Economics*, 76, pp.105–125.

Von Hagen, Jürgen and Ralf Hepp, 2001, "Regional Risk-Sharing and Redistribution in the German Federation" CEPR Discussion Paper 2662 (January).

Weingast, Barry, 2008, "Second Generation Fiscal Federalism," Working Paper, Stanford University.

Wibbels Erik and Jonathan Rodden, 2006 "Business Cycles and the Political Economy of Decentralized Finance: Lessons for Fiscal Federalism in the EU" in Peter Wierts, ed., Fiscal Policy Surveillance in Europe. Edward Elgar.