
1. Introduction

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This volume addresses developments in the theory of fiscal federalism, and insights from the ‘second generation’ models, but also the changes in practice. The latter includes the key multilevel issues that would be relevant in designing and implementing sub-national taxes, budget systems, management of liabilities and macroeconomic stability. In addition it is useful to focus on special issues related to the poor and marginalized, addressing structural change and the environment including facing natural disasters, as well as overcoming conflicts and keeping countries together.

The first part of the volume addresses theoretical developments in a historical context – as often theory follows changes in practice. The second part addresses the nexus between policies, instruments and institutions. And the final part addresses key emerging issues in relation to multilevel finance.

1. THE THEORY AND PRACTICE OF FEDERALISM AND DECENTRALIZATION: HISTORICAL ANTECEDENTS

The development of method tends to lag behind experiences that differ necessarily from the accepted norms and practices. Indeed, significant institutional changes that give rise to new institutional forms provide an opportunity and need for a reconsideration of accepted wisdom, especially the policy mix that might be relevant in the new context. In the field of intergovernmental fiscal relations, some of the critical milestones have included the independence of the United States from Britain, the emergence of large numbers of independent states following World War II, together with the gradual ebb of colonial powers. Partly as a political and economic response to the new big powers, a pan-European supranational construct has emerged in the form of the European Union. Global supranational institutions have also emerged. Equally remarkable has been the economic collapse and dissolution of the Soviet Union. Indeed, the transformations within China since the fiscal responsibility reforms of the 1980s, accelerated with the 1993/4 fiscal and intergovernmental reforms which were partly motivated as a response to the collapse of the Soviet Union. All of these significant changes illustrate the application of ‘positive’ approaches to intergovernmental fiscal relations, which were also very much part of the debate that started in the late 1700s. The resurgence of theoretical interest in the positive approaches over the past decade or so lags behind the actual reforms themselves by at least a decade.

Much of the early interest in federal structures arose from the establishment of the United States in the eighteenth century, as a new political form evolved. This operated in parallel with the traditional monarchies, many of which were expanding colonial powers. The early debates on governance structures reflected the current discussion between the normative tradition, which has a prescriptive flavour, and a positive approach that

focuses on the context of why certain constructs evolve and on behavioural responses. The British Common Law tradition gave rise to a greater emphasis on ‘pragmatic’ over normative approaches to intergovernmental relations. However, the Napoleonic legal framework, which developed at about the same time with the removal of the French monarchy, focused on the codification of the rights and responsibilities of different state entities. This illustrated the ‘positive’ approach – with no presumption that either centralized or decentralized operations were to be preferred.

The ‘normative’ tradition in the post-World War II era has been largely driven by the experiences of the United States. As we have argued in Ahmad and Brosio (2006), the expectation was that institutional structures would, or should, evolve towards the American idealized model.¹ This was, of course, part of the political dogma during the Cold War period, and was propagated subsequently by US-dominant agencies like the World Bank (see Ahmad, 2013). Much of the earlier literature and policy advice included prescriptions for the assignments of spending functions as well as associated financing mechanisms, including the assignment of revenue-raising powers, and the sequencing that one might expect based on the dominant US model. More recently, political economy considerations are increasingly being taken into consideration by international agencies, including both the World Bank and the IMF.

It is notable that the assignments adopted in the supranational arrangements of the European Union did not mesh with accepted normative theory. This realization gave another fillip to the ‘positive’ approaches – reviving some of the debates of the late eighteenth century. Indeed, applications of the positive approaches are seen in the emergence of a large number of newly independent states with the end of the Colonial era. Similarly, the practical experiences of countries such as Indonesia, and also the transformation in China after the 1994 reforms, illustrate the importance of the positive approaches to multilevel finance. More recently, the centralization of the education function in a number of important Latin American countries suggests that there is growing recognition of an effective management of the externalities and the importance of skill development to generate sustainable growth. This is another example of how a positive approach changes the recommendations from normative theory.

In this volume, we examine not only the recent developments in intergovernmental theory, but also how both positive and normative methods could be adapted to the benefit of a wide range of public policy issues facing multilevel countries. Governments extend from small, self-autonomous local governments, such as the *Community Associations*² in the US and the informal municipalities in the Comoros, to the operation of supranational organizations representing groups of countries, as in the EU. The range of government activities performed at the subnational level in a multilevel framework now covers areas that were traditionally assigned to the national government, such as combating poverty, and emerging issues, such as coordinating responses to natural disasters, or preparing for them. There has also been a surge of empirical work aimed at verifying the impacts on policy outcomes of changes in the intergovernmental structures and in the way governments at various levels operate, subject to different economic and political constraints.

We address next the main issues arising in the newer approaches to federalism and intergovernmental fiscal relations.

Birth and Evolution of Federal Systems

Since the inception of federal government structures – the American and the Swiss Constitutions – a tendency towards centralization prevailed until World War II. The American Constitution of 1787 strengthened the weak government structure implicit in the Articles of Confederation. A similar parallel can be drawn between the Swiss Constitutions of 1848 and 1874.

The forces for federalization in the eighteenth century initially derived from basic concerns about the defence of state and society. The limited responsibilities assigned to the federal government were defence, public order (also to assuage the fear of revolution), together with the introduction of a minimum set of coordinated actions by federated states aimed at creating and preserving a domestic market.

In the twentieth century, the scope for central government action increased due to more ambitious goals of generalized social protection, measures to avoid depressions, and more interventionist economic policies. In fact, the gap in government operations between federal and traditional unitary systems at the eve of World War II had been considerably reduced. At the end of the 1930s, Harold Laski (1939) could say ‘federalism is dead’. Nonetheless, there is recognition of the fact that federalism was an enormous innovation in governmental structure, and the American and the Swiss examples had a considerable influence in shaping the constitutions of new states in the post-Colonial era.

The enormous influence of the American constitution derived substantially from the identification of practice with constitutional and political theory. *The Federalist Papers* – the first analytical presentation of the working and the advantages of a federal constitution, and still one of the most valid and used texts of federal theory – were drafted by three founding fathers. The American founding fathers were learned persons with a deep intellectual background. They also had an opportunity to put their ideas into practice – an almost unique occurrence in history.

Adaptation of federal theory to its own constitutional traditions – resulting in Westminster-style federalism – was the British solution to shape post-independence governance systems in most of its colonies and occupied territories. It started and worked well for Canada and Australia, and continued with the establishment of federations in the post-1947 Indian sub-continent. However, the separation of Bangladesh from Pakistan, and periodic episodes of military rule have seriously strained the governance structure in the latter. Although a federal structure has been revived in Pakistan, it is beset with serious challenges. The experiment failed with the federations of Rhodesia and Nyasaland and the West Indies. Unitary systems were chosen for smaller and/or more homogeneous countries, such as in East Africa.

The constitutions of most of the Spanish colonies, with the exception of Mexico, Argentina and Venezuela, have resulted in unitary states. Yet in most, the creation of a third, intermediate tier has closed the gap with federal structures. The distinction between de jure federal states that operated as unitary states (under periods of dictatorship, for example, in Argentina and Brazil, or long periods under single party rule as in Mexico), and unitary states that are moving towards regional structures, such as Colombia and Peru (or Indonesia), is somewhat moot.

Nonetheless, the biggest Latin American countries have been directly influenced by

the US with little adaptation – meaning that both the government system and the state system³ were modelled according to the US example. However, some of the best traits of the US model, such as the tax autonomy of subnational governments, have not been replicated, and their absence still poses big problems to the effective operations of the federal system. This creates a ‘tragic brilliance mechanism’⁴ whereby local politicians are able to manipulate voters with money provided by the central government or national parties, instead of being held responsible by their electorates through, among other mechanisms, the discipline of own-source taxation at the margin. Clearly, the process of federalization has not been linear and the battle between federalists and *unitarianists* permeates the history of Latin American federations, as also do the shifts from democratic to authoritarian regimes.

Brazil’s three-level federation innovates substantially on the North-American model – bridging a classical federation and regional structure. The federation has suffered also from shifts from democratic to authoritarian regimes and from the weaknesses of Brazilian political institutions. However, Brazil is much more stable than Pakistan or Nigeria (another country that has endured periods of military rule and civil strife), partly because the ethnic or religious divides are not as sharp.

There was convergence of views – or least restrained differences – between federal theorists on both sides of the Atlantic. European federalists have traditionally nurtured a bottom-up view of federalism. This starts from national states and arrives at a supranational, if not a world, government as in the Kantian *foedus pacificus*.

Federal constitutional theory was anchored mainly on the vertical separation of powers, with little insights on economic and financial issues. It was also restricted to the relations between the federal/central governments and the federated states or their equivalent, but without attention to the relations between the latter and the local governments. These are big limitations, and clearly reflected in the revival of the Pakistani Federal State, in the post-Musharraf era, and with the 18th Amendment in 2010 that strengthens the regional entities at the expense of local governments.

Emergence and Evolution of Decentralized Systems

The American constitution was introduced in a context of a formal democratic system in the eighteenth century. It was the only such country in the Western hemisphere at the time, and only England and Switzerland in Europe had democratic structures.

With the progressive introduction of democratic institutions in France, and other European countries after the French Revolution, local governments started to gain some autonomy and responsibilities. In fact, monarchies and other non-elected governments used local elections for a gradual expansion of the franchise. Also in these systems, the democratization process was dependent on the progressive separation between the finances of the king with that of the state. In other words, the emergence of the public Treasury preceded, by necessity, the emergence of autonomous local governments. While there are no direct links between the two phenomena, it is probably true to say that there is little room for local autonomy in absolute monarchies, and possibly also in latter day dictatorships – although there is often a semblance of ‘local democracies’ as a fig leaf for the rulers. This was a feature of military governments in Pakistan, such as during the 1960s and the Musharraf era from the late 1990s.

The Slow Evolution of Economic Theory of Decentralized Government and its Coming of Age

The economic analysis of local government has developed relatively slowly. Adam Smith devoted scarce attention to this topic in his *Wealth of Nations*, the first modern treatise of economics. In his long enumeration and discussion of the functions of the state, Adam Smith devoted only lip service to subnational governments, mentioning that their expenditure should not be financed out of national revenue, because of their spatially concentrated incidence.

Those local or provincial expences of which the benefit is local or provincial (what is laid out, for example, upon the police of a particular town or district) ought to be defrayed by a local or provincial revenue, and ought to be no burden upon the general revenue of the society. It is unjust that the whole society should contribute towards an expence of which the benefit is confined to a part of the society.⁵

As a matter of fact, Smith's long discussion of the functions of the state refers to the tasks of the 'Sovereign', be it an autocratic ruler, a monarch, or the Athenian rulers, neglecting the allocation of tasks among levels of government. In fact, in his times, lower levels of government were almost non-existent. This is because the states to which Adam Smith referred were 'unitary' in the strictest conceivable meaning of the word, that is, subject to an authoritarian rule. Thus, cities and provinces could have autonomy only in so far as the sovereign granted it to them. In fact, the chapter on 'Progress of cities and towns' clarifies that the autonomy of cities and towns – that is, their power to provide policies and to fund them – derived from concessions by the Sovereign. However, in some cases the contribution of cities to the creation of national wealth was so significant that the sovereign was forced to grant an extensive level of autonomies to cities.

Cities, as forms of more or less autonomous government, had always existed in most monarchies and empires. The earliest examples were democratic Athens and autocratic Sparta. Given limited communications, successful large empires in antiquity sometimes relied on more or less autonomous 'provinces', ruled by princes or governors appointed by the Emperor in Rome, Beijing or Delhi. In Mughal India or Medieval China, provinces had relative autonomy, with upwards revenue sharing. Indeed, periods of excessive levies were associated with rebellions and overall decline of the fortunes of the empire. Thus, taxation and autonomous governance were closely associated with the longevity of the great empires.

City states, particularly in Italy in the Middle Ages and the Renaissance epoch, were by almost any standard fully independent, with no formal obligations to pay tribute to the Emperor (although from time to time they provided financial support and troops to either the Pope or Emperor, as expedient). But for their populations, the 'ruling families' had to provide a full range of public services – from defence, justice and public order to water supply and other urban services, and also to stockpiling of food for emergencies. This demanded, in turn, very substantial revenues. Consequently, the tax pressure was very high.⁶

The proximity of government to the citizens forced, as far as possible, the levying of taxes and fees linked to the services rendered. When levies related to benefit were not enough, general taxes were levied, the most important including a property tax on

immobile and mobile assets, and a graduated income tax levied to fund war/defence expenditure during times of conflict. Proximity facilitated assessment of the tax bases and the inclusion of quite specific assets, such as furniture and jewellery. Revenue from public property was also substantial.

All this does not imply that the tax policy was immune from opposition. The nobility and the wealthy classes fought for exemptions from tax obligations. Urban dwellers, be they noble, wealthy, or the 'third layer', tried to shift the tax burden to farmers on whose supplies they relied. This led to the expansion of all sorts of tariffs, duties, excises and fees on the movement of goods.

De Tocqueville's path-breaking work on local government in America appeared in 1835. It followed the study of federal systems – *The Federalist Papers* – which had appeared between 1787 and 1789. However, neither book was the work of economists, but of very learned people, who we would now classify as constitutional lawyers, historians or political scientists.

John Stuart Mill provided, with his *Principles of Political Economy* (1848) and *Representative Government* (1861), the first complete analysis of the economics of local government that still compares well with modern works on fiscal federalism. Stuart Mill referred to democratically elected local governments and laid down the principles that inform the assignment of policies between levels of governments. Mill is possibly the first scholar to enunciate the equivalence/benefit principle, and the importance of revenues. Local governments, according to Mill, were not appendices to central government, but had a distinct role independent of the central government. Obviously, problems exist in Mill's view, such as limited local public scrutiny. But solutions require oversight over all policies rather than a plethora of oversight bodies: 'in each local circumscription there should be but one elected body for all local business, not different bodies for different parts of it. Division of labour does not mean cutting up every business into minute fractions'.

On the revenue side, the possibility of lesser scrutiny, and consideration of the local impact, led Mill to suggest the adoption of tax sources structured according to the benefit principle (see below).

The interest in local government peaked in the United States and in continental Europe between the end of the nineteenth century and the two decades before World War I, when cities were growing rapidly, local government spending became prevalent, and interest in both the governance and study of local institutions grew. In Europe, local government growth was associated with the surge of so-called Municipal Socialism, meaning the expansion of the range of goods and services provided locally through the creation of locally-owned companies, whose production activities ranged from bakeries and pharmacies to transportation, gas and electricity. A huge descriptive body of literature emerged, while the most interesting attempt to provide a political economy analysis of municipal socialism is probably to be attributed to Montemartini (1902) whose important contribution to the study of the public sector was recognized by Richard Musgrave and Alan Peacock (1958) by including Montemartini's chapter in their compilation of the *Classics in the Theory of Public Finance*. In the United States the decades between the nineteenth and the twentieth centuries were characterized, at the local level, by the reform of political institutions of local governments, allowing them to play a greater role in the social and economic development of the country.

The preeminence of local government declined afterwards, and with it the focus assigned to local governments in economic theory at the time. The Anglo-Saxon literature focused on the revenue side at the expense of the analysis of the provision of policies, and of local expenditures. Nonetheless, there were some seminal contributions to the literature, and that by Alfred Marshall is notable. He devoted Appendix G of his *Principles of Economics* to local rates. It echoes and specifies the argument developed by Mill on the opportunity of structuring the property tax according to the benefit principle. More specifically and very interestingly, Marshall makes the distinction between onerous rates and beneficial ones. Onerous rates are characterized by the absence of benefits and they lead to migration from local jurisdictions that levy them. Beneficial rates are associated with tangible benefits from the use of the funds generated. Marshall also points out that, while national services cannot be financed by rates, local services permit the establishment of a correspondence between taxes and benefits.

The public finance literature of the late nineteenth and early twentieth centuries tried to set up the conditions for the efficient and simultaneous determination of expenditures and revenues. It focused on the difficulty of inducing individuals to reveal their true preferences concerning public goods. In this framework, local government expenditures were neglected, although as Tiebout explained later, they were providing a basis for the revelation of preferences. The works of Seligman and Pigou were typical of the exclusive focus on revenues.

Renewed Popularity of Federalism and Decentralization after World War II

The end of World War II signalled an increase in the number of federal or quasi-federal systems, and the Cold War rivalry led to the propagation of the US Federal model with a democratic bias as an alternative to Soviet-style authoritarian governments. A federal structure with overlapping checks and balances was imposed in West Germany, with tax administration assigned to the *Länder* to weaken the center and prevent the resurrection of authoritarian, aggressive regimes. Decentralized structures of government were also introduced in Japan and Italy for the same purpose.

In an attempt to pacify increasing discontent during the inter-war period, especially in India, the British imperial government allowed limited 'self-rule' at the state (or provincial) level. This involved overlapping responsibilities, and very limited taxing powers. Indeed, the split tax bases established under the Government of India Act 1935, continue to pose difficulties for the successor states to this day, especially for the taxation of goods and services (assigned to different levels), and income (split between levels of government).

The same idea, together with the attractive façade of combining diversity with unity, characterized the British decolonization process. The new states born from decolonization had to be strong enough to stay together, but not too strong to eliminate the need of maintaining (dependent) relations with Britain. In the event, despite the handicaps that are difficult to resolve, India has been too large to be dependent. Pakistan, on the other hand, has been sufficiently unstable to permit a strategic dependency, as part of a latter day Great Game, albeit with changing actors (the United States and the USSR after the World War replacing Britain and Russia as the protagonists; see Ahmad and Mohammed, 2013).

As noted, the working of a system of government does not depend uniquely on the

relations between the federal/central governments and the federated states or their equivalent, but also on the relations between the latter and the local governments. The colonial struggle between the crown and nationalist sentiments played out at the provincial or state level. Yet in India, the realization that the local governments are critical in service delivery eventually led to the Constitutional reform involving the third tier of government – panchayati raj.

A different process took place in China – with Deng Xiaoping’s fiscal responsibility arrangements in the early 1980s devolving decision making to the local level. This built on local tax collection, with an effective upward revenue-sharing that had been the norm for centuries. Declining overall revenues, and a reduced incentive for local governments to share with the centre, weakened the redistributive and macroeconomic management capabilities of Beijing. The 1994 reforms led to the establishment of a central tax administration and new central tax policy powers. However, a lump-sum transfer ensured that no province would lose revenues, and both revenue-sharing and equalization systems were needed to ensure a buy-in from the richer and poorer provinces. Although it deviated from normative prescriptions, the Chinese 1994 reforms were an example of the implementation of a ‘positive’ approach to multilevel fiscal relations.

Once institutions are established, whether imposed by a colonial power (as in British India) or by the Allies in Germany, they become very hard to change even if it is generally recognized that they are in many respects inappropriate for the context. This is because each institutional arrangement generates vested interests that resist change. This is an increasingly important aspect of intergovernmental fiscal relations, and we touch on some of the related issues in this volume.

Theories of Fiscal Federalism and Decentralization

Given the diversity of contexts, it has been difficult to establish general theories about fiscal federalism. Tiebout is no exception to the argument that theory follows practice. Tiebout’s work is one of the seminal contributions to the theory of fiscal federalism and decentralization, but it took at least fifteen years to recognize his role. Musgrave made only a brief mention of it in his classic *The Theory of Public Finance* (1959, p. 132). Richard and Peggy Musgrave in their popular textbook, *Public Finance in Theory and Practice*, provide a detailed illustration of Tiebout’s model, but their fifth (and final) edition describe it as ‘unrealistic’ in most situations (1989, p. 453).⁷ In reality, Tiebout’s intention was not to elaborate a theory of local government, but rather to contribute to the solution of the most acute problems of public finance theory (and practice) of the day: the non-revelation of preferences for public goods. Tiebout’s ‘voting with one’s feet’ theory provided a solution in the case of local public goods. It was at the same time, as recognized later starting with Oates, a fundamental contribution to the theory of local government.

The relevance of Tiebout’s model was, however, dismissed by Paul Samuelson (1958). Samuelson devoted only a few lines to local governments in *Economics*, his very influential introductory textbook, first published in 1948. Samuelson was still echoing the pre-war economic and intellectual climate, where local and state governments had played an insignificant role in combating the Great Depression. Samuelson was not impressed by Tiebout, although he devoted half a paper to discuss and criticize the model.⁸

The expanding influence of the US in the aftermath of World War II also affected the development of modern fiscal federalism theory. The early literature was very concerned with issues of relevance to the US, including by Musgrave, Olson and Oates (the so-called first generation theories). This also led to the rediscovery of De Tocqueville⁹ and the reading of *The Federalist Papers* in the Hamiltonian ('top-down') perspective.

As noted, there was almost no detailed analysis in the classical literature on federalism concerning the assignment of tasks and taxes among layers of government, apart from constraints on subnational use of taxes that might impinge on the working of the domestic market. This is because federal theory focused on the relations between the federal government and the states, neglecting what happens at the local level.

In addition, there was relatively slow recognition in the literature of regional or supranational systems, even though fiscal federalism theory should apply to all multi-layered systems, particularly to regional systems. Inevitably, the first generation theory of fiscal federalism was unable to provide meaningful suggestions for bottom-up processes, particularly for the European unification process, despite the claims of some authors. The normative nature of the theory did not help. For example, it has always been clear to the supporters of the European unification that defence and foreign policy are the top priorities for policy assignment at the supranational, EU level, but these areas remain jealously guarded by individual countries. Moreover, the recommendations from normative theory – that there should be clarity in spending assignments before the financing arrangements are worked out, while generally true, may not apply in specific contexts, such as that in China in 1993/4.

This does not diminish the importance of the analytical tools developed through the theory of fiscal federalism. But at the same time, policy suggestions of the first generation theory are limited by the normative approach. To be normative was to a large extent inevitable, particularly in a period when the general approach of economists to governance issues was based on the hypothesis that politicians are benevolent and always act in the public interest. This was to some extent also due to the US-centric focus of the debates, and the Cold War arguments that decentralized, democratic arrangements would produce efficient outcomes, that would in turn generate growth and match people's preferences. Thus, the virtues of decentralization appeared to be strong enough for fiscal federalism scholars to make the case independently of orientations and individual behaviour of political actors and other stakeholders.

International organizations, above all the World Bank, played a crucial role in promoting decentralization in the developing and transition countries (Ahmad, 2013) as an instrument for improving service delivery in sectors that are crucial for the alleviation of poverty. Largely due to the international agencies, poverty reduction has become a new and crucial task for decentralized systems. This is not exclusively a developing-country issue, and the argument is that local governments have better information to identify the needy and implement appropriate social policies. However, in industrial countries poverty reduction has shifted from local to higher-level programs, usually at the central level, for example, for social security for the aged and disabled and unemployment insurance for the unemployed. In turn, the action of international organizations made great use of the analytical tools provided by the theory of fiscal federalism, with the expectation that decentralized operations would assist both growth and poverty reduction. The actions of these organizations also shared some of the shortcomings of normative

policy prescriptions, deriving from the assumption of a benevolent administrator. Yet the increasing evidence on incentives to cheat, especially in the context of the weaker oversight and management of funds at the subnational level, brings into play the issues of incentives facing (not so benevolent) subnational officials. In many cases, a positive approach may be appropriate.

Successful decentralization that leads to improvements in public service delivery and poverty reduction would, in most countries, require substantial reforms to improve governance, such as transparency of government operations and the generation of standardized information at all levels of administration (this is also a problem in OECD countries, and is not unique to the developing world). Consequently, these practical considerations require an adaptation of the theory that has to be more soundly grounded on the hypothesis that politicians are motivated primarily by their own interests, and consequently that political institutions, including those governing intergovernmental relations, have to provide incentives for the promotion of the public interest. Moreover, in all countries, the decentralization process poses a challenge for macroeconomic stability.

New Issues and New Approaches

Insights from the decentralization literature have been extended to new problems that emerge on a worldwide scale: environmental protection; prevention and responses to natural disasters; management and sharing of natural resources; poverty reduction; and maintaining national unity. All these issues create new frontiers and challenges for the theory and practice of fiscal federalism.

The diffusion of federal or decentralized arrangements across the world, including changes in supranational arrangements, has been equally rapid. In many instances, there has been a centralizing tendency, driven in part by decentralization failures.

In countries with an established and strong legal framework, new institutional arrangements, such as contractual agreements, have emerged. But the information requirements for such approaches are daunting. In addition, a large number of asymmetric arrangements have emerged, particularly relating to the sharing of natural resources. These reflect different responses relating to multilevel finance according to the distinct economic and societal characteristics of each country.

Much of the recent literature – the second-generation theory – has dropped the assumption of benevolent governance, and assumes that governments, politicians and officials effectively operate as self-interested players. In other words, the normative approach has largely given way to a political economy approach. The latter emphasizes the importance of institutional arrangements, including the legal, political – with a big emphasis on the role played by political parties – and administrative aspects, and information flows to ensure that there are appropriate incentives and sanctions to generate good governance.¹⁰

The second generation theory also benefits from the confluence of focus and method of analysis between economics and political science, to the benefit of both disciplines. For decades, the two disciplines had proceeded on parallel, non-converging paths. For example, Pennock (1959) predated the analyses of Oates (1968, 1972) on the capacity of decentralized systems to satisfy individuals' preferences, but his contribution was largely ignored in the economic literature.¹¹

Structure of the Volume

This volume covers most forms of intergovernmental relations. These range from unitary states, regional systems, to more decentralized structures, including community-level organizations, and federal systems through to supranational constructs (such as the European Union). The volume seeks to provide a review of the latest literature on the broad subject of fiscal federalism and multilevel finance, and also to guide researchers, practitioners, and policy makers seeking informed policy options.

The Handbook is structured as follows. Part I deals with different interpretations and approaches to fiscal federalism. Ben Lockwood illustrates the emerging positive approach based on a political economy assessment of multilevel finance. Albert Breton presents a positive theory about the evolution of politically decentralized systems. Pierre Salmon addresses the working of horizontal competition. Federico Revelli surveys the wide body of literature related to spatial interactions across governments. The two following chapters build on important constitutional and contractual approaches to decentralization. Roger Congleton's chapter addresses asymmetric federalism, a growing issue of concern in many parts of the world, while Paul Bernd Spahn provides updates to the important and growing area of contract federalism.

Part II is devoted to the design of policies and institutions that govern the working of multilevel systems. Bernard Dafflon provides a comprehensive discussion of expenditure assignments. Ehtisham Ahmad addresses the increasingly important issues of governance and institutions in the management of the public finances.

Flavia Ambrosanio and Massimo Bordignon provide a comprehensive discussion of revenue assignments and administrative constraints from both positive and normative perspectives. Jay Wilson focuses on tax competition as an important determinant of revenue assignments. He analyses how the central government can correct inefficiencies through equalization grants. Richard Bird examines the issues related to the design and implementation of the VAT at different levels of government – an increasingly vexing issue in many federal countries. Jorge Martinez-Vazquez provides a detailed analysis of local tax instruments. Roy Bahl and Johannes Linn address the assignments related to urbanization and metropolitan areas. Ahmad, Brosio and Pöschl provide an assessment of the property tax, which has considerable potential when linked to local benefits, as well as sustainable financing of local infrastructure. They apply the Marshallian linkages between local taxes and benefits to examine the case for the property tax in developing countries, and ask why this instrument has been so ineffective in practice.

Robin Boadway addresses the design and practice of intergovernmental transfers, and examines the equity and efficiency considerations that could underpin the design of transfer systems. Teresa Ter-Minassian then presents an evaluation of the instruments and policies needed to ensure overall macroeconomic sustainability in a decentralized context.

Part III is devoted to the assessment of emerging challenges to decentralized systems. Pranab Bardhan and Dilip Mookherjee analyse the linkages between decentralization and development, encompassing seminal work on 'capture' as well as 'clientelism'. Regina Birner and Joachim Von Braun deepen the analysis, focusing on the link between decentralization and poverty alleviation policies and outcomes.

Giorgio Brosio analyses the sharing of revenue from natural resources, an increasingly important source of finance for all levels of government in resource-rich countries, but with a huge potential for generating conflict. Silvana Dalmazzone summarizes the expanding literature on decentralization and environmental protection and climate change. Timothy Goodspeed introduces the reader to the contradiction between incentives and responsibilities concerning the prevention of and response to natural disasters.

Paul Dower and Shlomo Weber address the issue of whether decentralized systems can play a role in preventing conflicts. Finally, Hansjörg Blöchliger presents a concise review of important work carried out at the OECD to develop indicators to measure key aspects of fiscal decentralization.

2. APPROACHES AND INTERPRETATIONS

The Genesis of Fiscal Federalism and the Normative Perspective

Federal systems have been in existence since the American Revolution and independence. The text drafted by the convention at Philadelphia in 1787 provides the first example of a modern federal constitution (see *The Federalist Papers*, Madison et al., 1788). And, as described above, the past half century or so has seen a significant pressure and move towards decentralization or federalization all over the world.

Given the magnitude of reforms around the globe, economists started to address the working of subnational governments and initiated the theory of fiscal federalism. Richard Musgrave in 1959 defined fiscal federalism as a system whose purpose ‘is to permit different groups living in various states to express different preferences for public services; and this, inevitably, leads to differences in the levels of taxation and public services’ (Musgrave, 1959, p. 179). The Tiebout (1956) model also provided an underpinning of the literature for several decades. Mancur Olson’s seminal contribution to this literature – namely, the principle of equivalence – was published in 1969. Wallace Oates (1972) presented the first systematization of the theory three years later.

As is the case with most theories, the literature on fiscal federalism has been strongly influenced by the geopolitical context in which it originated: namely, the federal systems of North America. This has led to problems relating to its extension to other cases, especially to the nation states of Europe and Asia with very different political and institutional arrangements. A simple example illustrates this with respect to the assignment problem. Fiscal federalism theory (see, for example, Musgrave, 1961 and Olson, 1969) suggests that responsibilities should be assigned according to the equivalence principle, or that the jurisdiction responsible for a given public policy should coincide with the geographic coverage of the impact of these policies on households and the relevant electorate. This presupposes that subnational jurisdictions can be created, merged or modified at practically zero cost. The creation of new government units has been common practice in North America, especially when there was a possibility of extending the coverage of public services, and incorporating new territory to create new jurisdictions. This is generally not possible for most Asian or European local governments, the main units for the operation of decentralized systems (although the recent experience of merging local governments in Denmark is an exception). Cities with the same rank in terms of their

political or spatial hierarchy – for example, district, province or regional capitals – tend to have a large variance in terms of size of area, population, and of wealth and economic specialization. On the basis of the equivalence principle, it would be hard to deny to the smallest or weakest jurisdictions at a given level, the powers that theory considers appropriate for the biggest and most capable ones.

A strong normative flavour pervaded the early literature on fiscal federalism. This produced limitations in interpretation and policy suggestions. For example, spillovers generated by local government operations could be addressed by earmarked grants administered by the central government. Thus, the central government would ensure full internalization of spillovers, while decentralization would accomplish preference matching. In fact, neither conclusion is warranted. Central governments may be able to vary policies to meet local preferences, but may not be able to ensure internalization of spillovers generated by local governments (Breton, 1965).

The early ‘first generation’ theory has been followed by a wave of contributions adopting a political economy approach. As stated by Ben Lockwood in his survey of the recent political economy contributions (Chapter 2), assuming benevolent policy-makers amounts to modelling government as a black box, in which meaningful political institutions are absent. Benevolent rulers are replaced in the recent literature (the ‘second generation theory’) by personally motivated policy-makers, politicians and associated institutions. A substantive advance has been to introduce accountability as an issue – which did not previously exist as a problem in a framework based on a premise of benevolent policy-makers. Positive approaches assume that with interested policy-makers measures will be needed to address the absence of accountability in its various forms.

Lockwood’s chapter provides a comprehensive review of the political economy literature on decentralization. It begins with a review of legislative models. The legislature, whose representatives have conflicting interests over regional public goods provision, makes the decisions on centralized functions. The results are then compared with those of a decentralized system. The main results illustrate that with decentralization there is better matching of policies to preferences, implying a larger consumer surplus than with a centralized government. This holds both in the case where citizens have identical preferences within each region, and also in the case where there is non-homogeneity of preferences in the regions.

A second important result concerns accountability. There are at least two meanings of this concept. The first relates to whether institutions allow politicians or officials to misuse public funds for their own purposes. The second refers to the distortions exerted by lobbies on resource allocation.

There are three reasons why a decentralized government reduces rent diversion. The first is simply a scale effect. In a centralized setting, the size of total rent is higher, thus creating more inducements for diversion. The second reason is the reduction in the probability that voters will be pivotal in determining the outcome of the national election. In turn, this reduces the inducement for elected officials to implement the imperfect contract they have with their electors. A third issue is the role of political parties in decentralized systems. In principle, these systems should lead to parties with a weak national structure. On the other hand, a strong national structure should ensure more accountability. This is because with national parties, local politicians are provided with incentives to perform well, considering the opportunities to continue their career at the national level. The

empirical literature shows in fact that outcomes of decentralized policies are positively affected by the presence of strong national political parties.

Some or most of the results on the political economy of decentralization could be reversed if lobbies function in a decentralized system. James Madison had warned against capture by ‘factions’ at the local level in *The Federalist Papers*. The results of modern political economy models are less conclusive, but there is a prevalence of views that centralized government can reduce the distorting power of the lobbies, provided that specific conditions are met. These include provisions that the national legislature be elected according to proportional representation, circulation of more accurate and timely information on the sources and uses of public funds, and managed or restricted organization of lobbies at the central level.

Thus, the support for decentralization in the political economy literature remains a qualified one.

Towards a Positive Theory

In Chapter 3 Albert Breton offers an original explanation of the evolution of decentralized systems, with a focus on the assignment of powers between existing levels of government. The theory he presents is built around a few concepts. The first is competition for powers that leads governments to minimize the cost of provision through the (re)assignment of powers. The second notion relates to ‘Edgeworth complementarity’. A simple example serves to illustrate the concept. The assignment of the responsibility for legislating on education will allow the beneficiary government to appropriate for itself a number of responsibilities assigned to other governments, such as qualification of teachers. The third concept is that government systems are complex and adaptable. The fourth concept, also derived outside the economic field, is of punctuated constitutional equilibria, meaning that constitutional arrangements remain the same for lengthy periods despite competition for more power between the individual component government units. When a punctuated equilibrium is broken, a new assignment of powers takes place sanctioned by a constitutional review. The decentralized system has evolved, but this does not mean that evolution takes place towards more decentralization.

Decentralization and Competition

Competition has generally been recognized as one of the biggest merits of decentralized government. As originally advanced in *The Federalist Papers*, it was argued that the federal entity created by the (American) constitution would introduce a vertical separation of powers that would complement horizontal separation. Since Montesquieu (1748[1914]), the separation of powers in the public sphere essentially refers to competition, and to the fact that citizens would have more alternatives to fulfil their aspirations. When they perceive to be disadvantaged by a decision of the executive, they can turn to the judiciary to overturn the decision, or for compensation, and vice versa, or they can address issues to the legislative body. In a decentralized setting, they have also the alternative of addressing either the central and or their local government, or of voting with their feet. This is reflected in the traditional Tiebout (1956) approach to decentralized

government: competition is driven by mobility of citizens/consumers of public services. Citizens and consumers move their residence to those jurisdictions that provide them with the quantity and quality of services that they are looking for at the lowest cost, especially in terms of taxation.

In turn, competition ensures the matching of provision of services with local preferences, and inefficiency is minimized. Although this process of competition has been labelled 'voting with one's feet', there is actually no politics in this model.

Once we recognize that governments are not run by benevolent policy-makers but by interested individuals, not only is politics introduced explicitly in the model, but also other forms of competition appear that do not require mobility of voters. Local politicians need consensus to accede to, or to stay in, power. Citizens exploit this quest for consensus to force local governments – that is, politicians – to compete to stay in office.

There is a plurality of ways in which governments can compete, as shown in Chapter 4 by Pierre Salmon, which reviews the literature on horizontal competition. This literature contains many important early contributions by Salmon himself, and the chapter deals with both mobility-induced competition and other types of competition.

Salmon does not question the assumption of costless mobility, as is occasionally done by others, but critically examines some of results reached by the mobility literature. To take an example, one of the most common and politically significant conclusions of this body of literature is that mobility, whose effects epitomize globalization, deprives governments of autonomous choices. To be more specific, a tenet of this literature is that in a mobile world all taxes are benefit taxes and thus redistribution by government is no longer possible. Salmon's answer is that this is not necessarily the case, because individuals and firms have heterogeneous wants and preferences. In fact, redistribution can be Pareto-optimal. According to Salmon, space is highly heterogeneous, meaning that various jurisdictions have different endowments of natural resources and of collective capital. In other words, there are locational rents, which attenuate the constraint that all taxes have to be benefit taxes. Part or all of these rents can be used for redistribution to the mobile poor.

The existence of several tiers does not necessarily reduce the importance of horizontal competition among governments, but it complicates its analysis. The existence of national governments affects horizontal competition at lower levels in many ways. For instance, a national government may decide to foster yardstick competition at subnational levels to make it more efficient. On the other hand, international agreements (examples are provided also by the European Union) may compel a central government to limit subnational horizontal competition in areas such as taxation, 'state aid', regulation or, as is currently the case in the Eurozone, when it has a bearing on total public expenditures, deficits and indebtedness.

Also the consequences of horizontal competition at the top for horizontal competition below are relevant and deserve analysis. National governments compete to be well placed in the comparative assessments made by voters or by public opinion. This competition is an important element of the interactions among governments at all levels. To that extent it should be treated as an integral part of the governmental system in place in each country, in particular when the system is studied from the perspective of decentralization.

Spatial Interactions or Geografiscal Federalism

In general, governments create a host of spatial interactions, forming an intricate web of relations, consisting of spillover of policies, of imitation effects, and of competitive behaviour. Local governments interact not only with the central government, but also among themselves. In fact, there are possibly more horizontal than vertical interactions. Chapter 5 by Federico Revelli deals with all these interactions and provides a comprehensive survey of this literature that the author labels 'geografiscal federalism'.

Governments can interact with one another along three main channels: preferences, constraints and expectations. In the presence of a direct preference interaction, the benefits of local public services provided in a jurisdiction spill over into neighbouring localities. This could be the case, for example, in public transport, education, training and environmental protection. Empirically, one should observe either positive or negative correlations among public expenditures as a result of the spillover, depending on the patterns of complementarity or substitutability.

The most researched field of interaction is taxation: the tax choices of a jurisdiction influence the size of a 'resource' in nearby localities and affect the budget constraint of other governments. Models of tax competition represent the classical example of the interaction of such indirect constraints. Tax competition theory yields two main empirical predictions. First, the desired tax rate in a jurisdiction depends on the tax rates set in nearby jurisdictions. Second, the tax base that locates in a jurisdiction is affected by the tax rate in that jurisdiction, as well as by those in neighbouring jurisdictions.

Finally, in the presence of expectations interaction, an action chosen by a government affects the expectations of the electorate's other jurisdictions. In the presence of an informational spillover from nearby jurisdictions, voters evaluate the performance of their own government relative to other governments, as dealt with in more detail in Salmon's chapter. In reality, each local jurisdiction possibly interacts with a large number of other jurisdictions and in most instances the influence of jurisdictions' policies will be reciprocal.

Revelli's chapter provides a review of the most recent contributions of the literature on the three forms of interaction sketched above. It discusses the impact on the empirical analysis of intergovernmental fiscal interaction of a number of recent econometric developments concerning the specification, estimation and interpretation of spatial models.

Possibly the most interesting component of the recent literature is that devoted to yardstick competition. This remains among the most popular explanations of why decentralized governments interact with each other and tend to exhibit interdependent policy outcomes. In a way, yardstick competition owes its popularity to the fact that Tiebout mobility is almost unrealistic in a number of contexts, while information spillovers across localities are easier to accept, and are well documented.

Recent tests of the yardstick competition hypothesis have followed two distinct but parallel paths. On the first, studies have made use of increasingly sophisticated measures of local government performance and checked their degree of correlation along geographic as well as more imaginative dimensions, such as deeper investigations of the channels (the media) through which information spills over. Recent empirical applications use various measures of efficiency in local provision of public services and point to the potentially important role played by information spillovers and local media networks

in affecting the spatial pattern of local government performance. Other studies use the yardstick voting approach, and estimate vote or re-election equations that allow for an effect on the popularity of incumbent governments from their own as well as from neighbouring authorities' tax and public service performance indicators. In some of those works, the neighbourhood concept is enlarged to embrace the role of the media structure or of similarity in terms of demographic characteristics that transcend purely geographical patterns.

Revelli also discusses, in the second part of the chapter, the empirical analysis of intergovernmental fiscal interactions based on a number of recent econometric studies concerning the specification, estimation and interpretation of spatial models. These developments suggest the need for caution concerning the results of the literature. But they also provide, supposedly, more robust econometric techniques that should allow the establishment of a firmer understanding of spatial interactions that remain a crucial element for understanding the working of decentralized systems.

Contractual and Asymmetric Dimensions

Normative approaches to intergovernmental relations are characterized by a separation of functions, as in classical federations, and or by hierarchy, as in unitary states. They have also relied on the assumption of the spatial uniformity of functional arrangements across governments at the same level. Separation and hierarchy do not exclude contractual relations, and these in turn may generate asymmetric arrangements.

In practice, the increasing use of intergovernmental contracts and reliance on asymmetric arrangements around the world are emerging as characteristics of present-day intergovernmental systems. This popularity is, on the one hand, a sign of the increased sophistication of intergovernmental relations, and on the other, possibly, of the increased political legitimacy of subnational governments. It would have been almost unimaginable in a traditional unitary state that municipalities could bargain with the central government and force it to come to formal agreements with them. This is, however, the real world, and it has advantages.

Under asymmetric federalism or decentralization, government units at the same layer have different allocation and regulatory powers. This is a common feature of federal and decentralized systems, although it has been frequently neglected. Chapter 6 by Roger Congleton provides an explanation of why asymmetric arrangements arise and of their implications for political competition and service provision. Congleton's approach is based on bargaining between local governments and the centre. Symmetries emerge at the end of this process because subnational governments want to minimize the political risks of being associated with the central government in specific policies, or because they want to maximize their economic advantages. Congleton considers many cases.

The first, a rather frequent occurrence in history, is the case where the state is formed through the merging of existing provinces, cities and other forms of semi-autonomous governments, as in the case of the US, or the Netherlands. These units perceive mutual advantages from merging into a unique unity, such as scale economies and lower decision costs. Without the creation of the new state, each distinct unit would need to bargain with each of the others to get the same results. There are also, however, political risks. A region could be excluded from the majority that governs the state and it could, as a

consequence, suffer a net loss. More specifically, it would have to pay more than it would receive. Of course, there are institutions that reduce this risk, such as qualified majorities. Asymmetric assignment may be a better alternative: 'Under menu federalism, member states choose which services they will have produced centrally in much the same way that consumers select services from large firms in the marketplace.' (Congleton, this volume).

The second, opposite, case is that of over-centralization. Here the central government plays a pervasive role. For distinct reasons, some local governments perceive that services are currently underprovided in some sectors and that they could derive advantages if the responsibility for these sectors were devolved to them. An example could be public transportation. Local management could extend the transport network, reducing travel time and making the locality more attractive to individuals and firms. This would expand the tax base. Consequently, the same local units would be willing to pay compensation to the central government if powers were devolved to them.

The arguments developed by Congleton have many implications. First, asymmetric federalism or decentralization can emerge under a number of plausible circumstances. Second, bargaining between central and local governments determines the degree of centralization. Third, asymmetry is an efficiency-enhancing mechanism, provided that there are enough checks and balances at the local level to force local governments to promote the interests of their community and that asymmetries are adopted through bargaining and exchange. This could lead to equalizing benefits with costs, to avoid the generation of virtuous cycles for those jurisdictions that benefit by asymmetry; more resources leading to the attraction of additional resources, and of vicious circles; and fewer resources leading to the loss of further resources, for those that are disadvantaged by the asymmetry.

Chapter 7 by Bernd Spahn deals with a crucial innovation in intergovernmental relations: namely substitution of rules and hierarchical commands by contracts. Since contracting is by definition consensual, it can take place, within the public sector, only among autonomous bodies with no hierarchical links. The increasing use of contracts to order intergovernmental arrangements reflects a growing autonomy of decentralized governments, as well as the lack of information and sanctions available to a central government to enforce hierarchical arrangements. Yet both the lack of information and sanctions affect the credibility and enforceability of contracts.

Spahn compares the American and the German constitutions. The American constitution is based on the separation of responsibilities and functions between the federal and state's government. Initially, this represented a form of dual federalism, with the federal government operating in almost complete separation from the states. However, growing interdependence between the federal government and the states has increased possibilities of conflict and opportunities for cooperation. Contracts can help to prevent conflict and generate cooperation.

The German constitution promotes concurrency of functions, typical of the corporatist tradition. In general, the federal government dictates policies and the states (*Länder*) execute them. However, the use of regulation and commands is resented by entities subject to these, and reduces accountability and transparency. Spahn argues that contracts can and should be used even in corporatist federal systems. In fact, they have been sponsored and popularized in Europe by the European Union, whose institutions, such as the bicameral system and the separation of legislation and execution, have shades of

many of the German characteristics. The use of contracts has wide implications. For example, at the institutional level the most important is asymmetry of assignments. At the fiscal management level it increases the need for and importance of performance budgeting and of accrual accounting at the subnational level, and desirable as it might be, this might not be feasible in many countries.

Contracts require not only autonomous governments but also a well-structured ‘third party’ to facilitate their execution. They require an appropriate legal framework, with easy recourse to the courts and sanctions. In most countries, the specific legislation of contracts between public entities is missing, as is an efficient judiciary for solving disputes. These requirements are problematic for many developing countries, although contracting in principle has considerable potential.

3. POLICIES, INSTRUMENTS AND INSTITUTIONS

This part of the Handbook focuses on the design issues that face policy-makers in countries with multilevel administrations. This includes the assignment of spending functions for each level of government, and requirements for own-source revenues, and other financing mechanisms. Given administrative constraints, it is likely that the major or more complex revenue sources will be assigned to or be controlled by the centre. The possibility of vertical imbalances, as well as horizontal imbalances across the same level of government, feed into the design of transfer systems, as well as access to credit. In all cases, the requirements for greater transparency and accountability and maintaining macroeconomic stability place constraints on the way that public funds are budgeted, and how spending is reported and accounted for. Thus, governance issues are critical and are increasingly the focus of attention within countries, as well as at the insistence of donors, anxious to see that aid funds are used effectively.

Assigning responsibilities to subnational governments, with own-source or shared revenues at all levels of government, and supplementing local revenues with central government transfers and access to credit, are the basic ingredients of government operations in any multilevel system. These are at the same time at the core of fiscal federalism theory. Interactions between instruments matter, and badly designed transfers or excessive access to credit can outweigh the positive incentives associated with clearly defined responsibilities and own-source revenues. We discuss each of these elements sequentially.

Expenditure Assignments

The assignment of expenditure responsibilities is a crucial structural element of any intergovernmental system, since it determines at the same time the number of levels of government and the number of units within each level. As mentioned above, the problem cannot be solved in isolation. Local governments have co-existed with central authority in most countries, and the size and functions of local government have been determined by time, space, history and politics. However, economic considerations are important and cannot be neglected by policy-makers. Chapter 8 by Bernard Dafflon assesses expenditure assignments in this framework.

According to the theory, once expenditures are assigned properly, the number of layers

of government and the number of units composing each layer should be automatically determined. Unfortunately, reality is more complex than the theory makes it out to be.

Characteristics particular to each country determine the number of layers and only partly explain the constitutional assignment of responsibilities. Within such a constrained framework only 'assignment at the margin of evolving functions and resources to existing political units' appears feasible. The chapter has a normative flavour, since it tries to single out the criteria that should guide the proposed marginal changes in existing assignments. However, the criteria neither derive solely from the economist's basket of tools, nor should they be imposed through a top-down decision-making process.

Rather, Dafflon proposes a 'decentralization matrix', where a number of criteria for reassignment are listed as rows, and layers of government to which functions are attributable as columns. The matrix should be created with the contribution of all the stakeholders sitting at the negotiating table. This echoes the working of the constituent assembly proposed by Breton and Scott (1978). The initial list provided by Dafflon can be expanded to bring into consideration the interests, the worries and the hindsight of the various stakeholders.

There is also some flexibility concerning the number of layers of government. Cooperation between distinct layers, and within the same layer, is becoming an increasingly popular (both in principle and de facto) characteristic of intergovernmental relations. As we saw earlier, Spahn also stresses this issue. Referring to assignment of the responsibilities in the field of primary education, where the prevailing pattern is to allocate separate, quite specific functions to distinct levels of government, Dafflon explains that this overlapping may be derived from differences in the area of impact of functions (e.g., qualifications of teachers determined by the central government, commensurate with national standards, versus the needs of schools subject to local decisions). The problem requires coordination and consequently there are additional costs. Overlapping typically leads to a lack of clarity in responsibilities and diffusion of accountability and can become a serious problem, as is the case when the norm states that a given responsibility is subject to the joint decision of two or more levels of government.

Governance and Institutions

Institutions matter in making policies work effectively – and standardized information is critical in ensuring that voters and neighbouring jurisdictions compare the right bases and standards in judging policies and outcomes. The new institutional literature is of increasing relevance for multilevel finance, and Ehtisham Ahmad reviews some of the key issues in Chapter 9. Effective governance depends to a large extent on the role of the state in different societies and the incentive structures associated with alternative institutional arrangements. In particular, in multilevel countries, incentive structures matter even more, as elements of 'game play' between different levels of government become possible. Under these circumstances, organizational structures borrowed from advanced countries may not function as expected and could generate deleterious incentives.

The chapter argues that the key to growth-compatible institutions is information. This is clear on the spending side, to ensure that funds are used efficiently for the purposes intended. A requirement is for budgeting and reporting standards that are common across jurisdictions at the same level and between levels of government, together with

appropriate tracking of cash and management of debt. The proper accounting for liabilities, including PPPs, is critical as inadequate reporting and provisioning may lead to liabilities being pushed to other jurisdictions, particularly the central government.

On the revenue side, effective subnational control over a significant revenue base together with arm's length administration are critical for accountability. This can be achieved with rate-setting authority at lower levels, together with components of administration at higher levels. Of course, an appropriately designed tax policy agenda does much to foster appropriate structural reforms that generate growth. Such would be the case with, say, a carbon tax, with appropriate responsibilities at different levels of government.

Finally, while both policies and institutions need to be synchronized, the political economy of reforms requires a judicious combination of tax and spending measures to minimize opposition. This typically requires a careful analysis of gainers and losers, and appropriate measures for inclusion, especially for the poor.

Revenue Assignments

On the revenue side, the increase in mobility of persons, firms and factors in general, generates stimuli to competition but also represents some constraints.

Chapter 10 by Ambrosanio and Bordignon deals with the main normative and positive components of the assignment of revenue. Various instruments are available, the most important of which are clearly taxes. The authors' main argument is that there is always a case for financing local governments with own-source taxes. Even in improbable cases, where all decentralized government units are identical in terms of the preferences and the economic conditions of their inhabitants and where there is no mobility, local taxes would still be preferable, instead of revenue shares provided by the central government, in order to generate incentives for greater subnational accountability. Local taxation would, in fact, introduce yardstick competition between local governments. As limiting conditions are gradually lifted, the role of local taxes is enhanced. This is clearly the case when, for example, preferences differ among local governments about the desired level of local goods.

At the same time, lifting the restricting conditions reduces the choice of tax instruments. Consider the mobility of individuals and firms. If we take a Brennan and Buchanan (1980) approach, and assume that local politicians are totally rapacious and exploitative, then most mobile tax bases (e.g. on income taxes or sales taxes, such as the VAT) could be assigned to local governments. But there are a number of arguments against assignment of mobile tax bases to local governments that are reviewed in the chapter. When the Brennan and Buchanan assumption is dropped and politicians can be constrained by citizens and when localities (greatly) differ in their fiscal capacities, taxes cannot remain the only source of financing, unless society is ready to accept a (great) deal of inequality in the level of local service provision. Thus, the tax assignment must be designed jointly with a transfer system.

Ambrosanio and Bordignon make an interesting point with reference to dynamic issues. They point out that local taxation could play an important role in curbing expectations of soft budget constraints. This is because the threat by the central government not to intervene *ex post* to solve difficulties faced by local governments may simply not

be credible *ex ante*, if the local governments do not have sufficient autonomy in determining their own-revenues in order to respond to the build up of liabilities as well as unpredictable events.

The chapter also presents a review of the arguments referring to the choice of distinct tax instruments and of the merits and demerits of alternative systems of revenue sharing between central and subnational governments. Consideration is also given to the fact, only recently considered in the literature, that when different levels of government are involved in the provision of the same service, different sources of revenue have to be used – such as combinations of taxes and grants, or a combination of different taxes – because of the distinct goals of each level of government.

The final section of the chapter is devoted to tax administration issues (which are also explored in Martinez-Vazquez and Ahmad's chapters). It would be important not to duplicate administration, or impose additional compliance burdens on the taxpayer for essentially the same tax bases. There are typically administrative capacity limitations at the subnational level as well as possible economies of scale in tax administration. Indeed, as argued by Ahmad (this volume), the important issue is the setting of rates, and not administration *per se*, which might be more efficiently managed at a higher level. These issues will affect the assignment, design and administration of the main taxes such as income taxes and VAT, although a piggy-back or surcharge on the income tax may be easier than on the VAT.

Chapter 11 by Jay Wilson deals with tax competition and with the policies that the central government can enact to reduce the inefficiencies from competition. This topic is receiving increasing attention in the literature and lies at the intersection of intergovernmental models of competition analysed by Salmon and Revelli and the tax assignment discussion by Ambrosanio and Bordignon.

The traditional literature posited that tax competition would almost inevitably lead to an inefficient level of local spending, because local tax rates were geared to attract tax bases from other jurisdictions. However, this body of literature concentrated solely on horizontal tax competition. Recent developments also address vertical competition and show that within this combined framework, tax competition is not necessarily welfare-decreasing. This is the case when central government is assumed to maximize the total welfare of the country, and can use transfers to eliminate inefficiencies. Where central transfers cannot be provided, because of institutional limits, competition leads to welfare reduction. To appreciate the arguments, consider two distinct cases. The first is that of a very small country with even smaller regions that levy a tax on capital. If capital is mobile and there are no regional, that is, horizontal, externalities, then if one region raises its tax rates, capital will immediately escape to the rest of the world, not to other regions. No region would benefit from the move, while the entire county will suffer from a decline in the supply of capital. There would thus be only a vertical externality, implying a lower than optimal level of public spending.

The second case is that of a big country, with a substantial weight in the world economy. In this case, there would be no vertical externalities, but only horizontal ones, since the tax base for the whole country is fixed. In this case, horizontal externalities would lead to a lower than optimal level of public goods.

The chapter also discusses how redistributive transfers from the federal governments can be designed so that they reduce or eliminate the inefficiencies associated with tax

competition. Federal governments redistribute income not only directly across individuals, particularly with progressive income taxation, but also indirectly through intergovernmental grants. Transfers are set up to fully or partially equalize either tax bases or tax revenue between rich and poor regions. The literature has recognized that such grants might also offset the externalities associated with tax competition, improving the efficiency of decision-making by lower-level governments.

Chapter 12 by Richard Bird addresses possibly the most contentious issue of subnational taxation: the levying of a truly subnational VAT. The VAT tax base is large and second only to that of personal income tax (in developed countries) and is generally the largest revenue source in developing countries. With moderate subnational tax rates, the revenues could be substantial and can be used to finance the intermediate levels of government, such as the regional governments, whose revenue needs require access to large tax bases, together with the power to adjust the tax rate in response to the variation in expenditure needs.

VATs applied simultaneously by different levels of government were long considered to be either undesirable or infeasible. The main reasons were the high administrative and compliance costs of imposing two distinct taxes on the same base. Despite such problems, several large federal countries – Brazil, Canada and India – have introduced regional (state and provincial) VATs which, like national VATs, are general taxes on consumption administered through a transaction-based credit-invoice approach. These three countries are very different, and their subnational VAT shows varying degrees of success. The experience in Canada, where regional VATs have largely replaced retail sales taxes (RSTs), has been generally good. In India, consideration is being given to move to a dual VAT system (editors).

Bird maintains that the varied national experiences discussed in his chapter demonstrate that, although important economic and administrative aspects require careful consideration in designing and implementing ‘two-level’ (dual) VATs, such as dual VATs (or even triple VATs, including an ‘income-type’ VAT at the local level), are evidently both feasible technically and potentially acceptable politically. He is careful, however, not to recommend a subnational VAT.

Bird also discusses the merits of decentralized local ‘business’, or income type VATs that have recently emerged in several countries, such as Italy and Japan. In contrast to the consumption (destination) VATs that dominate in the world, these local business VATs are invariably levied on an ‘income’ (origin) basis. Countries facing problems in financing local public services, especially in large metropolitan areas, could consider the implementation of such taxes, although trade distortions may arise.

Chapter 13 by Roy Bahl and Johannes Linn provides a discussion of one of the most crucial challenges for decentralized systems: the financing of urban and metropolitan areas. If possible, this is an even more daunting task for the mega-cities of the developing world. Metropolitan governments usually require the operation of the powers of regional governments in addition to the typical powers of city administrations. This is because the concentration of populations requires extremely wide expenditure responsibilities and correspondingly large revenue needs. On the other hand, tax bases are expanding and largely untapped. The chapter is structured along the three main dimensions of the governance of metropolitan areas: structure of government, assignment of responsibilities and financing. This sequencing allows a correct grasping of issues. The choice of the

structure of government – functionally divided units versus a single all-encompassing metropolitan government – determines the magnitude of expenditure needs and also the kind of revenues that are more appropriate to each case.

A discussion of the merits and disadvantages of the main tax instruments available precedes a survey of the way distinct metropolitan governments around the world finance themselves. The survey shows that the best instrument available, the property tax, is partially exploited, while there is an excessive use of productive, but quite antiquated sales taxes, such as the gross receipts tax of Buenos Aires or the *octroi* of Indian cities. Motor vehicle taxation, which has great potential for metropolitan finances, is only partially used. The potential tax bases are large and growing, and there would seem to be a reasonable justification for taxing motor vehicles to finance general services or metropolitan transportation expenditures. Charges and fees, being benefit charges, are among the best ways to raise revenue when services can be priced. User charges are often levied for essential services, and opposition can run high when increases are necessary to cover rising costs. Public housing rents, water rates and bus fares are examples, and if there is a case for price limits, this should be subsidized in a transparent manner by the general revenues. Care needs to be taken, however, as subsidizing energy products provides support to the richest groups and also encourages excessive consumption that can exacerbate emissions and environmental damage.

Bahl and Linn illustrate that the cost recovery record for user charges in most developing countries is not a good one. There is poor compliance and low collection rates. This is not an uncommon outcome in developing countries. The last section deals very appropriately with the financing of infrastructure, which requires in addition to taxes, access to credit. This will generate liabilities, including with respect to public/private partnership schemes.

In Chapter 14 Jorge Martinez-Vazquez takes the analysis of subnational taxation further. Issues relating to tax autonomy and tax administration are particularly striking.

Martinez-Vazquez examines different dimensions of tax autonomy. There are three aspects of note. One concerns the appropriate level of government, with the right to choose the taxes that this given level can impose. There are good reasons to limit the ability of subnational governments in this regard, for example the power to introduce internal tariffs. In the US, this limitation operates through the commerce clause.

The second dimension of tax autonomy relates to the choice of the level of government that can legislate over the structure of the tax bases, and of the level that has discretion to set the tax rates. Martinez-Vazquez points out that autonomy to define the tax base is generally less desirable than autonomy to set tax rates. This has major policy implications that also affect tax administration.

The third and last dimension of revenue autonomy refers to which level of government is put in charge of administering the various taxes. As also emphasized in the chapter by Ahmad, the fact that a particular tax has been assigned at the local level does not necessarily mean that it should be administered at that level. It may be more advantageous to have that tax centrally administered, with the subnational governments having the power of setting tax rates.

Martinez-Vazquez focuses on several factors that affect the choice of centralized versus decentralized tax administration. These include: (i) economies of scale and scope, informational externalities, and so on; (ii) compliance costs due to non-uniformity of tax

procedures; and (iii) accountability to residents. There are also political economy factors, such as opportunities for corruption and the creation or control of public employment that can become relevant. The choice has also to be guided by consideration of incentives. The central tax administration has usually superior technical capability and cost efficiency, but may lack the incentives to collect subnational taxes.

Chapter 15 by Ahmad, Brosio and Pöschl focuses on the design of local taxes, particularly the property tax. There is political resistance to the implementation of property taxes in developing countries, and indeed even in developed countries, such as Italy and the US. The poor performance of the property tax in Mexico, for example, is also due to the management of property tax administration at the local level, while the state legislatures set rates. There is thus considerable scope for ‘game-play’. The political resistance to visible property taxes can to a great extent be offset by the application of the Marshallian benefit linkage. Thus property taxes could be usefully linked to both the package of services provided by the local government as well as ‘capitalization’.

The chapter also discusses the issue of piggy-backs on the income tax. This is an appropriate source of revenues for both the state and local governments, without requiring complex administrative mechanisms. Although the use of income taxes at the subnational level is common in developed countries, it has limited traction in developing countries. Of course, local income taxes need to be supplemented by transfer mechanisms, otherwise greater regional inequalities might result.

Transfer Systems

In most countries, equity, and particularly horizontal or spatial equity, has come to play an important role in shaping intergovernmental arrangements. This was not always the case. In classical federations, individual states were assumed to be self-sufficient. In unitary states, ad hoc grants were paid in exceptional cases to local governments in financial distress, but equalizing fiscal capacities was not considered a normal task of the central government. Equalization or untied transfers are now an integral part of most intergovernmental systems. The magnitude of overall transfers, including both equalization transfers and special-purpose grants to meet central or donors’ objectives, generates problems for financing, requires transparency and proper institutions for allocation and finally consideration of their efficiency aspects.

The needs for public services and taxing capacities differ across various areas within a country, but poorer regions often have relatively greater needs as well as more limited resources. In the absence of central government intervention that provides transfers to the less well-endowed areas or to those with greater needs, households otherwise in identical circumstances will be treated differently according to their residence. Fiscal equity would be violated. Efficiency in the allocation of resources would also be imperilled by movements of population to areas that are fiscally able to provide better services, or to impose lower taxes not based on differences of productivity.

Chapter 16 by Robin Boadway provides a thoughtful illustration of the equity and efficiency rationale for intergovernmental transfers. While the grounds for establishing equalization transfers are clear, the degree of equalization to be introduced into the system is subject to controversy. First, different people have different views about equity. Secondly, satisfying horizontal equity may conflict with welfare maximization applied at

the level of the whole country. This is the case, for example, when there are economies of scale in the production of local services. The principle of horizontal equity would imply that the central government should compensate with transfers the higher costs of smaller jurisdictions. In this case, the welfare maximization at national level would have to be sacrificed, because transfers would be paid not only to persons in greater need, but also to persons who might be less needy but happen to live in small and/or high-cost localities. Another difficulty arises when subnational governments choose different expenditure and tax policies, which will result in equals being treated unequally. The central government could obviously correct these situations, but at the expense of local autonomy, which is a cornerstone of decentralized government.

The chapter mentions two additional reasons to establish equalization transfers. One is the implementation of national standards, in areas such as education and health, which are the typical core of the functions assigned to subnational governments in federal or otherwise highly decentralized systems. These are also at the same time crucial for determining the well-being of the entire population.

The second reason is that transfers can serve to absorb temporary shocks in subnational governments' fiscal capacity. While there are arguments for the central government to intervene with transfers to absorb these shocks, there are similarly valid arguments for suggesting that subnational governments should, as much as possible, self-insure against these occurrences. The chapter provides a summary of the recent literature on this subject.

The chapter also illustrates the rationale for transfers on efficiency grounds. Differences in endowment of resources, deriving, for example, from concentrations of natural resources in some jurisdictions, would attract migration of individuals and firms that is not dictated by pure location advantages: migration is not dictated by marginal productivity considerations. Inefficiency of migration is heightened in decentralized systems, because when persons decide to migrate they do not take into consideration the impact of their decisions on the rest of the society.

The chapter also provides a review of the recent literature exploring additional issues connected with transfers, such as the impact of central government commitment to pay grants on the budget constraint of recipient governments. Other issues derive from the timing of decisions. For example, to avoid inefficient migration, governments should make decisions about transfers only after households have made their migration decisions. If households anticipate government decisions, then governments should keep to their previous commitment. If not, migration decisions will lead to inefficiency.

Decentralization may clearly increase macroeconomic risks from the unsustainable fiscal behaviour of subnational governments. The literature points out that if subnational governments do not face hard budget constraints, most of the advantages of decentralization may be lost. If a local government can, at its discretion, shift liabilities to other jurisdictions, then there may be no incentives for efficient and accountable governance, as argued in the chapter by Ahmad.

In Chapter 17 Teresa Ter-Minassian focuses on the risks that 'soft budget constraints' on subnational governments pose for macroeconomic stability and fiscal sustainability. The chapter begins with a discussion of the nature and possible causes and consequences of soft budget constraints. It also focuses on possible approaches to hardening subna-

tional budget constraints, and the challenges posed by their design and implementation. Of particular interest is the discussion of the pros and cons of the use of fiscal rules. This is an increasingly popular solution for inducing and/or forcing subnational governments to maintain sound and sustainable fiscal behaviour. Rules include limits to spending, deficits and borrowing, but are not a panacea if not properly formulated and effectively implemented. The chapter also provides a discussion of rules and policies to govern subnational borrowing and of how other policies, such as intergovernmental transfers, have to be consistently designed with fiscal soundness in mind.

The chapter provides a concise but very effective summary of policy choices that have to be avoided if the maintenance of a hard budget constraint is, as it should be, a dominant objective of intergovernmental arrangements. The key problem areas include: (i) maintaining significant discretion in various types of relations with subnational governments; (ii) resisting a clear delineation of respective spending responsibilities, especially in concurrent functions; (iii) devolving spending responsibilities and keeping control of most budgetary resources; (iv) relying on market discipline when preconditions for its effective functioning are not in place; and last but not least, (v) providing unconditional bailouts to SNGs experiencing debt crises.

4. EMERGING CHALLENGES

Federalism, Development and Poverty Reduction

Federalism and decentralization are traditionally found in rich countries with fully-fledged democratic systems. Latin America is an exception to this pattern, but federations came and went according to the shifting from democratic to autocratic rule and back. As mentioned above, federalization was promoted by Britain to provide a sustainable constitutional framework to the newly created, particularly in the large and diverse colonies (such as India and Nigeria) and also in some smaller countries (such as the United Arab Emirates).

Some formally unitary states, such as China, have been gradually transformed into effective multilevel systems, with lower levels of government enjoying a considerable degree of autonomy. Special legal arrangements were instituted for the Hong Kong and Macau that returned to Chinese jurisdiction after the end of their period under colonial rule. In Indonesia, a unitary constitution continues, however, the reaction to decades of centralized rule have led to a formal incorporation of decentralization in laws enacted in 2000, and more recently asymmetric arrangements for the natural resource-rich regions of Aceh and East Kalimantan.

These changing political and economic conditions require an adaptation of institutions and of the tools for their analysis, as shown in Chapter 18 by Pranab Bardhan and Dilip Mookherjee. The chapter focuses on the exploration of a few crucial dilemmas concerning the relationship between development and decentralization. The first is the trade-off between accountability and autonomy. Political accountability implies that local governments are subject to voters' evaluation and decisions. This can induce politicians to practice costly clientelistic policies. To avoid this, local officials could be insulated from popular pressures through the granting of a larger autonomous

decision-making power. But this, in turn, does not ensure that local officials will focus on the public interest.

High agency costs might accompany decentralization, which exacerbates the weak monitoring of bureaucrats and politicians. This expands the likelihood of elite capture or that the benefits of public spending will be largely appropriated by the well-to-do or well-connected, particularly in highly unequal societies. The chapter provides a brief review of empirical literature that shows not only the existence of capture, but also the ways to control capture. Among these are the diffusion of information on actions taken by local officials and outcomes, the reservation of council seats for vulnerable minorities, and the training of communities to be better involved with monitoring service delivery.

Decentralization in a context of poverty can also lead to widespread clientelism, giving strength to capture. Clientelism means delivering private goods, such as recurrent jobs, subsidies and handouts to voters, at the expense of investment in one-time benefits or long-term public goods projects.

Clientelism and capture both distort the democratic process. Capture results in diversion of programme benefits away from intended beneficiaries to elites. Clientelism in contrast concerns benefits that flow mainly to the poor, as their votes are cheaper to 'buy'.

Capture need not reduce long-term public investment, but the benefits of that investment accrue mainly to the elite and powerful. The incidence of clientelism typically depends on the stage of development. As incomes rise and markets develop, the need for political connections for jobs or personalized help (say in an emergency) tends to decline, lowering the willingness of voters to sell their votes in exchange for such benefits. With the spread of education and information, the importance of the local vote mobilizer who provides selective benefits diminishes, as it becomes more difficult for voters to be herded on the basis of ethnicity or regional affinity.

Chapter 19 by Regina Birner and Joachim von Braun focuses on the impact of decentralization on poverty, nicely illustrating some of the themes touched on by Bardhan and Mookherjee. This chapter explores analytically the possibility of alleviating poverty through decentralization and provides a survey of empirical literature. Studies suggest that decentralization impacts positively on the provision of public services that matter for the poor, by strengthening both the poor people's ability to demand better services and the incentives and the capacity of public agencies to provide such services. However, there is also overwhelming evidence that the poor often do not benefit from decentralization as much as the better-off. In some cases, decentralization even makes matters worse for the poor. Context-specific factors matter – with the consequence that institutional arrangements that work in one situation may not be appropriate for another.

Von Braun and Birner also examine some of the latest evidence on the effectiveness of conditional cash transfers that have been widely propagated by international agencies like the World Bank, based on the Mexican Progresa/Oportunidades model. There is some evidence of 'capture', with incentive structures that may not be conducive to sustained poverty reduction. The transformation of Oportunidades in 2014 reflects in large part potential disincentives to participate in the labour market.

The chapter also indicates that supply-side approaches have been rather neglected, both in the literature and in practice. The focus on people's empowerment is certainly

important, but the pendulum may have swung too far into the direction of demand-side approaches. The poor may be particularly disadvantaged if the entire burden of monitoring decentralized government agencies is shifted to them.

A related gap in the literature refers to problems with which decentralized service delivery is confronted in marginal areas characterized by low agro-ecological potential, remoteness, insecurity and conflicts. Ethnic minorities and indigenous people often live in those areas. Poverty is often particularly high in those areas, but the prospects of decentralization to reduce poverty either through demand-side or supply-side linkages are particularly difficult in such areas. Finding context-specific solutions for such areas remains a significant challenge.

The Struggle over Natural Resources

The sharing of revenue from natural resources among levels of government is a crucial issue for decentralized systems in natural resource-rich countries, such as Bolivia, Peru, Nigeria and Indonesia. If this issue is not properly addressed, it will feed rivalries between the constituent units of the same nation and put a great strain on national unity.

Rents from natural resources can be substantial. When directed to local jurisdictions, per capita rents can reach relatively high levels. Decentralization expands the role of sub-national governments and makes them more vocal in demanding a share of the revenues generated within their jurisdiction. These issues are examined in Chapter 20 by Giorgio Brosio. The chapter presents, first, the constitutional/legal framework for the production of natural resources. Then it presents the fiscal instruments to extract the rent and the technical alternatives for their distribution among levels of government.

The chapter notes the trend towards increasing access by subnational governments to natural resource revenues, particularly by those of the producing areas. Increases in the international prices of natural resources have stimulated central governments to increase their 'take' or share of the rent and have resulted in a degree of recentralization in this regard. The chapter also notes that the lack of transparency and oversight in the phases where extraction of the rent takes place allows a huge share of rent to be siphoned off through corrupt practices and theft. This exacerbates the allocation issue, reducing not only the amount to be shared, but also the legitimacy of the entire process.

The chapter then examines arguments against and in favour of sharing the rent with subnational governments. There are wide differences in views and in practices. Sharing gross petroleum revenues, for example, could subject subnational governments to the fluctuations of international prices that may place excessive strains on basic spending during price downturns, and lead to waste and unsustainable spending during periods of rising prices. It also could exacerbate horizontal inequalities at the lower levels of government. On the other hand, a full realization that the rent is the difference between revenue and all costs incurred for the production of the natural resources can clear the way for the intergovernmental allocation. As an example, the use of the environment has to be repaid by the producing companies to the jurisdictions, not necessarily always the local ones that suffer from the losses. Also, if local governments provide infrastructure and services that the producing firms would otherwise have the obligation to provide for themselves, then these costs have to be fully reimbursed out of any potential entitlement of the producing areas to a share of the resource rent.

Decentralization, Environmental Concerns and Natural Disasters

The protection of the environment is increasingly attracting worldwide attention by all levels of government, in response to a corresponding increase in the aspirations of the general public. The assignment of responsibilities in this area has stimulated the growth of an important body of literature that is reviewed in Chapter 21 by Silvana Dalmazzone, who concentrates largely on issues related to the sub-national control of pollution, and also to climate change.

The message of the fiscal federalism component of this literature is straightforward: those forms of environmental protection that generate benefits contained within the boundaries of local jurisdictions present a strong case for decentralized assignment, whereas control of polluting emissions that tend to spill over local boundaries – and all the more global environmental problems – requires central, if not supranational, government intervention. However, there are many exceptions to this rule. One of these exceptions, favouring the assignment to the central government, is the importance of scientific knowledge. The environment is an area where policies rely more heavily than in others on scientific and technical information. A problem of scale may act as a constraint on the extent of feasible decentralization: small local authorities may not have the capacity to produce or even to process the existing information.

A large body of literature suggests two other reasons against assigning environmental regulation to the local level. The first refers to the potential trade distortions that may arise from locally differentiated environmental standards. The second is that devolution of these responsibilities at the local level could set in motion a competitive ‘race to the bottom’, leading to inefficiently high levels of pollution. The race to the bottom has attracted considerable attention, but it does not appear to be a phenomenon of significant empirical relevance. Pollution abatement costs are only one element among the many factors that impact on relocation of firms. Secondly, local governments have at their disposal other instruments to compensate firms for the imposition of these costs, as suggested in Salmon’s chapter in this Handbook.

Drawing from the specific literature on environmental economics, the chapter provides supplementary warnings against decentralization of responsibilities. First, there is the complexity of ecological systems. It implies that policy decisions concerning, for example, the regulation of a specific kind of pollution in a given jurisdiction, generally indirectly affects more than one ecological component, although the impact is sometimes lagged and difficult to predict. Second, there is a temporal dimension. Ecological functions have different temporal cycles: for some the cycle is seasonal; for others, it may be of longer duration. If governments at different levels use different inter-temporal discount rates, this should be taken into account in the assignment of powers. If, for example, higher level governments use lower discount rates in making their decisions, then the decentralized solutions would lead to an allocation nearer to efficiency for environmental resources whose ecological functions have shorter temporal cycles, and vice versa. Again this is largely an empirical matter and further enquiry is needed.

Climate change is the single issue currently posing the most urgently felt need for inter-governmental coordination in the environmental policy arena. Climate change requires actions to limit the emissions of greenhouse gases released into the atmosphere and to cope with the impacts. Climate change mitigation policies fall into the pure public good

category. Any single government investing in reducing its emissions will obtain in return only an infinitesimally small share of the benefits occurring on a global scale. Action to control climate change will therefore require coordination. Coordinating implementation policies would also increase efficiency by taking advantage of diverse marginal abatement costs across countries. The chapter also examines the carbon tax experiences and their limited impact, and the carbon emission trading system, suggesting also coordination between the two to make them more effective.

Natural disasters present at least two challenges to subnational governments, as examined in Chapter 22 by Timothy Goodspeed. The first challenge refers to reconstruction after their occurrence. Schools, health clinics, public markets, drinking water systems, streets, roads and other facilities are the bulk of the activity of local governments. In reality, and particularly in developing countries, the response is often inadequate and has called for partial reassignments of tasks to the central government, or to the creation of special-purpose agencies, operating at a higher level and under the aegis of the central government. The second challenge relates to prevention activities. Here, the way incentives deriving from the structure of intergovernmental relations operate becomes critical.

In most countries assignments to local government include functions that are crucial for prevention of natural disasters, such as establishing and enforcing land use and building code regulations, building and maintaining infrastructure, and so on. On the other hand, the national government is in a better and natural position to provide insurance across subnational regions since it can pool risks. Hence, providing insurance, usually by means of post-disaster transfers, is a clear national assignment.

This distribution of responsibilities creates a number of critical problems, as recent events have showed. In recent years local governments have been criticized for lack of preparation to face extremely large magnitude disasters, as in the notorious case of hurricane Katrina in the United States. Problems are connected to the interaction between national and subnational governments in the *ex-ante* planning and investment in infrastructure, and financial assistance after a disaster occurs. These investments will affect the damages from the natural disaster, or better the probability of an income loss. At the same time, the same local governments cannot cope with the cost of reconstruction. By allocating a post-disaster grant the central government can facilitate the transfer of resources from regions that are spared natural disasters to regions that happen to be hit by natural disasters. While such a policy relieves the financial impact on the affected region, it also reduces the incentive for subnational governments to invest in costly, but ineffective disaster avoidance infrastructure.

With full national insurance against losses, regional investment in protective infrastructure may be too low. To increase regional investment levels, the central government can reduce its transfers, but this implies less than full national insurance against natural disaster losses. There is thus a trade-off between the degree of insurance against natural disasters provided at the central level and optimal regional investment in protective infrastructure.

A second possible solution to the moral hazard would be for the central government to assume full responsibility for disaster avoidance activities, assuming control of economic development and land-use policies that impact on the occurrence of disaster risks. However, upward reassignment of responsibilities for all disaster avoidance policies would reduce the efficiency gains from decentralized local policy-making.

A third suggestion comes from private insurance. Private insurance contracts use deductibles and coinsurance to enhance the incentives for efficient risk avoidance by insurees. According to the literature, similar arrangements are possible in a decentralized context. Use of deductibles means that the central government would commit to pay only partial compensation to the affected local governments in case of a disaster. The chapter by Goodspeed provides a survey of the most recent literature on these alternatives.

Federalism and Conflict Resolution

The number of independent countries in the world has nearly tripled since World War II as a result of separatist movements, not necessarily of a violent nature. Demands that focus on internal conflicts over redistribution and regional autonomy are growing as well. The internal conflicts and the break-up of nations can be thought of as the result of two not perfectly countervailing forces. The increase in the size of a country allows the cost of public goods to be spread over many taxpayers, but a large country is also likely to have a diverse population, whose demands are difficult for the central government to satisfy. Even with an optimal size, the distribution of the costs and benefits across regions is not uniform and in some cases certain regions have incentives to secede.

Scholars claim that federalism can lessen the costs of heterogeneity by granting greater autonomy to subunits, which improves the quality of public services. On the other hand, federalism giving strength to subnational units may also increase the demand for succession and increase conflict. A third possibility mentioned by the literature is that improved quality of services should reduce the appeal of separatist movements. Chapter 23 by Paul Dower and Shlomo Weber illustrates these trade-offs on the basis of a concise survey of the literature. Then it explores the capacity of federal systems to dampen conflict through the use of central transfers.

On the one hand, transfers decrease stability by increasing a region's ability to secede. On the other they contribute to increase stability by decreasing the incentive to secede. To capture this trade-off the authors build a stylized model where transfers from the central government are used to fund either public goods or independence-building institutions.

Transfers always increase the amount spent on public goods, appeasing the regional grievances; however, some funds are diverted to develop independence-building institutions. The effectiveness of transfers depends also on the 'distance' between the centre and the regions in terms of preferences for policies. Ethnic diversity is a basic originator of distance. The chapter shows that the effectiveness of transfers in reducing conflicts increases up to a certain level of ethnic diversity, but it decreases thereafter, showing that fiscal policies have, as to be expected, limits in alleviating conflicts if used in isolation.

Measuring the Degree of Decentralization

Chapter 24 by Hansjörg Blöchliger on measuring fiscal decentralization completes the volume. Indexes of decentralization are used not only for comparing systems but, and more importantly, for checking the outcomes of decentralization. However, they are difficult to calculate. The traditional revenue and spending shares give only a first idea on the intensity of decentralization, saying little about the true decision-making power

of subnational governments over their own assignments and resources. Fiscal autonomy has many facets and dimensions. The chapter tries to show some available alternatives to the traditional indicators, namely indicators measuring taxing power or spending autonomy, and indicators assessing the autonomy attached to the use of intergovernmental grants. Moreover, the chapter also considers indicators measuring the strength of sub-central fiscal rules, as well as the limits of sub-central debt-to-GDP ratios, which often fail to take contingent liabilities into account.

Some non-fiscal indicators are presented, such as indicators measuring decentralization in the education sector, or an indicator of regional authority. Education is a strategic sector for decentralization and considerable efforts with interesting results have been made recently, especially by international organizations, to measure changes in decision-making power of subnational governments and/or school boards.

NOTES

1. The US model came close to dissolution in the Civil War, but has been quite resilient since then, as its economy has grown to be the largest in the world and it has consolidated its position as a superpower.
2. Nelson (2008).
3. According to constitutional theory, the system of government refers to the vertical division of powers, while the system of state refers to the horizontal division. Federalism combines both.
4. Diaz-Cayeros et al. (2003).
5. Reference is made here to the 5th edition, published online by The Library of Economics and Liberty.
6. Bowsky (1970).
7. The initial neglect of Tiebout's work and its subsequent links with the literature is vividly described by William Fischel (2000).
8. Referring to Tiebout's model, Samuelson (1958) recognizes: 'That it goes some way toward solving the problem, few would doubt'. At the same time, Samuelson argues that: 'As a solution, though, it raises a number of serious questions. Thus, when you study in detail a supposedly homogeneous suburb, you find it riddled with conflicting desires. . . . Secondly, people often like heterogeneity even though it involves conflict . . . Thirdly, there is the political and ethical question whether groups of like-minded individuals shall be "free" to "run out" on their social responsibilities and go off by themselves. At the national level, society respects no such freedom: e.g., migration control, compulsory taxation, etc.' (p. 337).
9. As we noted above, De Tocqueville focused his attention on local government and not on federal institutions.
10. A special issue of *World Development* – Vol. 53, 2014, edited by J.P. Faguet – provides ample evidence, with reference to a number of case studies, of the advances made by the positive theory on crucial topics, such as stability of systems and local predation. Weingast presents a political perspective to the Second Generation theories.
11. Pennock used the phrase 'disharmony and frustration', which had been coined earlier by Riker and Shaps (1957), but which was very distant from the terminology of economics.

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