Options for a Reform of the Mexican Intergovernmental Transfer System in Light of International Experiences

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Abstract

This paper focuses on the design of intergovernmental transfers to reduce vertical and horizontal fiscal imbalances and improve the performance of subnational governments. It provides an overview of international experiences, especially of large federations, with a view to devising viable options for reform of the transfer system in Mexico. While there is no one-size-fits-all ideal model of design and implementation of intergovernmental transfer systems, this analysis points to some lessons that can inform reforms, including the need to view intergovernmental transfers as an integral part of the overall system of intergovernmental fiscal relations; the use of different types of intergovernmental transfers that are best suited to fulfill different objectives; and the incorporation of equalization schemes to address regional disparities. In the light of these experiences, we find that the current Mexican transfer system is too fragmented, is linked to volatile oil revenues, involves substantial discretion in the allocation of a significant portion of the transfers, and lacks sufficient equalizing power. This paper presents and discusses possible reform options and demonstrates that it is altogether possible to reduce transfer dependence to promote effort and fiscal responsibility; simplify the system to increase predictability and ease its administration; eliminate discretion to increase transparency and establish stronger subnational budget constraints; and improve fiscal equalization to promote equity in subnational service delivery. Careful consideration of political economy dynamics is given in the simulations of possible reforms, with a view to minimizing short-term gains and losses as well as political opposition.

JEL Classifications: H25, H71, H73, H77

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Introduction

The design of intergovernmental transfers is probably the most complex issue in fiscal federalism for a number of reasons:

- It involves decisions about the allocation of limited fiscal resources among competing units of government. These decisions reflect the whole history of intergovernmental relations in the country, evolving political power balances, and a range of institutional and economic factors that vary across countries and over time, such as the federal or unitary nature of government, and the extent of regional and local disparities.
- It is inextricably linked with other key features of the system of intergovernmental fiscal relations, such as revenue and expenditure assignments, and borrowing controls.
- It involves trade-offs between sometimes conflicting objectives (e.g., devolution vs equalization; subnational autonomy vs the pursuit of national objectives; and predictability vs flexibility for both grantor and recipient governments). Different types of transfer are best suited to pursue one or the other objective, and it is crucial that the transfers do not work at cross purposes, but rather that they ensure a desired balance among the objectives.

  It needs to reflect capacity constraints, which influence, in particular, the trade-offs between complexity on the one hand, and simplicity and transparency on the other hand.

For these reasons, there is no optimal transfer design that is applicable to all countries and at all times. However, the analysis of a range of international experiences helps elucidate the trade-offs mentioned above and how they differ in different economic, institutional, and sociopolitical contexts. This in turn can help policymakers decide what would work best in their own country's circumstances.

This paper aims at providing an overview of international experiences with the design and reform of intergovernmental transfers, especially in large federations, with a view to devising viable options for reforming the transfer system in Mexico. Section 1 distills some lessons from international experiences, some of which are discussed in more detail in the Country Appendix, which covers seven large federations, namely Australia, Canada, Germany, and the United States among advanced economies, and Argentina, Brazil, and India among emerging ones. These countries have been chosen because they differ significantly not only in the level of development, but also in the history and characteristics of their intergovernmental relations. Thus, these differences provide a menu of potential options for reforms of an intergovernmental transfer system.

The main conclusions from this analysis can be summarized as follows:

- A failure to assign appropriate own-revenue sources[1] to subnational governments (henceforth SNGs) contributes to an excessive transfer dependence on their part and undermines both political accountability and fiscal responsibility.
- Different types of intergovernmental transfers are best suited to fulfill different objectives. Therefore, a well-balanced transfer system should include a mix of revenue-sharing mechanisms and special-purpose grants. However, it is important to avoid pulverizing resources by spreading them too thin among many different transfers with competing objectives.
- Formula-based grants provide predictability of resources for recipient governments, but they impart some rigidity to the budgets of granting governments. This trade-off can be alleviated through the use of sunset clauses and periodic review clauses for the grants. The formulas should be as simple and transparent as possible, utilizing indicators that are easily available and updatable, not subject to manipulations by either granting or recipient governments, and closely linked to the objectives of the specific grant.
- Since most countries distribute part of their transfers on the basis of where they originate, it is important to introduce some equalization elements in any transfer system, to avoid exacerbating regional inequalities. Equalization systems vary significantly across countries in both complexity and redistributive effectiveness.

Section 2 of the paper presents a summary overview of the current Mexican system and a number of commentaries on how it fares in relation to the lessons from international experiences discussed in Section 1. The main conclusions of Section 2 can be briefly summarized as follows:

- The overall context of intergovernmental fiscal relations in Mexico, despite some progress in recent years, continues to suffer from some significant weaknesses. In particular, these weaknesses include overlap in spending responsibility among the different levels of government; large vertical imbalance due to the paucity of own sources of revenue for the states; and a still relatively soft subnational budget constraint.
- The system of federal transfers to the states is excessively fragmented, a fact that blunts the effectiveness of individual transfer mechanisms and absorbs a lot of resources in administering them.

[1] Own revenues are defined as those on which SNGs have control at the margin through the definition of the base and/or of the rate.

- A positive feature of the revenue-sharing programs (called *participaciones*) is the fact that both their amounts and their distribution are based on standing, clearly specified formulas. However, the inclusion in the revenue-sharing base of some 80 percent of federal oil revenues exposes the state budgets to the typically high volatility of these revenues.
- In contrast to the *participaciones*, a substantial part of earmarked transfers is determined and distributed among the states on the basis of only general criteria or ad-hoc negotiations between the federal and the state governments. This is obviously the case for the special-purpose grants (*recursos federales reasignados por convenios*, or RFR), but this is also the case for some of the general-purpose grants (*aportaciones*). This reduces their transparency and predictability for the state governments, and it softens the states' budget constraint.
- Regarding the equalizing power of the transfer system, the distributions among the states of *participaciones* and especially of *aportaciones* are less unequal than that of ingresos propios (own revenue). However, the distribution of *convenios* is even more unequal than that of *ingresos propios.*

In the light of this analysis, Section 3 explores various possible options for reform of the system in Mexico, aiming to correct or at least reduce some of the above-mentioned shortcomings. A number of different reform options were analyzed by simulating their impact on transfers received by individual states (see the Methodological Appendix). With a view to minimizing political resistance to the reforms, the simulations were conducted on the assumptions that the reforms would only apply "on the margin," that is, to the year-to-year growth in intergovernmental transfers. This would substantially reduce short-term gains and losses for individual states.

To address the first shortcoming of the current system (low own revenues of the states), the simulations included a reform granting the states the power to levy a 10 percent surcharge on the federal income tax. The reforms of the transfer system involved merging different categories of *Participaciones*, *Aportaciones*, and *Convenios* into single transfers distributed as follows: in the case of *Participaciones*, partly on an origin basis and partly on an equalization basis; and in the case of *Aportaciones* and *Convenios*, on the basis of relative population and an *indice de marginacio*n (index of unsatisfied basic needs). The main results of the simulations can be summarized as follows:

- The surcharge on the federal income tax would imply a rather modest increase in the overall income tax burden but an increase in total states' own revenues by more than 50 percent. The increase would, however, vary widely across states, ranging from over 100 percent in Nuevo León to as little as 10 percent in Oaxaca. This would increase disparities in the states' own revenues, making even more compelling the case for including equalization criteria in the horizontal distribution formulas for intergovernmental transfers.

- The reforms would drastically reduce the fragmentation of the transfer system and the degree to which grants mechanisms are discretionary, thereby hardening the states' budget constraint.
- Very few states would experience some (very small) overall revenue losses, a fact that bodes well for the political feasibility of the reforms.
- The reforms would marginally reduce the equalization power of the revenue-sharing programs, but significantly increase that of both general-purpose grants and special-purpose grants.

1. Lessons From Relevant International Experiences

1.1 A Brief Taxonomy of Intergovernmental Transfers

It is important to clarify from the outset that in this paper intergovernmental transfers are defined as any nonrepayable flow of budgetary resources from one level of government to another (generally a lower one). Under this definition, revenues shared by one level of government with another are considered transfers.

Sharing of revenues from a tax is different from sharing a tax base. A number of countries allow "cohabitation" of different levels of government in exploiting one or more tax bases (e.g., income or consumption). In this case, each level of government maintains a degree of autonomy in defining the base and/or the rate structure of the tax (although sometimes, this autonomy can only be exercised within limits, such as when using a rate band, set by a higher level of government).[2]

Sharing of tax bases has advantages in terms of providing SNGs access to potentially buoyant tax bases, and may also minimize administration and taxpayers' compliance costs, if the definition of the base is harmonized among the different levels of government. Most importantly, sharing of tax bases safeguards the SNGs' revenue autonomy to a significant degree, which is important for their accountability to the electorate and for fiscal responsibility. However, it can also give rise to intergovernmental conflicts regarding the vertical distribution of the tax burden.

Unfortunately, most existing international databases (including the International Monetary Fund's Government Finance Statistics database and the Organisation for Economic Co-operation and Development's fiscal federalism database) do not separate shared tax revenues from own subnational tax revenues, providing only series that aggregate the two. This reflects both legal considerations (e.g., the fact that sharing of revenues is often mandated by high-level, in some cases even Constitutional, legislation, a fact that creates a presumption of subnational ownership of the shared revenues) and the difficulties of assessing in practice the degree of subnational autonomy in affecting the yield of a tax source.[3] The lack of internationally comparable data on own revenue and shared revenue hinders empirical cross-country analyses of subnational tax autonomy. The weight of shared revenues in the system of intergovernmental transfers varies widely across countries. Among federations that have relatively high proportions of shared

[2] For example, some countries define (at the national level if unitary, or at the state/regional level if federations) a band for the rates of local property taxes. Other countries use common definitions and criteria for valuation of the bases of such taxes. In other countries, the national government may set caps on the rates of other subnational taxes. In Canada, the federal government defines the base of the Harmonized Sales Tax in the provinces that have adopted such a tax, but the latter are free to decide the rate of the tax (see case study of Canada in Country Appendix of the paper).

[3] See Blöchliger and King, 2006, Blöchliger and Rabesona, 2009, and Dougherty and others, 2019 for discussions of different degrees of subnational tax autonomy.

revenues are Argentina, Austria, China, Germany, India, and Russia. In others, such as Australia, Belgium, Brazil, and Spain, revenue sharing and other forms of intergovernmental transfers (grants) are more evenly balanced. In Canada grants have greater weight, and in the United States there is no revenue sharing. The main factors affecting these choices are discussed later.

While the primary objectives of revenue-sharing mechanisms are to fill vertical gaps between subnational own revenues and spending responsibilities, and in some countries to reduce disparities in subnational revenue capacities and spending needs, other types of transfers (henceforth grants) can fulfill a range of different objectives, depending on their design. They can be used to promote economic or social policy objectives of the national government in broad areas of expenditures or in specific spending programs; to help SNGs internalize spillovers from their spending in certain areas; or even for central authorities to pursue political goals.

Different types of grants are best suited to each of these objectives, depending on the degree of autonomy allowed to the recipient government in the use of the resources (general-purpose, block, or special-purpose grants); whether there is a matching requirement; and the degree of discretion enjoyed by the transferring government in deciding the amount, distribution, duration, and frequency of the grant. As noted in what follows, there are advantages and disadvantages of different categories of grants in light of the objectives mentioned above and a number of international examples in this area.

1.2 Main Issues in the Design of Revenue-Sharing Systems

The role of revenue sharing in reducing vertical fiscal imbalances

The primary purpose of sharing revenues among different levels of government is to eliminate or at least significantly reduce vertical fiscal imbalances (VFIs) between own revenues (revenues over which each level of government has significant control) and assigned spending responsibilities. It is a well-documented fact that decentralization of revenues typically falls short of decentralization of spending. This is the case because, although revenue decentralization carries important benefits, it also faces significant obstacles in terms of efficiency, equity, ease of administration, and political will at both the national and subnational levels of government (see Box 1.1).

Box 1. Main Benefits of, and Obstacles to, Subnational Revenue Autonomy

Both the normative and the positive theories of fiscal federalism recognize the benefits of a significant degree of autonomy for SNGs in deciding the level and composition of their revenues. These benefits include the following (i) the potential to increase overall national revenues by tapping sources (such as property taxes and user fees) that would likely be neglected or administered less effectively at the national government level; (ii) providing greater certainty to SNGs about their resource availability, thereby facilitating the preparation of more realistic budgets and reducing volatility in spending on socially sensitive programs; (iii) promoting subnational fiscal responsibility. There is substantial empirical evidence that large vertical imbalances, resulting from limited tax autonomy and the related transfer dependence, are associated with larger fiscal deficits; (iv) making more visible to electorates the cost of subnational spending, thereby increasing local officials' political accountability and incentives to spend efficiently; and (v) facilitating the alignment of tax structure and design with regional and local preferences, and with the incidence of the benefits of subnational spending.

The literature also recognizes, however, that there are significant economic, institutional, and political obstacles to subnational own-revenue mobilization. The economic obstacles include: (i) The greater mobility of potential tax bases (goods and factors of production) within the national territory than across national borders. This increases the scope for tax evasion and for predatory tax competition (the so-called race to the bottom) among subnational jurisdictions, ultimately undermining SNGs' ability to finance the delivery of the public goods and services they are responsible for, and (ii) the generally uneven distribution of the tax bases across the national territory. As a consequence, sole reliance on own revenues would result in excessive disparities in individual SNGs' ability to finance the provision of common minimum standards of public services in key areas such as health, education, citizens' security, and basic infrastructures.

The main institutional obstacles include (i) the fact that central tax administrations are better positioned than subnational ones to exploit economies of scale in the collection and enforcement of taxes. They also tend to be better equipped in terms of financial and human resources. Moreover, capacities to administer effectively own taxes tend to vary substantially among SNGs, often compounding the above-mentioned differences in tax bases; and (ii) the fact that compliance costs for taxpayers operating in multiple subnational jurisdictions are magnified by the existence of differences in subnational tax legislations and tax administration procedures.

Finally, there are important political economy constraints to revenue decentralization: (i) centralized governments tend to prefer maintaining control of the main tax bases, both to facilitate the conduct of revenue-based stabilization policies, and to influence subnational spending decisions; and (ii) many SNGs, for their part, often prefer to rely on central government transfers (especially unconditional ones) to avoid the political cost of raising own revenues.

Note: See Fretes Cibils and Ter-Minassian (2015) for a more-detailed discussion of the benefits of, and obstacles to, revenue decentralization, and of the pros and cons of different subnational own-revenue sources.

While the economic and administrative factors mainly affect the capacity of SNGs to mobilize own revenues in a manner that is conducive to efficiency and equity, the political economy factors mainly impact their willingness to do so (i.e., the extent of their tax effort). The balance between the benefits and costs of revenue decentralization has varied both across countries and over time, reflecting a range of changing economic, institutional, and political conditions. In general, but not always, revenue decentralization has been more significant in federations and in more advanced countries, where subnational administrative constraints are smaller, and potential tax handles are more diversified, and where equalization mechanisms can better offset the disparities in the subnationals' capacities for raising own revenues.

In principle, intergovernmental fiscal transfers, including both shared revenues and grants, should be adequate to permit SNGs to fulfill their assigned spending responsibilities at a desired level of efficiency if they exploited their assigned revenue sources with a desired level of effort. Of course, it is very difficult to operationalize this principle in practice for a number of reasons:

- Expenditure assignments to the different levels of government are not always completely clear . Most countries mandate concurrent responsibilities, often in key areas of spending.
- It is difficult to reach agreement on measures of spending efficiency; and
- Similarly, it is difficult to define and measure an adequate level of revenue-raising effort.

For these reasons, the vertical sharing of budgetary resources among the different levels of government remains a matter of contention in virtually all countries. National governments, often facing their own budget constraints, blame fiscal gaps not adequately filled by transfers on subnational misallocation and inefficiencies in spending or revenue "laziness"; at the same time, SNGs point to unfunded national mandates as the main cause for their fiscal imbalances.

A few countries (in particular, India) have tried to minimize such political tussles by delegating the analysis of subnational resource needs to a special high-level commission. The commission then decides (or at least it recommends to the national government) about the size and distribution of intergovernmental transfers (see the India case study in Country Appendix for details). However, in the vast majority of countries the extent of vertical sharing ends up being primarily determined by power balances among the different levels of government.

As these balances, and the factors affecting the adequacy of intergovernmental transfers, change over time, the question arises how frequently they should be decided. Country practices vary significantly in this respect. Generally, revenue-sharing systems are based on formulas that are set in standing legislation, often at a higher level than ordinary laws (e.g., in the Constitution or in special-majority laws). In contrast, grants are defined by lower-level legislation or as part of the annual budget process. However, in some countries, the coefficients of vertical sharing are revisited in each budget, although the subnational share may be subject to a floor.[4] On balance, it would appear optimal to avoid annual fluctuations in the sharing coefficients, but rather to subject them to periodic reviews to ensure that they still reflect evolving relevant economic and sociopolitical realities.

Formula-based revenue-sharing mechanisms are the instrument of choice to partly fill aggregate vertical gaps since they typically provide SNGs with unconditional, non-earmarked resources, thereby ensuring needed flexibility for subnational budget managers; and they are more predictable than grants.

At the same time, however, these systems transmit to subnational budgets the cyclical behavior of national revenues, increasing the risk of procyclicality at levels of government that typically have more limited access to deficit financing than the national government. This disadvantage could be counteracted in principle by sharing revenues on a cyclically adjusted basis, but no country has done so to date, given the inevitable uncertainties surrounding cyclical adjustment systems, especially in developing countries, which include both emerging and low-income countries. Possible mitigating mechanisms in this area include basing the transfers on a moving average of past national revenues (as does Australia), or creating a fund to deposit excess national revenues, compared to budgeted levels, to finance increased transfers in the event of shortfalls (as does Mexico through the *Fondo de Estabilización de los Ingresos de las Entidades Federativas*, or FEIEF). The latter mechanism, however, only compensates SNGs for unexpected fluctuations in revenues (and only to the extent allowed by the accumulated balance of the fund), not for prolonged and anticipated downswings.

Formula-based revenue sharing also exposes SNGs to the impact of changes in national tax policies, potentially blunting the effectiveness of those changes. For example, a tightening of fiscal policy by raising shared national taxes can, in the absence of changes in the sharing formula, provide additional resources for spending to the recipient SNGs. Conversely, an uncompensated national tax cut (or a tax moratorium) to stimulate demand would tighten the budget constraint for SNGs, forcing them to cut spending or to increase own revenues, with adverse effects on demand. For this reason, several advanced and developing countries have recently included additional transfers in their packages of measures to mitigate the economic impact of the Covid-19 pandemic to compensate the SNGs for losses under the respective revenue-sharing systems.

[4] For example, in Kenya the subnational share of national taxes is subject to a floor of 15 percent.

Choice of the base of sharing

Under a formula-based revenue-sharing system, the choice of the vertical sharing coefficient(s) is, of course, linked to that of the base of sharing. The latter can be the entire tax revenue of the higher-level government or it can be only one or more taxes. For example, India, Indonesia, Pakistan, and the Philippines share the entire national tax revenue (at different rates) with SNGs. At the other extreme, in Australia, only the value added tax (VAT), and in Switzerland, only the income tax, is shared with the SNGs to fund the respective equalization systems. In Brazil, while the federal government shares income tax and the tax on industrialized products with states and municipalities, the states share with the municipalities only the state-level VAT. Several countries (e.g., China, Germany, and Spain) share different federal taxes in different proportions.

The exclusion of some taxes from the sharing base obviously creates incentives for the transferring government to privilege the non-shared sources of revenue, which sometimes may be more distortive or inequitable than the shared ones. One notable example in this respect is Argentina, where the federal government does not share taxes on export and on financial transactions. Another example is Brazil, where the so-called PIS and COFINS contributions (in reality cascading taxes on turnover) earmarked for social spending are not subject to sharing, which was also the case with the CPMF, the now-defunct tax on financial transactions. Both Argentina and Brazil have relied increasingly on such taxes in recent decades.

An important issue is whether revenues (in particular, royalties, dividends from a national oil or mining company, and other contractual payments) from natural resources should be included in the base of sharing. The typically high degree of volatility of such revenues, and their exhaustibility over time argue against such an inclusion. The fact that generally they are very unevenly distributed across the national territory makes their sharing on the basis of origin (derivation) highly unequalizing. However, compensatory transfers to the regions and localities where the resource extraction occurs for the environmental and other costs of such extraction would be appropriate, although difficult to calibrate reliably.

In practice, political pressures from resource-rich regions to keep a substantial share of such revenues have proven difficult to resist in many countries. In some countries (e.g., Argentina, Australia, Canada, and the United States) the Constitution attributes the ownership of onshore natural resources to the regional government (state or province) where they originate. A number of other countries reserve the ownership of the natural resources to the national government, but they mandate a special sharing regime for the revenues derived from those natural resources. These regimes often differ for onshore and offshore sources, and they mandate different sharing coefficients for different categories of revenues. This is the case, for example, in Bolivia, Brazil, Indonesia, and Peru. The horizontal distribution of the shared revenues is generally primarily made on a derivation basis, but in a number of countries, a smaller fraction is distributed to all SNGs or to a fund used to finance qualifying subnational projects; Colombia is one example.

Criteria for horizontal distribution of shared revenues

Another key issue in the design of revenue-sharing systems is the distribution of the total amount transferred to each level of government among its members (horizontal distribution). While the specific formulas for this purpose vary widely across countries, they basically fall into one of two categories, origin-based or redistributive.

Origin-based formula (or derivation-based formula) aim to return to each subnational unit (whether state, province, region, or locality) a part of the revenues collected by the higher-level government in that territory. As such, they could be justified by efficiency considerations as rewarding the SNGs' efforts to grow their respective tax bases. Not surprisingly, these criteria have generally strong proponents in regions that are relatively prosperous or rich in natural resources, as well as in large cities that concentrate the bulk of economic activity of a country. Both these groups tend to wield significant power at the national level, a fact that helps explain why many countries distribute a portion of their intergovernmental transfers on an origin basis.

However, origin-based distribution formulas have significant drawbacks too. Foremost is the fact that they compound disparities in the capacities of SNGs to raise their own revenues, thus making it even more difficult to ensure a socially acceptable degree of homogeneity in the subnational provision of public goods and service across the national territory. For this reason, countries often complement origin-based transfers with redistributive ones, either in the form of explicit equalization systems (discussed in detail later) or grants with their allocation reflecting progressive redistribution criteria (discussed further below)[5].

Moreover, an origin-based sharing of revenues requires the use of sometimes-complex allocation formulas. Typically, the sharing of revenues from the personal income tax is made on the basis of residence criteria, but sharing of revenues from the corporate income tax requires agreement on criteria for the regional allocation of profits to avoid concentrating the transfers only on the region where the corporation is headquartered. Even more complex is to share the VAT on the basis of origin or derivation. For this reason, a number of countries use VAT revenues to fund equalization transfers. Canada distributes the provincial share of the goods and services tax

[5] For example, Germany shares 50 per cent of income taxes on a derivation basis, but mostly erases the advantage of higher income states with a sharing of the VAT and a horizontal sharing mechanism among the states that are equalizing (Spahn, 2020). Switzerland shares 13 per cent of federal income tax collections with cantons on a derivation basis, but also has a significant equalization program (Dafflon, 2020).

(GST) on an origin or derivation base, but uses estimates of regional consumption as the key for such distribution (see Canada case study in Country Appendix).

Equalization transfers

The main purpose of intergovernmental equalization transfers is not a redistribution of resources among individuals, with a view to reducing poverty or income inequality, a task that can be best accomplished by direct national or subnational transfers to households or through progressive taxation. Rather, the main purpose is to minimize disparities in the capacity of SNGs to provide the goods and services for which they are responsible, at an average level of efficiency, and with an average degree of revenue-raising effort.

Disparities in subnational revenue-raising capacities are mainly related to the distribution of per-capita income across a national territory, but they can also reflect other factors that affect the bases of subnational revenues, such as the degree of urbanization and the prevalence of hard-to-tax sectors such as agriculture and small, often informal, retail. Disparities on the spending side arise because of (i) demographic factors, such as the shares of school-age children, senior citizens, and Indigenous people in the regional or local population, which affect subnational expenditures on education, health, and other social expenditures; (ii) geographic factors, such as mountainous terrains, and/or long stretches of thinly populated territory; and (iii) other factors affecting the cost of providing subnational goods and services, such as regional differences in prices and wage rates.

It should be emphasized that the purpose of equalization is to minimize only those disparities that do not reflect policy decisions of the recipient governments. This is crucial in order to avoid incentives for SNGs to under-exploit their own revenue bases or to spend in excess of appropriately costed needs.

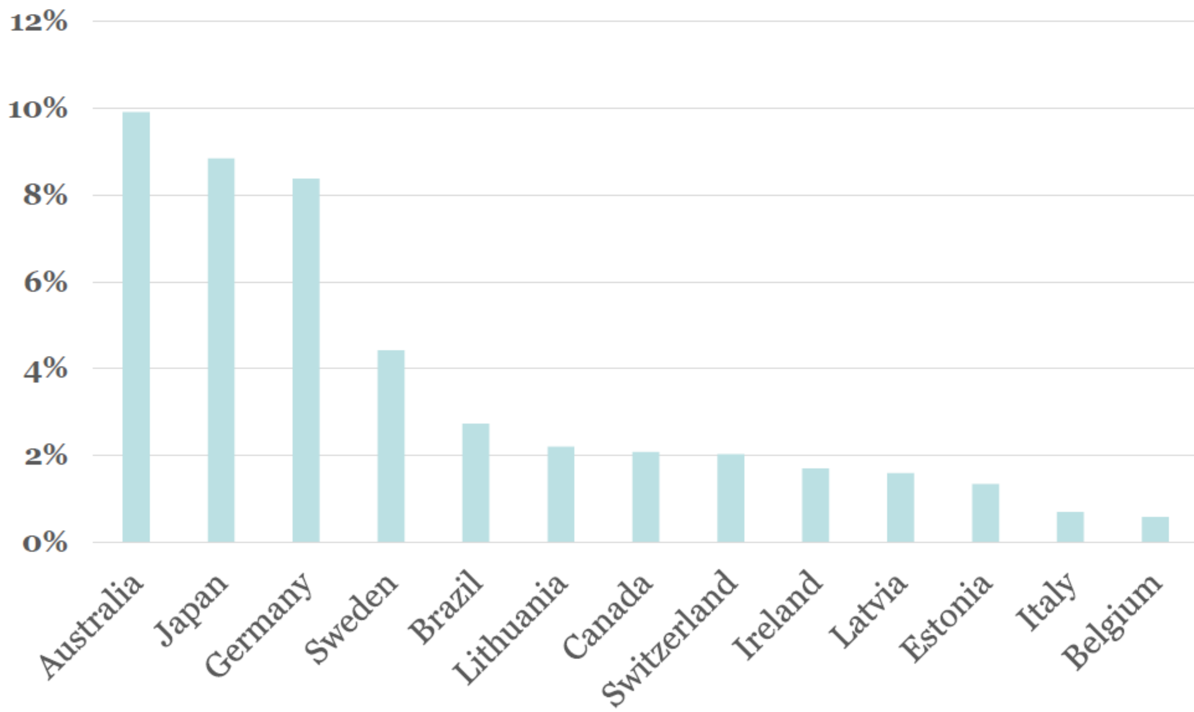
Fulfilling the equalization objective is, however, quite complicated in practice, given budgetary constraints of the equalizing government, and the difficulty of accurately measuring revenue capacities, spending needs, and cost disparities among the recipient governments. For this reason, existing equalization transfer systems all rely, albeit to different degrees, on approximations to the ideal model mentioned above.

Equalization transfers are now an integral part of intergovernmental fiscal relations in the vast majority of advanced countries,[6] and are becoming more common in developing countries as well. Figure 1.1 shows the relative importance of equalization transfers in total government

[6] The United States is the foremost example of an advanced country that does not use equalization transfers, although some of its grant programs have modest equalizing effects (see the case study in the Country Appendix for details).

spending in selected countries, mostly those in the Organisation for Economic Co-operation and Development (OECD). Given their importance, there is an extensive, and still growing literature on the theory and international practice of equalization transfers.[7] This section briefly summarizes the main issues in their design and implementation and provides some illustrative country references.

Figure 1.1: Equalization Transfers as a Percent of Total Government Expenditures in Selected Countries



Source: OECD data, based on a 2019 country questionnaire.

As noted earlier, equalization transfers can be vertical (from one level of government to another) or horizontal (among governments of the same level). The largest number of equalization systems is of the vertical type. The best-known example of a horizontal system is the German one (discussed in the case study in the Country Appendix), which fits well with the "cooperative federalism" model of that country. Spain, Sweden, Switzerland, and some Latin American countries like Chile and Peru, among others, also have elements of horizontal equalization in their

[7] See, e.g.; Blöchliger and others, 2007; Chapters 12-14 in Boadway and Shah, 2007; OECD, 2013; Bahl and Bird, 2018, and Dafflon and Vaillancourt, 2020. Munoz, Pineda and Radics, 2017 provide a comprehensive overview of equalization transfers in Latin America.

transfer systems. Equalization transfers can be funded through revenue sharing or through the allocation of general budgetary resources, decided either on the basis of formulas or as part of the annual budget process. For example, Australia funds its equalization system with the entire revenue of its VAT (GST). Canada does so through a budget allocation, initially set in 2011 and updated each year in line with a moving average of the rate of growth of nominal GDP. The explicit linking of equalization transfers to the revenue-sharing system, or the use of standing formulas to determine the amount of equalization grants, is preferable from the point of view of transparency and to provide stability and predictability for this important component of intergovernmental fiscal relations.

The most complete system of equalization is that of Australia (described in some detail in the case study in the Country Appendix), which aims to eliminate disparities (the so-called disabilities) in both the revenue raising and spending capacities of the states. Regarding spending, most of the factors (demographic,[8] geographical,[9] and economic[10]) that significantly affect the need for the public services that states are responsible for, and the cost of delivering them, are taken into account in the calculation of the so-called disabilities.

Since 2010 (when an effort was made to significantly streamline Australia's scheme), the calculations consider only 7 state revenue sources and 14 services, compared with many more before. Even so, they are quite complex and data-intensive, a fact that contributes to explaining why they are carried out each year by a special independent body, the Commonwealth Grants Commission, which is seen as guaranteeing their integrity and acceptability by all the concerned governments.

Canada has a well-structured system of equalization of revenue capacities, the so-called Representative Tax System (RTS), but it does not equalize spending needs. For each of the five main types of nonresource revenues considered by the RTS, the transfer entitlement of each province is calculated as the difference of that province's tax base with respect to the nationwide average, multiplied by the nationwide average tax rate and by the province's population. These entitlements are then summed up across the sources of revenues, to yield each province's total transfer entitlement. If a province's entitlement is negative because its overall revenue capacity is higher than average, it receives no transfer. If the sum of provincial entitlements exceeds the budgeted funding of the system, provincial entitlements are cut proportionally. If the sum falls short, all entitlements are increased proportionally to exhaust the funds. In both the Australian

[8] E.g., rate of population growth and the share of Indigenous people in the population.
[9] E.g., indices of remoteness, road length.
[10] E.g., differences in wage costs and in degree of urbanization.

and the Canadian systems, the treatment of state or provincial revenues from natural resources in the equalization system poses special challenges. Their inclusion in the calculations of revenue capacities is opposed by the producing states and provinces, but their exclusion would imply that their sometimes substantial, additional spending capacity is not offset by the equalization system. In practice, Australia includes these revenues (which are concentrated in the state of Western Australia) in the system, and in Canada, 50 percent of such revenues are considered if their inclusion increases a province's entitlement.

Switzerland combines a revenue equalization system with an expenditure equalization one. The revenue equalization system is based on a RTS with four sources of revenue and funded by both vertical contributions from the federation and horizontal ones from cantons with high estimated fiscal capacity. The expenditure equalization system is fully funded by the federation and based on a range of sociodemographic factors (incidence of poverty, old age, and immigrants) and geotopographic characteristics (altitude, remoteness, and smallness), and the degree of population agglomeration (Dafflon, 2020).

In Spain, the regional governments (other than the País Vasco and Navarra, which are under a special regime) contribute 75 percent of their estimated capacity revenues to a so-called Guarantee Fund that redistributes these revenues according to relative spending needs. These are estimated by attributing different weights to the population and its demographic profile, area and dispersion, and insularity; see Fuente (2015) for more details.

In Italy, a system of equalization transfers to fund core spending functions of local governments was put in place following a 2009 reform. Under this system, standard spending needs are calculated by taking into account demand (e.g., population and demographic structure) and cost factors (population density, remoteness, and other geographic characteristics) outside the local authorities' control, which are econometrically estimated to affect local spending on the function in question. The differences between actual and standardized spending may reflect differences in the priority attributed by each municipality to the function in question, different revenue-raising capacities, or different levels of efficiency. To correct for the impact of differences in fiscal capacity, standardized revenues have also been calculated for the main municipal taxes, based on the legislation prevailing in 2014. The gaps between standardized needs and revenues of local governments are used as coefficients for the distribution of growing portions of the transfers to them. In contrast, national transfers to the regions continue to be largely distributed to accommodate historical spending differences among them.

Because of the technical complexity and data requirements of detailed calculations of disparities in revenue and spending capacities, many countries use proxies of the same, in particular relating the distribution of the transfers directly to some of the above-mentioned factors affecting the disparities. For example,

- In South Africa, revenues shared by the central government with the provinces (which account for over 80 percent of total transfers to the latter) are allocated in six tranches, each linked to relevant indicators. These include population, the share of school-age children and of medically uninsured individuals in the population, poverty, and provincial GDP. The first three indicators have weights amounting to over 90 percent of the total.[11]
- In India, in recommending a horizontal distribution of the shared revenues' pool, the Finance Commissions have generally aimed to make the transfers equalizing. For this purpose, they have focused on a range of variables intended as proxies for fiscal capacities and spending needs. The latest Commissions have used each state's deviation from the average in per-capita income, population, land area, and forest area as such proxies, with weights recommended by each Finance Commission. However, these are quite rough proxies, as they do not take into account differences in tax bases, in demographic and geographic profiles, and in unit costs of providing state services.
- In China, while shared revenues are distributed to the provinces on an origin basis, the distribution of some of the many grant programs is based on estimates of provincial revenue capacities and of indicator-based needs for various categories of spending. However, these grants account for a relatively small share of the total, and they do not offset the disparities created by the revenue-sharing mechanism.

How effective are equalization transfers in reducing subnational disparities? Obviously, the answer varies a lot across countries, depending on the design of the system, the quality of its implementation, and the weight of these transfers in total intergovernmental transfers. The transfers should not even out disparities due to subnational policy choices—such as their own revenue mobilization effort, the coverage of their social programs, or the wages of their civil servants—or to relative inefficiencies in the delivery of public services. As suggested by some of the examples discussed earlier, not all equalization systems succeed fully in this respect. As a result, in those countries, equalization may contribute to subnational "fiscal laziness" or accommodate overspending.

In many countries, differences in subnational revenue-raising capacities outweigh those due to cost or demand differentials in spending. Therefore, it is encouraging that an OECD analysis in 2014 found that these transfers were quite effective on average in the region,

[11] See Savage (2020) for details on this and on the more complex formula for distribution of transfers to local governments.

eliminating about two-thirds of revenue disparities. In some countries (notably Australia, Germany, and Sweden) these disparities were nearly eliminated. However, in developing countries the picture is generally less favorable. Studies so far (for individual or multiple countries, including India, China, and South Africa, and in Latin America) have found only limited effects of the transfers on regional disparities.

Intergovernmental grants

As discussed earlier, governments use revenue sharing to fill gaps resulting from subnational vertical imbalances, and in many cases, to fund equalization transfers. Therefore, shared revenues are, in general, freely usable by the recipient governments without earmarking or conditions. In contrast, intergovernmental grants are typically used by the granting government to pursue policy (or in some cases political) purposes or to contribute to funding an adequate provision of regional or local goods and services with spillovers across the national (or regional) territory. Capital grants are also often used by higher-level governments to co-fund infrastructure investments with positive spillovers beyond the borders of lower-level governments. Given these objectives, most intergovernmental grants (other than those used to fund equalization transfers) involve some degree of earmarking and conditionality.

There is a tendency in many countries for intergovernmental grants to proliferate, often to meet narrow objectives. This proliferation is often driven by the parochial interests of different agencies of the granting/donor government or of members of the legislature. This proliferation has, however, a number of adverse effects:

- The pulverization of resources among many different programs undermines their effectiveness in achieving their stated objectives.
- The programs sometimes work at cross purposes.
- Administration costs for the programs multiply, leaving scarce resources for their evaluation.

Recurrent grants

Recurrent grants are of two main types: block and special-purpose. Block grants typically only require the recipient government to use the transferred resources in broad spending areas, such as education, health, and social assistance. Their main purpose is to help SNGs fund a range of spending programs in areas that the granting government regards as priorities. The Canadian Health Transfer (CHT) and Canadian Social Transfer (CST), some American grant programs, and the Brazilian FUNDEB transfer are examples of this type of grants (see the Country Appendix for details). The grants typically carry minimal or no conditions. Not surprisingly, these grants are preferred by the recipient governments because they allow them to adjust the allocation of budgetary resources and the modes of delivery of the goods and services to their own (and hopefully their electorates') preferences. Clearly, this type of grants works best when subnational budget processes are effective and transparent.

Special-purpose grants are instead earmarked to specific subnational spending programs that are considered of interest by the granting government because of the programs' focus or characteristics. The national government may choose to support a subnational program because it targets disadvantaged groups, such as medically vulnerable individuals, Indigenous populations, or people who are disabled. Special-purpose grants are also frequently used to fund minimum standards for some essential public services and where the standards are nationally imposed.

Special-purpose matching grants are typically used to support programs that benefit not only the residents of the specific region or locality, but also those in neighboring localities or even the national population at large. These grants help SNGs internalize the positive spillovers from adequate spending in areas like education or health, as well as the negative externalities from inadequate spending in the same areas. However, matching requirements tend to favor richer SNGs that are better positioned to meet them. Matching grants may be open-ended or subject to a ceiling; the latter is more common because of budgetary constraints on the granting governments.

Special-purpose grants tend to be favored by the granting governments, who see them as an instrument to influence subnational spending choices more directly. However, in the absence of verifiable requirements for recipient governments to at least maintain the before-transfer level of own resources devoted to the program in question, it is unclear to what extent special-purpose grants succeed in changing the allocation of subnational resources. Available empirical evidence on the extent to which different types of grants succeed in increasing subnational spending on the programs they support (the so-called flypaper effect) is quite mixed.[12]

Special-purpose grants are often accompanied by conditions on the use of the transferred resources. These conditions may refer to the input mix of the program supported by the grant (e.g., how much can be spent on salaries vs other inputs), to its outputs (e.g., the number of hospital stays or of outpatients attended, or the number of students per class), or to indicators of its intended outcomes (e.g., improvement in pupils' test or graduation scores, the reduction of

[12] See Gamkhar and Shah (2007) for a comprehensive review of the theory and existing empirical evidence on the flypaper effect.

mortality rates, or the reduction of the incidence of certain diseases). Obviously, it is easier to monitor conditions related to inputs or outputs, but the contribution of those conditions to the effectiveness of the program depends on whether the relations between the program's inputs, outputs, and outcomes are appropriately assessed and reflected in the grant's conditions.

Many recurrent grants are formula-based. Formulas may be used to specify both the aggregate level of the grant program and its distribution among eligible SNGs, in the case of capped or of closed-end matching grants; or only the criteria for individual entitlements, in case of open-ended ones. In either case, it is important that the indicators used in the formulas (such as the number of school-age children or of medically vulnerable residents in the region or locality, or the number of residents with income below the national poverty level) not be amenable to easy manipulation by the recipient government.

Formula-based grants are preferable in terms of transparency and predictability; however, they impart some rigidity to the donor government's budget. To reduce such rigidity over the medium term, as well as to ensure the continued relevance of the subnational spending programs they support, these grants should be subject to periodic review. The inclusion of a sunset clause in the legislation authorizing the grant is helpful in this respect.

Ad-hoc grants

Discretionary special-purpose grants that are negotiated every year in the budget process are frequently a vehicle for political bargaining. They often serve very narrow constituencies, absorbing budgetary resources that could be devoted to programs with broader benefits. Also, they are often used to fill ex-post subnational fiscal imbalances resulting from weak revenue-raising effort or from spending inefficiencies. As such, they are a prime cause for subnational soft budget constraints.[13] The case studies of Germany, Argentina, and India in the Country Appendix provide some examples in this respect, but the use of ad-hoc grants to fulfill such inappropriate purposes is quite widespread, especially, but not exclusively, in developing countries.

Ad-hoc grants may be useful to provide one-off or short-term support to SNGs affected by shocks outside their control, such as natural disasters (earthquakes, droughts, floods, hurricanes, etc.) or pandemics. However, to avoid moral hazard, higher-level governments (national or state) should require potential beneficiaries to also make their own provisions for such occurrences, including through reserve funds and purchases of insurance.

[13] See Vigneault (2007) for a detailed discussion of the adverse impact of ad-hoc grants on subnational fiscal responsibility.

Capital grants

In most countries, SNGs have important responsibilities for the construction, operation, and maintenance of infrastructures in their respective areas of jurisdiction, especially in transport, electricity distribution, water and sanitation, schools, and primary and secondary health facilities. Some of these activities may be carried out through enterprises that the SNGs own or control.

The financing of infrastructures typically poses even greater challenges for SNGs than for national governments, given their more-limited revenue autonomy and the fact that many of them are subject to constraining fiscal rules, such as balanced-budget rules, and even in the absence of such rules, frequently lack adequate and sustainable access to capital markets.[14]

Capital transfers are an instrument for national governments to support subnational investments that they regard as necessary to ensure an adequate provision of essential public services, as well as those that have spillovers beyond individual SNGs' borders and align well with the national strategy for regional development. Capital transfers, along with technical assistance, are also often used by national governments to promote improvements in subnational public investment management processes (planning, project selection, monitoring of implementation, and ex-post evaluation).

Capital transfers should ideally strike a balance between the objectives pursued by the donor government and those of the recipient, but this does not always happen, especially when decisions about the distribution of these grants are driven by short-term political considerations rather than by transparent prespecified criteria.

For this reason, in some countries the transfers are channeled through a national or regional fund (or a number of sectoral funds) to which SNGs can submit project proposals that meet prespecified standards (such as having undergone a cost–benefit analysis). This procedure helps eliminate clearly wasteful projects, but its effectiveness ultimately depends on the criteria for selection of the projects to be supported by the fund(s). These criteria should be transparent, should be as simple as possible, and should aim at aligning national and subnational objectives. It is also important that national (or regional) authorities provide assistance to smaller, lower-capacity SNGs to minimize the risk that they are unable to prepare projects that meet the required technical standards.

[14] Ter-Minassian (2017) provides a detailed discussion of the range of obstacles faced by local government in funding and financing their investments, and of policies to mitigate such obstacles.

1.3 Conclusions

This section has highlighted the fact that there is no one-size-fits-all ideal model of design and implementation of intergovernmental transfer systems. Nevertheless, theory and international practices in this area point to some lessons that can help governments make better choices in a process of reforming such systems. Some of these lessons are briefly recapped in what follows.

- Intergovernmental transfers should be viewed as an integral part of the overall system of intergovernmental fiscal relations. Flaws in the other components (subnational expenditure and revenue assignments, and borrowing limits) can undermine the effectiveness of transfers, while flaws in the design of the transfers can contribute to excessive or inefficient subnational spending, "laziness" in raising revenues, and the emergence of soft budget constraints.
- There is significant empirical evidence that a failure to assign appropriate own-revenue sources[15] to SNGs contributes to an excessive transfer dependence on their part and undermines both political accountability and fiscal responsibility (Ter-Minassian, 2015). A first step in an effort to reform intergovernmental transfers should be a careful analysis of the extent of the vertical fiscal imbalance in the country, its main causes, and the scope for corrective measures, including clarifying subnational spending responsibilities, if appropriate, identifying potential new subnational tax handles, and steps to improve the exploitation of existing ones. There is an extensive literature in this area that can help in this analysis.
- Different types of intergovernmental transfers are best suited to fulfill different objectives. Revenue sharing is the instrument of choice to fill a substantial part of aggregate vertical gaps with non-earmarked and unconditional resources. Revenue sharing and general-purpose grants are also well suited to fund equalization transfers. Block, special-purpose, and capital grants are typically used by higher-level governments to influence budgetary choices of the lower-level governments, and therefore carry various requirements, such as earmarking to specific functional areas, programs, or projects; the maintenance of prior levels of the recipient's spending in the same areas; conditions in the use of the transferred resources; and in many cases, co-funding. The balance between unconditional (including revenue

[15] Ambrosanio and Bordignon (2006 and 2015); Bird (2010); and Fretes and Ter-Minassian, eds. (2015) provide good discussions of appropriate revenue approaches for SNGs.

sharing) and conditional transfers varies across countries, reflecting a number of factors, but in particular the relative power of the different levels of government.

- It is important to avoid a proliferation of many different transfers, particularly special-purpose grants, which pulverize available resources among sometimes competing objectives, make it difficult to assess their effectiveness, and entail substantial administrative costs for both donor and recipient governments.
- There is inevitably a trade-off between stability and predictability of intergovernmental transfers, on the one hand, and budgetary flexibility for the granting government, on the other. Formula-based transfers privilege the former objectives, and therefore tend to be preferred by the recipient governments. Granting governments, on the other hand, tend to prefer deciding the level and distribution of transfers in the context of the annual budget negotiations. However, this opens ample scope for political bargaining, and can weaken the budget constraint for SNGs. As mentioned earlier regarding recurrent grants, an acceptable compromise might involve the introduction of sunset and periodic review clauses in formula-based transfer programs.
- The formulas utilized in transfers should be as simple and transparent as possible, utilizing indicators that are easily available and updatable, not subject to manipulations by either donor or recipient governments, and closely linked to the objectives of the specific transfer program.
- A key issue in the design of transfers is that of their horizontal distribution. Origin-based distribution formulas tend to exacerbate disparities in subnational revenue-raising capacities, especially in countries characterized by high degrees of regional inequality, and when revenues from nonrenewable natural resources are included in the sharing mechanism. For this reason, many countries, including developing ones, have adopted some form of equalization transfers in their systems.
- The preceding analysis of a range of equalization systems has pointed to the importance of ensuring as best as possible that what is equalized are subnational revenue capacities and standardized spending needs, rather than actual revenue collections and expenditures. This is necessary to avoid both discouraging revenue-raising efforts and rewarding spending inefficiencies. Fortunately, the technology to estimate such capacities is steadily improving over time, as more and more countries design and implement equalization transfers.
- Finally, a number of countries make evaluation of transfer programs an integral part of their transfer systems and provide the necessary resources for it. Evaluations go

beyond the monitoring of any conditions attached to a specific transfer, focusing instead of analysis of its effects and their consistency with the program's objectives. Moreover, some countries require more comprehensive and periodic reviews of the transfer system, in some cases conducted by independent commissions, to reassess the consistency of its various components and their continued appropriateness to the evolving landscape of intergovernmental fiscal relations.

2. An Analysis of the Current System of Intergovernmental Transfers in Mexico

2.1 Overall Context of Intergovernmental Fiscal Relations

Mexico is a federal republic, comprised of the federal government, 31 states plus the *Distrito Federal*, and more than 2400 municipalities. The SNGs vary widely in size, population, and especially in the level of development and other socioeconomic characteristics. In 2016, the highest state GDP per capita was more than 7 times larger than the lowest one; in that same year, the incidence of poverty varied among states from 14 to 77 percent of the state's population. The degree of spending decentralization in Mexico (as measured by the combined shares of state and local spending in consolidated general government expenditures) at around 40 percent is significant, albeit below the OECD average for federations (around 47 percent).[16]

States are responsible or co-responsible for the delivery of several public services. As stated in the Mexican Constitution, states are in charge of delivering education and health care, and they share responsibility with the federal government and the municipalities for poverty alleviation and water management. Tourism, agriculture, and industrial policies are also shared between the national level and the states.

Municipal governments are primarily responsible for local matters. They are in charge of the implementation of social programs and water distribution, and they have an important role in urban planning through the granting of construction permits, the update of cadasters, and the development of urban plans. They are also responsible for roads and school maintenance, garbage collection, public lighting, cemeteries, public parks, and markets.

Infrastructure and transportation are sectors that involve the three layers of government, with the central government mostly responsible for the financing and the subnational levels responsible for the maintenance. Own revenues, defined as those on which SNGs have control at the margin through the definition of the base and/or of the rate, are quite low, accounting on average for about 13 percent of total state revenues and for about 23 percent of municipal ones. Other OECD federations and most unitary countries have significantly higher shares of own revenues in total subnational revenues. There is, however, a significant variation in the degree of revenue autonomy among states, with the ratio of own revenues to total revenues ranging between 2 to 3 percent in Guerrero and 40 percent in Mexico City. The weak performance of subnational own revenues in Mexico reflects a number of factors:

- The main source of revenue assigned to the states is a payroll tax that discourages labor formalization. The other significant tax assigned to them is a *tenencia* (tax on motor

[16] OECD data for 2017, from the database of the Fiscal Federalism Network.

vehicles), which has been used by many states as an instrument of tax competition, and as a consequence, is only levied by 14 of them, and at relatively low rates (CIEP, 2021). In contrast, the municipalities have a potentially quite productive source of revenue, namely real estate taxes; however, this is significantly underutilized because of capacity constraints, as well as inadequate collection efforts (Unda, 2018; Unda and Moreno, 2015).

- There are significant weaknesses in the tax administration, especially in the less-developed states and in smaller municipalities.
- Political economy factors are also important. The states regard the political cost of lobbying the federal government for transfers as less than that of increasing their own taxes or user fees. This is aggravated by a historically liberal use by the federal government of discretionary transfers to fill emerging budgetary gaps of the states, often in exchange for their support in Congress for the federal policy agenda.[17]

The softness of the subnational budget constraint was aggravated in past decades also by ineffective borrowing controls, allowing an upward creep of the aggregate subnational debt, to over 3 percent of GDP by 2016, a level that, from an international perspective, is not especially high in relation to GDP, but is quite high (60 percent) in relation to subnational own revenues. Concern about the growth of the debt, especially in some of the states, prompted an important reform, with the passage of the Subnational Fiscal Discipline Law in 2016 and its further strengthening in 2018.

The law established stricter requirements for the states and municipalities in their budget preparation, execution, and reporting processes; uniformity in accounting practices; and greater transparency. It also set out fiscal rules limiting the growth of personnel spending and the recourse to borrowing by the SNGs. As called for by the Constitution in 2015, it stipulated that borrowing could only be undertaken to finance investments or to refinance outstanding debt at more favorable terms. Borrowing limits for each state depend on the level of its debt and its debt service, relative to freely usable resources, and its liquidity position, according to a *Sistema de Alertas* (system of graduated ceilings) for these variables defined by the Secretaria de Hacienda y Credito Publico (SHCP). The law also expanded the coverage of the Registro Publico Unico (Unified Registry of Subnational Debt), thus facilitating its monitoring and transparency.

[17] See Pineda et al. (2015).

2.2 Current System of Intergovernmental Transfers

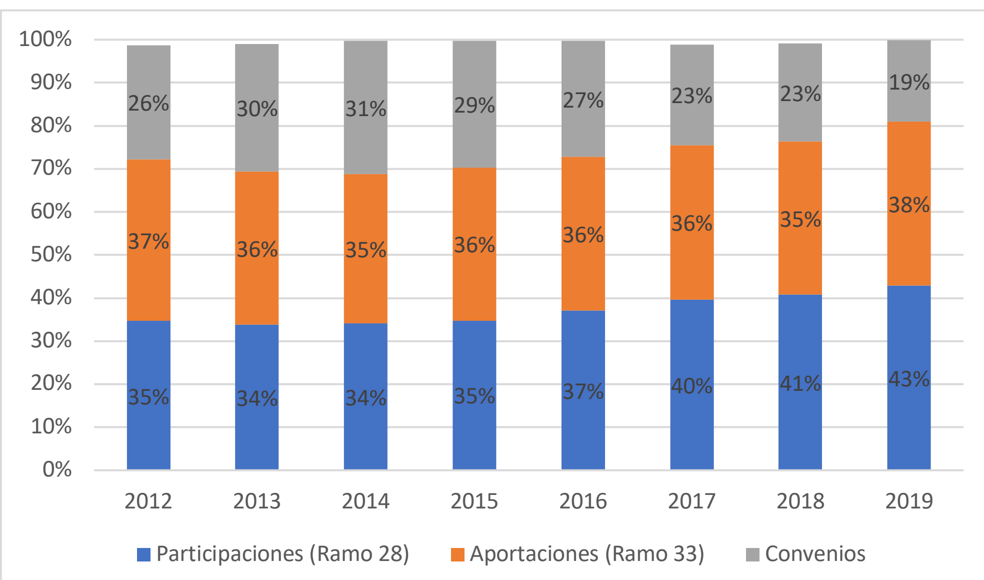
Overview

Given the low level of subnational own revenues, intergovernmental transfers play a major role in funding decentralized spending in Mexico. The transfers have averaged over 51 percent of federal government spending and have grown at an average real rate of over 5 percent a year between 2012 and 2019. They are currently equivalent to around 11 percent of GDP. There are two main types of federal transfers:

- Revenue sharing or *Participaciones* (as noted previously) in the Ramo 28 of the federal budget). This type of transfers accounts for over 40 percent of the total and provides freely usable funds to the recipient states (see Table 2.1).
- *Transferencias etiquetadas* (earmarked transfers), the largest portion of which are *Aportaciones* in the Ramo 33, which consist of grants for education, health, social infrastructures, public security, and other purposes (discussed in more detail below). *Aportaciones* currently account for about 38 percent of total transfers and for 60 percent of earmarked ones.

Another important category of earmarked transfers is *recursos federales reasignados por convenios*, or *convenios* (special-purpose grants), which are used by federal ministries to support subnational programs and projects in their respective areas of responsibility.

Table 2.1: Transfers Composition and Evolution, 2012–2019



Source: Instituto Nacional de Estadística y Geografía (INEGI).

Each main category of transfers includes a large variety of specific mechanisms. Fragmentation is a key characteristic of the Mexican transfer system.

Revenue-sharing mechanisms

The main revenue-sharing mechanism is the *Fondo General de Participaciones* (henceforth FGP), which is constituted with 20 percent of the Recaudación Federal Participable (henceforth RFP). The RFP encompasses (i) all federal tax revenues, with some exceptions specified in Article 2 of the 1978 *Ley de Coordinación Fiscal* (Fiscal Coordination Law) and its subsequent amendments,[18] and (ii) 80.29 percent of all revenues from oil and mining activities. The FGP accounts for about 70 percent of the total *Participaciones* and for about 23 percent of total state revenues.

The FGP began functioning in 1980 and was initially distributed among the states on an origin basis. In 1990 the formula was changed to introduce population size as a factor and incentives to mobilize own revenue. The horizontal distribution formula was amended again in 2007, to include two components: (i) a fixed one, namely the amount received by each state in that year; and (ii) a variable one related to population size and to the performance of each state in terms of economic growth and own-revenue mobilization. The variable component represents a growing share (more than 55 percent by 2019) of the total FGP. The population size factor now exerts the strongest influence on the horizontal distribution of the shared revenues. In addition to the FGP, there are 13 other revenue-sharing mechanisms (Table 2.2).

[18] The main such exceptions relate to: profit and other taxes paid by companies operating in the oil sector; income taxes paid by civil servants and employees of parastatal entities; specific taxes (*IEPS*) shared through other mechanisms; and the federal tax on new cars.

Table 2.2: Funds of Ramo 28, Other Than the FGP

Mechanism/Fund	Main Purpose	Share of Ramo 28 in 2019 (%)
Fondo ISR	To return to the states 100 percent of income taxes (ISR) paid by their employees	9.3
Fondo de fiscalizacion y recaudacion (FOFIR)	To stimulate states' efforts to cooperate with federal tax administration and collect user fees	4.5
Fondo de fomento municipal (FFM)	To promote municipalities' efforts to raise own tax and non-tax revenues	3.5
IEPS *gasolina*	To redistribute to the states part of the excise on gasoline collected in their respective territory	2.5
Incentivos derivados de los convenios de colaboración administrativa en materia fiscal federal	To promote collaboration between federal and state tax administrations	3.7
Fondo IEPS	To redistribute to the states revenues from excise taxes on an origin base	1.7
Fondo impuesto sobre automoviles nuevos (ISAN)	To redistribute to states and municipalities revenue from federal tax on cars	1.4
Fondo de compensación	To redistribute part of gasoline tax on equalization criteria	0.6
Fondo de extracción de hidrocarburos (FEXHI)	To transfer to states and municipalities, largely on an origin basis, 0.0087 percent of federal oil revenues	0.5
0.136% *de la recaudación federal participable*	To transfer 0.136 percent of the RFP to border and coastal states and municipalities through which exports are shipped	0.5
Fondo de compensación de repecos e intermedios	To promote federal–state cooperation in the administration of the tax regime for small and micro firms (REPECOS)	0.17
Fondo para municipios por los que se exportan hidrocarburos	To transfer 0.051 percent of federal oil revenues to municipalities through which oil is exported	0.03
Tenencia	*Now abolished as a federal tax, following transfer of the annual automobile tax to the states	0.002

Source: Instituto Nacional de Estadística y Geografía (INEGI).

In addition to the revenue-sharing mechanisms listed above, there is another non-earmarked transfer, namely the *Fondo de Estabilización de los Ingresos de las Entidades Federativas* (Federal Entities Income Stabilization Fund or FEIEF). The FEIEF is a trust fund administered by Banco Nacional de Obras y Servicio Públicos (or Banobras, the national development bank), and its purpose is to offset the impact of deviations of federal revenues from their budgeted amounts on the *Participaciones*. The FEIEF is fed by budgetary contributions (equivalent to 0.64 percent of oil revenues plus 25 percent of any excess of federal tax revenues over budget) and by the returns on investment of its accumulated balances. The funds are distributed to the states in four quarterly installments to compensate them for any respective cumulative shortfall of the *Participaciones* with respect to budgeted amounts in the preceding quarter(s).

Aportaciones

As mentioned previously, the *Aportaciones* (general-purpose grants) are the largest category of earmarked federal transfers. Their main purpose is to fund spending functions devolved to the states in key areas, such as education, health, public security, and social infrastructures. They are set by law, with prespecified criteria for their inclusion in the annual federal budget and their distribution among the states. They are part of the *gasto programable* (programmable spending) under Ramo 33 of the federal budget and are nonconditional. There are currently eight categories of *Aportaciones*, the largest four of which are briefly discussed in what follows.

1. *Fondo de aportaciones para la nomina educativa y gasto operativo* (FONE). This transfer accounts for nearly 55 percent of Ramo 33 and it funds the wages of federal teachers and the operational spending of schools. Following the educational reform of 2013, which reviewed and centralized teachers' payroll, and introduced a system of performance evaluation for them, the number of teachers' positions and their remuneration are agreed annually between the federal and each state government, and the salaries are paid directly to them by the federal Treasury using the funds of the FONE.[19] In addition to the teachers' payroll, which represents over 90 percent of its resources, the FONE funds operational expenditures of primary and secondary schools. These resources are distributed to the states on an equal per-student basis.
2. *Fondo de aportaciones para los servicios de salud* (FASSA). This transfer accounts for about 13 percent of Ramo 33, and it funds current and capital spending of the states on health care. Its amount is set in the annual federal budget and is distributed among the states on a largely inertial basis, namely taking into account the respective amounts in the previous year. A relatively small portion of the fund is distributed on roughly equalizing criteria, taking into account indicators of relative underdevelopment and the health needs of each state.
3. *Fondo de aportaciones para infraestutura social* (FAIS). This transfer accounts for about 10.5 percent of the Ramo 33 and it funds spending at the municipal level to maintain and improve basic infrastructure (water and sanitation, electricity, schools, primary health

[19] A different regime applies to the Distrito Federal. The transfer of funds to cover teachers' salaries and other spending on schools is budgeted under Ramo 25 of the budget and made directly to the Distrito's government.

clinics, and housing) in underprivileged localities. It consists of two tranches: (i) one is equivalent to 0.3 percent of the RFP and is provided to the states to fund municipal public works; and (ii) another is equivalent to 2.2 percent of RFP; it was provided initially to the states, but for subsequent redistribution to their municipalities with higher levels of poverty or of inadequacy of basic infrastructures.

4. *Fondo de aportaciones para el fortalecimiento de los municipios y de las demarcaciones territoriales del distrito federal* (FORTAMUN). This transfer accounts for nearly 11 percent of Ramo 33 and it is intended to fund actions to improve the revenue and spending capacities of municipalities, but it is not conditional to actual municipal performance in those areas. FORTAMUN is constituted with 2.56 percent of the RFP and distributed to the states for redistribution to the respective municipalities on an equal per-capita basis.

Table 2.3 below lists the other four smaller types of *Aportaciones*, their main purpose and characteristics, and shares of Ramo 33 in 2019.

Table 2.3: Smaller Categories of *Aportaciones*

Name of Fund	Main Purpose and Characteristics	Share of Ramo 33 in 2019 (%)
Fondo de aportaciones para el fortalecimiento de las entidades federativas (FAFEF)	To fund different programs to improve the finances and/or the institutional capacity of the states. Set in the annual budget in an amount equal to 1.4 percent of the projected RFP. Distributed on the basis of relative per-capita GDP of each state.	5.9
Fondo de aportaciones múltiples (FAM)	To fund different state spending programs in social areas. The amount is set in annual budget to be equivalent to 0.814 of projected RFP.	3.4
Fondo de aportaciones para la seguridad publica (FASP)	To fund improvements in public security. The amount is set in the annual budget and distributed on the basis of a decision by the National Public Security Council.	0.9
Fondo de aportaciones para la educación tecnológica y de adultos (FAETA)	To fund state spending on adult education. The amount is set in the annual budget, and its distribution is decided each year by the Secretariat of Public Education on the basis of estimated relative needs of each state.	0.9

Source: Instituto Nacional de Estadística y Geografía (INEGI).

Convenios

A large number of special-purpose transfers can be grouped under this heading. *Convenios* account for about 19 percent of total transfers in 2019, and they aim at promoting federal policy objectives in spending areas devolved to the states. They can fund current spending programs or investments of the states. The main objectives of such transfers are in education, health, water and sanitation, and rural development. The amounts transferred are set in the annual budget, reflecting the availability of federal resources and negotiations with the beneficiary states. Therefore, Convenios tend to vary more over time than the *Participaciones* and *Aportaciones*.

The *Convenios* category also includes ad-hoc transfers to states experiencing difficulties in meeting spending pressures with available resources. Funding for these transfers was traditionally included in the federal budget under the Ramo 23. Their amount grew rapidly between 2012 and 2015, but it has declined significantly since then. There is evidence that these transfers were used frequently by previous administrations to favor states political aligned with the federal government, especially during election years (Campos et al., 2018).

2.3 The Mexican Transfer System from an International Perspective

In the light of the lessons from international experiences outlined in Section 1, the Mexican system presents some positive features, but also some significant negative ones. First of all, despite some progress in recent years, the overall context of intergovernmental fiscal relations in Mexico continues to suffer from some significant weaknesses, in particular:

- As conceived in the Constitution and left for appropriate intergovernmental coordination, there is considerable overlap in spending responsibilities, especially between the federal and the state levels of government. This makes it easier for the federal government to influence subnational policies, but also requires a difficult-to-ensure balance between perspectives and priorities of the different levels of government, and can blur respective accountabilities for the quality and efficiency of providing public services.
- The vertical fiscal imbalance (VFI, or expenditures minus own revenues), especially at the state level, is very large in comparison with those in many other large federations and in most of the OECD. This reflects both the lack of productive and efficiency-friendly own-revenue handles for the states, and their inadequate capacity and incentives to fully exploit existing ones (as the case of the *tenencia*, or tax on motor vehicles, demonstrates).
- The budget constraint remains relatively soft, despite the recent tightening of controls on borrowing, due to the high dependency of the states on federal transfers, including ones whose amounts are negotiated in the annual budget process.

An especially negative feature of the intergovernmental transfer system is its excessive fragmentation. None of the countries discussed in the previous section and in the Country Appendix has so many different mechanisms for revenue sharing, several of which account for less than 1 percent of the total shared revenues. Fragmentation also characterizes the earmarked transfers, with eight categories of *Aportaciones*, some of which are also relatively small, and a multitude of *Convenios*. This fragmentation has several disadvantages:

- It blunts the effectiveness of the less-significant revenue-sharing mechanisms in achieving their intended results, such as promoting own-revenue mobilization or strengthening cooperation between the federal and state tax administrations. Moreover, since shared revenues are freely usable and not conditional on results, they are best suited to fill vertical imbalances, rather than to pursue subsidiary objectives like the above-mentioned ones.
- Some of the mechanisms appear to work at cross purposes, in particular those that distribute the transfers on an origin basis and those that privilege redistribution. This makes it more difficult to assess the overall impact of the system.
- Fragmentation also absorbs significant federal and states' resources in managing the system.

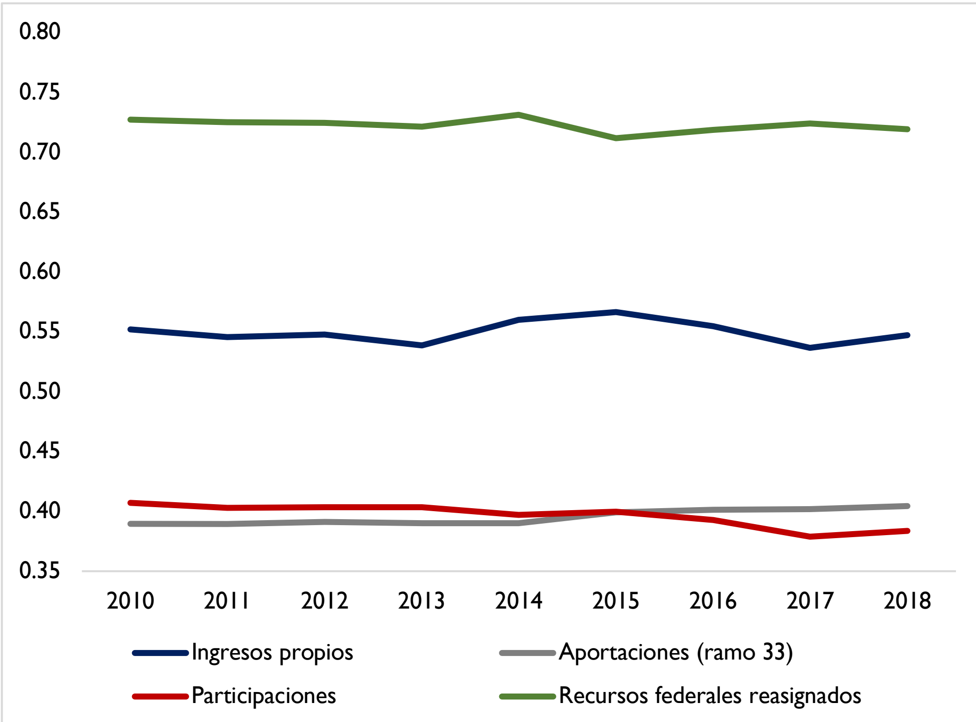
A positive feature of the *Participaciones* is the fact that both their amounts and their distribution are based on standing, clearly specified formulas. This makes the system more stable and transparent, thereby increasing its predictability for the recipient governments. It is also positive that the RFP is relatively broadly defined, thereby reducing incentives for the federal government to increase taxes not included in it. It would become more stable, transparent, and predictable if the special funds fed by excluded taxes were consolidated into the FGP. However, the inclusion in the RFP of some 80 percent of oil revenues from the federal government exposes the state budgets to the typically high volatility of these revenues.

While the existence of the stabilization fund (FEIEF) helps reduce the volatility of the shared revenues, the fund only compensates the states for deviations of federal revenues outturns from budgeted amounts. The fund does not help moderate the impact of budgeted year-to-year fluctuations in federal revenues, both those resulting from anticipated cyclical developments and those resulting from tax policy changes included in the *Ley de Ingresos* (Income Law). In contrast to the *Participaciones*, a substantial part of earmarked transfers is determined and distributed among the states on the basis of only general criteria or ad-hoc negotiations between the federal and the state governments. This is obviously the case for the *Convenios* (recursos federales reasignados por convenios), but also for some of the *Aportaciones*, including the FONE, FASSA, FASP, and FAETA. As discussed earlier, this reduces their transparency and predictability for the state governments, and it softens the states' budget constraint. An issue of obvious importance in a country like Mexico, characterized by large regional disparities, is the equalizing power (as measured by the Gini coefficient) of the various types of transfers and of the transfer system as a whole.

Figure 2.1 shows that the distributions among the states of *Participaciones* and especially of *Aportaciones* are less unequal than that of ingresos propios (own revenue). However, the distribution of *recursos reasignados por convenios* (or *Convenios*) is even more unequal than that of *ingresos propios.* Thus, *Convenios* reinforce the inequality of states' own revenues, rather than mitigating the inequalities. One characteristic of *Convenios* that likely contributes to explaining their disequalizing character is the fact that many of them are of the matching type, thereby favoring states with higher own revenues or freely usable revenues, which can put up the required counterpart funds. The figure also shows that, over the last decade or so, the degree of inequality has decreased slightly for the *Participaciones*, but has remained broadly stable for the other transfers, as well as for own revenues.[20]

[20] It should be noted that these comparisons do not substitute for a more-detailed analysis of the equalizing impact of transfers on states' revenue capacities. This would require estimating such capacities, a task that is beyond this paper's scope. For an estimation of states' revenue capacities in 2013, see Rodríguez-Pueblita, 2017. This study found that in most states' own tax revenues fell significantly short of the respective estimated capacities, signaling a weak tax effort.

Figure 2.1 Gini Coefficients of Different Sources of Subnational Revenues Per Capita, 2010-18



Source: Authors' calculations.

To assess whether various types of transfers do actually reduce disparities in spending needs, it can be useful to estimate correlations between each type of transfer (on a per-capita basis) and a proxy index of such needs, such as the *índice de marginación* compiled by Consejo Nacional de Población (CONAPO).[21] The correlation between *Participaciones* per capita and the *indice de marginación* over the period 2010-18 is negative (-0.38), which suggests that states with greater needs in terms of social infrastructures receive less shared revenues per capita than ones that are better off. This is not surprising since the distribution formulas for *Participaciones* do not include variables related to disparities in states' spending needs.

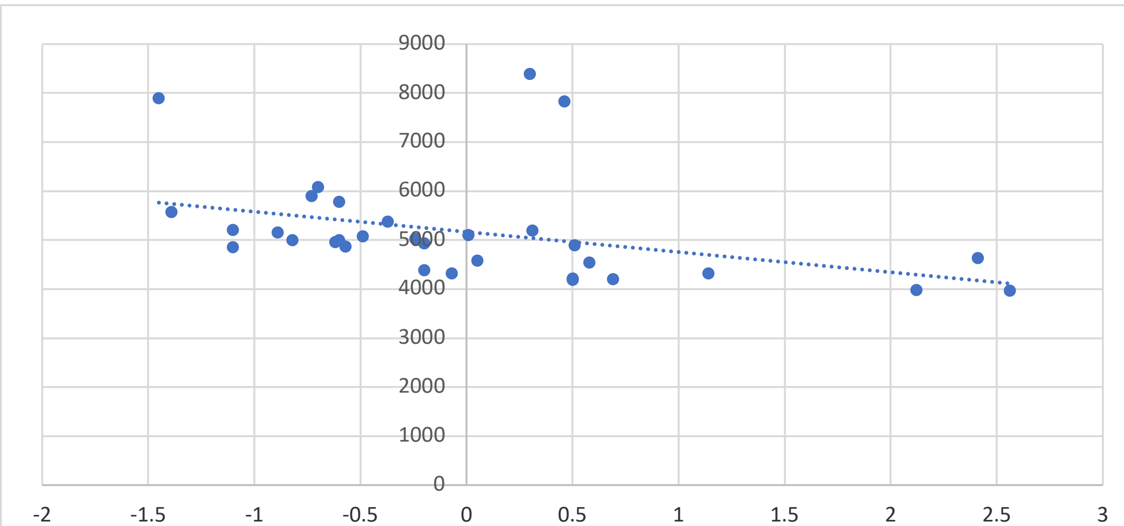
In contrast, the correlation between *Aportaciones* and the *indice de marginación* is significantly positive (0.5) suggesting that these transfers are equalizing in relation to spending

[21]The *Índice de marginación* is constructed using a principal components analysis based on the following variables: Population; percentage of population 15 years old or older that is illiterate; percentage of population 15 years old or older that has not completed primary school; percentage of households without running water; percentage of households without sewerage; percentage of households without electrical energy; percentage of households with dirt floor; percentage of households with overcrowding; percentage of households without toilet. The index ranges between -2.0 and 3.0 where -2.0 represents the highest level of living conditions of the populations and 3.0 represents the worst living conditions.

needs. The correlation between *Convenios* and the *indice de marginación* is also positive (0.15) but not significantly different from zero, suggesting that on average these transfers have very little, if any, equalizing power on the spending side.

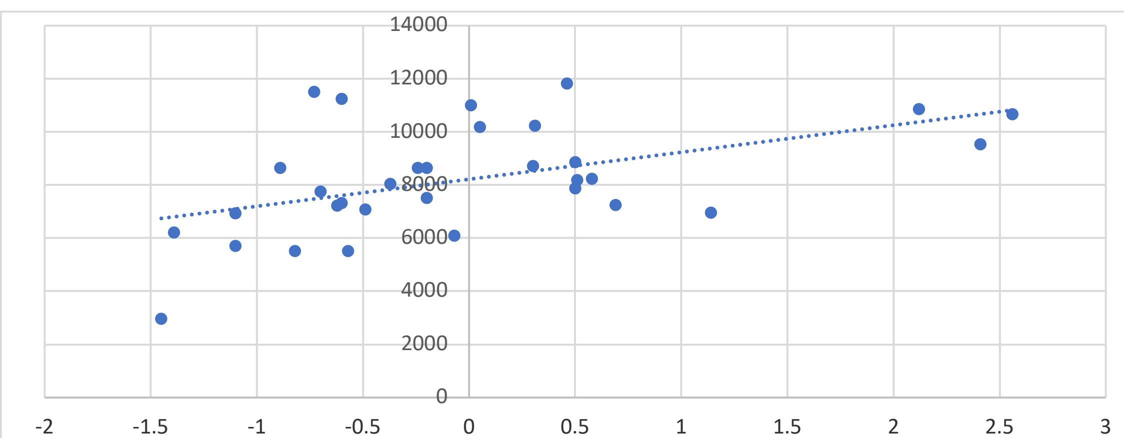
Figures 2.2, 2.3, and 2.4 below show the relation between the different types of transfers (*y* axis) and the indice (*x* axis) in the different states (the dots), confirming the indications provided by the summary correlation coefficients.

Figure 2.2 Relation Between Participaciones Per Capita and Indice de Marginación in Each State



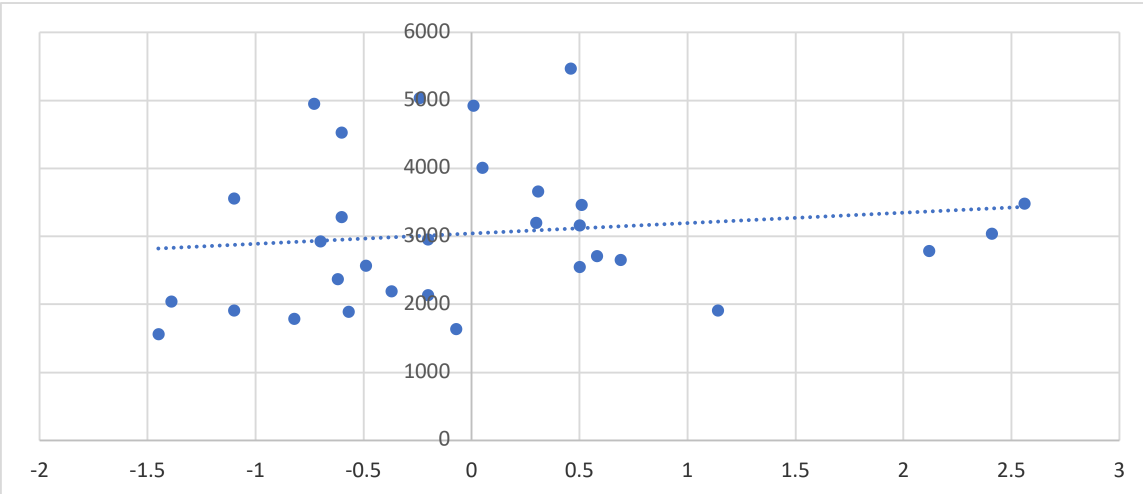
Source: Authors' calculations.

Figure 2.3 Relation Between Aportaciones Per Capita and the Indice de Marginación in Each State



Source: Authors' calculations.

Figure 2.4 Relation Between Recursos Reasignados Por Convenio Per Capita and the Indice de Marginación in Each State



Source: Authors' calculations.

3. Options for Reform in Mexico

An analysis of the intergovernmental transfer system in Mexico in the light of relevant international experiences in other large federations points to the following main shortcomings of the system:

- Excessive dependence by the states on federal transfers, with related adverse effects on their political and fiscal responsibility
- Excessive fragmentation of the main transfer mechanisms (*Participaciones*, *Aportaciones*, and *Reasignaciones de recursos federales (RFR) por convenios)*, which dilutes their effectiveness and predictability, and complicates their administration
- A substantial degree of discretion in some types of transfers, in particular the *Convenios*, which increases the potential for political bargaining, thereby softening the subnational budget constraint
- Lack of an explicit equalization criterion in the horizontal distribution of the transfers. This results in limited equalization power, especially as concerns the *Convenios*, which show a positive correlation with both state GDPs per capita and state *índices de marginación*

Reforms of the system should aim to correct or at least reduce some of these shortcomings while minimizing short-term gains and losses and political opposition to the reforms. For this purpose, a number of different reform options were analyzed by simulating their impact on transfers received by individual states. The simulations modeled the effects in 2018 of the various reforms, assuming that they would have been enacted in 2017 with effect from the beginning of 2018.

All simulations were based on the assumptions that the total amount of the federal transfers to the states in 2018 would be the same as the actual. An alternative approach for *Participaciones* going forward would be to calculate their total amount by applying to the forecast revenue base of the transfers in the initial year of the reform, as well as in subsequent years, the same vertical distribution coefficient (ratio of transfers to revenues) as in the previous year. The revenue base would include all federal tax revenues. It could also include a portion of oil revenues as is currently the case, but this would not be recommended due to the high volatility of such revenues (see details in the Methodological Appendix).

With a view to minimizing political resistance to the reforms, the simulations were conducted on the assumptions that the reforms would apply "on the margin" only, namely to the year-to-year growth in intergovernmental transfers (i.e., the difference between transfers in 2017 and 2018). This would substantially reduce short-term gains and losses for individual states.

To address the first shortcoming of the current system (low own revenues of the states), the simulations included a reform granting the states the power to levy a 10 percent surcharge on the federal income tax. This would imply an increase of 2 percentage points in an effective federal income tax rate of 20 percent (1 percentage point on an effective rate of 10 percent, and so on), which is a rather modest increase in the income tax burden, but an increase by more than 50 percent in total state own revenues. The increase would, however, vary widely across states, ranging from over 100 percent in Nuevo León to as little as 10 percent in Oaxaca. This would increase disparities in the states' own revenues, making even more compelling the case for including equalization criteria in the horizontal distribution formulas for intergovernmental transfers.

To address the excessive fragmentation of the current system, a number of possible reforms were simulated:

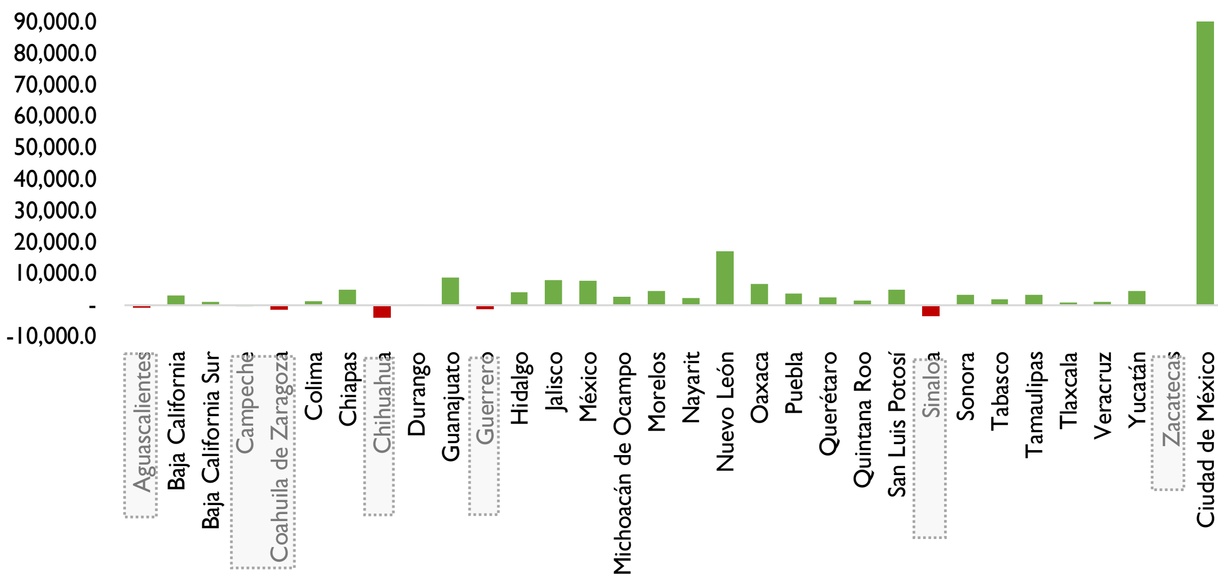
- For *Participaciones*, a merging of all the existing systems into one, with the difference in total amounts between 2017 and 2018 being distributed partly (30 percent) on an origin basis and partly (70 percent) on an equalization basis. Specifically, the origin portion utilized as distribution coefficients the shares of federal tax revenues collected in each state, as reported by Instituto Nacional de Estadística y Geografía (INEGI, the National Institute of Statistics and Geography). The equalization portion was distributed on the basis of relative population and a proxy of revenue-raising capacity of each state, namely the inverse of the ratio of per-capita GDP of the state to national per-capita GDP.
- For *Aportaciones*, a merging of the different funds except FONE, FASSA, and FASP, which are akin to sectoral block grants, into a single transfer, distributed among the states on the basis of relative population and a proxy of spending needs (*índice de marginación*).

- For *Convenios*, a merging of the transfers into one, also distributed on the basis of population and the *índice de marginación*.

The latter two reforms should also be beneficial in terms of increasing transparency, reducing discretionality in the system, and possibly increasing the capacity for equalization.

Figure 3.1 shows the results of the preferred simulation (simulation 4 in the Methodological Appendix) in terms of total losses and gains of individual states. It suggests that the biggest gainers from the reform package would be relatively rich states (the Ciudad de México, or CDMX, and Nuevo León). This is the result of the application of the 10 percent income tax surcharge, and of 30 percent of *Participaciones* being distributed on an origin basis. Greater equalization could be obtained by reducing the share of the origin-based portion of the *Participaciones*. Simulated losses are on the whole quite small, a fact that would appear to bode well for the political feasibility of the reform package.

Figure 3.1: Individual States' Gains and Losses from Simulated Reform Package



Source: Authors' calculations.

The equalizing power of each component of the reform package can be gauged by comparing the correlations of the three types of transfers before and after the reforms with state per-capita GDP. An alternative gauge (more appropriate for *Aportaciones* and RFR than for *Participaciones*) would be a comparison of correlations of those types of transfers before and after the reform with the *índice de marginación*.

The results summarized in Table 3.2 confirm that the simulated reforms would make *Participaciones* marginally less equalizing in terms of per-capita GDP, presumably as a result of their origin-based component. In contrast, the reforms would significantly increase the equalizing power of both *Aportaciones* and the *Convenios*.

Table 3.1 Correlations of Different Types of Transfers Before and After Simulated Reform with State GDP Per Capita and the Índice de Marginación

	GDP Per Capita	**Índice de Marginación**
Participaciones before reform	-4.1%	-17.3%
Participaciones after reform	-3.8%	-16.8%
Aportaciones before reform	8.6%	53.3%
Aportaciones after reform	-40.5%	62.1%
Convenios before reform	23.4%	14.6%
Convenios after reform	23.6%	47.4%

Source: Authors' calculations.

Methodological Appendix

All fiscal, economic, and population data comes from INEGI. Data on Índice de Marginación comes from CONAPO.

Reform Scenarios: *Participaciones*

The paper simulates several reform scenarios for the distribution of *Participaciones*, as follows.

Simulation 1

The first simulation replaces all existing transfers under *Participaciones* with a single transfer, using as a base the total federal tax revenues plus federal oil revenues, maintaining the current vertical distribution and distributing it among the states on a devolution basis.

The steps taken are the following:

1. We calculate the ratio of *Participaciones* to total federal tax revenues plus oil revenues in 2017.
2. Then, we apply it to the same aggregate (taxes plus oil revenues) in 2018, to get the total *Participaciones* in 2018 simulated according to the new system.
3. Next, we calculate the share of federal tax and oil revenues in 2017 originating in each state, and apply the calculated shares to the total simulated *Participaciones* for 2018, to get the transfer that each state would receive under the new system.
4. Finally, we compare these amounts to the actual *Participaciones* received by each state in 2018 to calculate gains and losses for the state.

Simulation 2

This simulation is the same as with Simulation 1 but excluding oil revenues from the shareable base, and followed these steps:

1. We calculate the ratio of *Participaciones* to total federal tax revenues in 2017.
2. Then, we apply it to the same aggregate in 2018 (taxes only), to get the total *Participaciones* in 2018 simulated according to the new system.
3. Next, we calculate the share of federal tax revenues in 2017 originating in each state, and apply the calculated shares to the total simulated *Participaciones* for 2018, to get the transfer that each state would receive under the new system.
4. Finally, we compare these amounts to the actual *Participaciones* received by each state in 2018 to calculate gain or loss for the state.

Simulation 3

This simulation is the same as Simulation 1 but distributing part of the total transfer on an equalization basis, as follows:

1. We calculate the ratio of *Participaciones* to total federal tax revenues plus oil revenues in 2017.
2. Then, we apply it to the same aggregate in 2018 to get the total *Participaciones* in 2018 simulated according to the new system.
3. Next, we divide the result into two parts:
   (i) For one part (30 percent of total *Participaciones*), to be distributed on a devolution basis, we calculate the share of federal tax and oil revenues in 2017 originating in each state and apply it to half of the simulated *Participaciones* for 2018, to get the transfer that each state would receive under the new system.
   (ii) For the other part (70 percent), to be distributed on an equalization basis, we calculate the ratio of average national per-capita GDP to the per-capita GDP of each state for 2017.
4. We then rescale these ratios to sum up to 1 and multiply the resulting weights by the half of the transfers to be distributed on an equalization basis, to get the amount to be transferred to each state.
5. For each state, we compare the sum of the two transfers to the amounts actually received in 2018 to calculate gains or loss.

Simulation 4

Same as Simulation 2, but distributing 70 percent of the total transfer on an equalization base. The steps would be the same as in Simulation 3, but total Participaciones in 2018 would be calculated as in Simulation 2 (i.e., excluding oil revenues from the shareable base).

Reform Scenarios: Other Transfers

1. For *Aportaciones*, we merged into a single transfer all funds except for FONE, FASSA, and FASP, which are akin to sectoral block grants;
2. For *Convenios*, we merged all funds into one single transfer.
3. Then, we then distributed these two funds among the states on the basis of relative population and a proxy of spending needs (*índice de marginación*)

Appendix: Selected Country Experiences

Australia

A brief overview of the intergovernmental system

Australia is a federation comprising the federal government (the Commonwealth), 6 states, 2 territories, and about 560 local governments. The states and territories vary widely in surface area and other geographical characteristics, natural resource endowment, population, per-capita income, and degree of urbanization. Local governments do not have a constitutional status, and they are each regulated by the respective state.

The Constitution specifies the functions reserved for the federal government, namely defense, social security, foreign affairs, customs and immigration, and postal and telecommunications services. The states and territories are responsible for health, education, public order, and safety, and they share responsibility with local governments for housing and various community services. The regulation of activities producing goods and services, transport, and infrastructures are shared responsibilities, with federal legislation prevailing over state legislation in case of conflict. However, de facto the federal government exerts substantial influence on state policies and activities also in the areas of state responsibility through grants and intergovernmental coordination forums, as described in this case study.

In 2016 the states carried out nearly 40 percent of consolidated expenditures of the general government. In the consolidated spending, the spending by states and territories was largest in wages, purchases of goods and services, and public investments, while the federal government was the main provider of social benefits (see Table A1). Local governments have limited spending responsibilities (i.e., to strictly local services), and in 2016 accounted for only 6.5 percent of consolidated general government spending.

The Australian federation is characterized by a high degree of vertical fiscal imbalance (VFI). While revenues of the federal government exceeded its expenditures (excluding grants) by over 4 percent of GDP, the states' revenues (excluding grants) fell short of their expenditures by over 6 percent of GDP in 2016. The large VFI is one of the highest worldwide among federations (Koutsogeorgopoulou and Tuske, 2015), and it mainly reflects the fact that the states are assigned limited revenue-raising powers. There is no sharing of tax bases. The federal government levies income and excise taxes, and customs duties. It also levies a national VAT (the goods and services tax, or GST), the yield of which is entirely transferred to the states to fund horizontal fiscal equalization (HFE), as described later in detail. In 2016, federal revenues were equivalent to more than 70 percent of those of the consolidated general government (see Table A1). The main sources of own revenues for states are taxes on payroll, insurance, land, and motor vehicles; stamp duties on financial and capital transactions; levies on mining activities; and user fees. In all, they account for less than a quarter of consolidated general government revenues. The states have full autonomy in deciding the rate structure and definition of the base of these taxes and in administering them. The main sources of own revenue for local governments are levies on real estate (the so-called rates) and user fees.

Several of the state taxes (in particular, those on payroll, on property and financial transactions, and on insurance) have significant efficiency costs. On the other hand, the revenue-raising potential of the efficiency-friendly land tax is undermined by substantial exemptions (for owner-occupied dwellings and for agricultural use, among others). As discussed later in this case study, it can be argued that the equalization mechanism creates some disincentive to unilateral base-enhancing tax reforms by individual states.

An obvious candidate for reducing the VFI would be a generalized adoption of state surcharges on the federal income tax (possibly matched by a reduction of the federal income tax and of federal grants), but thus far there has been little political appetite for such a move, which would raise the states' accountability to their electorate.

Australia relies solely on discipline by financial markets to control the states' resort to indebtedness. The intergovernmental Loan Council[22] acted as a forum for developing a consensus on borrowing limits in the past, but more recently has focused mostly on ensuring adequate transparency of each state's finances. The aggregate states' gross debt is moderate (12.3 percent of GDP in 2016), but the states differ appreciably in their ratios of debt to gross state product (GSP). They still enjoy relatively high ratings from the main international rating agencies.

[22] The Loan Council includes the Treasury Ministers of the Commonwealth and the states and territories. It was established in 1923 and meets in person once a year to consider the borrowing programs of its members.

Table A1: Australia—Main Fiscal Aggregates by Level of Government, As Percent of GDP, 2016

	Consolidated general covernment	Federal covernment	States and territories	Local governments
Revenues	33.9	24.2	14.1	2.5
Taxes[23]	27.1	21.6	4.6	1.0
Grants	0	0	6.2	0.3
Other	6.6	2.6	3.3	1.2
Expenditures	36.5	26.5	14.5	2.4
Current	33.5	25.7	13.1	1.6
Wages	9.7	2.8	6.1	0.8
Goods and services	6.5	2.7	3.4	0.8
Social benefits	10.9	10.5	0.4	0
Grants	0.2	6.4	0.3	0
Interest	1.4	0.9	0.5	0
Capital	3	0.8	1.4	0.8
Current balance	0.4	-1.5	1.0	0.9
Overall balance	-2.6	-2.3	-0.4	0.1
Gross debt	47.3	34.2	12.3	1.1

Source: IMF's Government Finance Statistics.

Intergovernmental transfers

The above-mentioned VFI requires substantial transfers from the Commonwealth to the states. The two main types of transfers are the horizontal fiscal equalization (HFE) mechanism and special-purpose grants. Transfers to local governments are quite small.

Equalization transfers

Australia has the most comprehensively defined horizontal fiscal equalization (HFE) mechanism worldwide. In its latest (2010) definition, the HFE aims to ensure that "state governments receive funding such that, after allowing for material factors affecting revenues and expenditures, each would have the fiscal capacity to provide services and the associated infrastructure at the same standard, if each made the same effort to raise revenue from its own sources and operated at the

[23] Includes the shared VAT that funds equalization transfers

same level of efficiency." It must be emphasized that the HFE equalizes *capacities*, not the actual delivery of states' services, since there are no conditions attached to the transfers, and therefore the states are free to use them as they see fit.

The HFE aims to eliminate disparities (the so-called disabilities) in both the revenue-raising and spending capacities of the states. As regards the latter, all the factors (demographic, geographical, economic) that significantly affect the need for the public services that states are responsible for and the cost of delivering them are taken into account in the calculation of the disabilities. Since 2010 (when an effort was made to substantially streamline the scheme by building in the "materiality" requirement) the calculations consider 7 revenue sources and 14 services.[24]

It should be noted that the so-called disabilities are calculated with respect to standards that reflect the respective averages for the states and they change over time accordingly. The calculations are made for each year on the basis of moving averages of the relevant variables for the years t-4 to t-2. While this procedure makes the calculations less current, it has the advantage of not requiring the use of estimates and the advantage of smoothing changes in the amounts transferred, thereby increasing their predictability for the states.

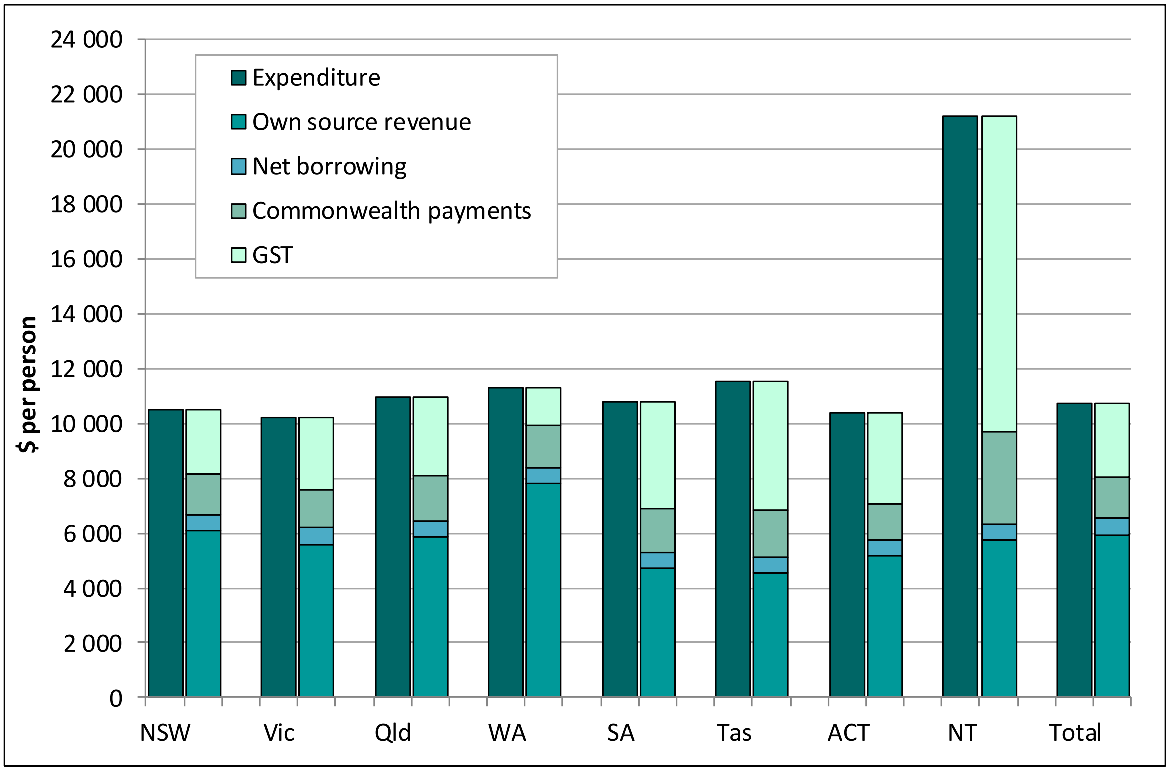
The calculations are conducted by the Commonwealth Grants Commission (CGC), a technical body created by legislation in 1933. The CGC reports to the Commonwealth's Treasurer, but it enjoys full technical independence, guaranteed by its appointment by the Governor General (the Queen's representative), after consultation with the states, and by fixed five-year mandates for its three to six members. The Commission is responsible for the annual updates of the calculations according to the current methodology, and for a comprehensive review of this methodology every five years in order to recommend any desirable changes to the government. In recent years, another technical advisory body, the Productivity Commission, has also reviewed the HFE's methodology and recommended changes, in particular with a view to mitigating any perceived efficiency costs of the scheme (Productivity Commission, 2018).

The HFE is funded by the revenues of the national GST, a VAT levied at the rate of 10 percent that can only be changed with the unanimous consent of all the states and of the Commonwealth's executive and legislative branches. The revenue of the GST typically exceeds the sum of the calculated entitlements of the states, and the surplus is distributed among them on an equal per-capita basis. Figure A1 shows the role that the HFE transfers play in equalizing the per-capita spending capacities of the states and territories. The figure indicates that (with the

[24] See Searle (2019). Details on the methodology can be found at the Commonwealth Grants Commission's website, https://www.cgc.gov.au.

exception of the Northern Territories, which require much higher expenditures per capita due to the high proportion of Indigenous groups in their population), expenditure needs are relatively homogeneous across states. Revenue capacities differ more, due in particular to the uneven distribution of mining royalties, which are mostly located in Western Australia.

Figure A1: Per-Capita HFE/GST Transfers Across States and Territories, 2019



Source: Commonwealth Grants Commission.

Although the Australian equalization system is widely regarded in the literature as "the gold standard" worldwide, it is not immune to issues and problems. In particular:

- Even after its significant simplification in 2010, the system remains quite complex, data-intensive, and not easily understood by the average citizen. The well-established technical independence and reputation of the CGC has helped avoid a deficit of popular trust in the system.
- Although the system is supposed to be policy-neutral (i.e., such that changes in a state's tax policies do not affect its HFE entitlement), in fact, policy changes that affect the tax bases can do so. For example, a (revenue-neutral) reduction in the rate of stamp duty with simultaneous base-broadening of the land tax would entail an increase in the computed

revenue capacity of the state and a decrease in its entitlement, a fact that would create a disincentive for such an efficiency-enhancing reform (Coppel, 2020).

- The very uneven distribution of revenues from mining activities means that changes in royalty rates by the producing state are almost pro tanto reflected in the average, reducing that state's entitlement while raising those of all the others. This creates an incentive to under-tax mining activities.
- Finally, the CGC normally discounts from a state's revenues the special-purpose federal transfers received by the state while in calculating the entitlements, the Commonwealth's Treasury is empowered to direct the Commission not to do so for certain types of transfers. These determinations are unpredictable and can have significant impacts on state budgets, particularly for the smaller states (Brumby et al., 2012).

Other grants

Federal special-purpose grants (SPPs) are another important source of revenue for the Australian states and territories, accounting on average to about 46 percent of total federal transfers. These are tied grants, subject to conditions and varying degrees of specificity. The main categories fund programs for health-care improvements, education and vocational training, affordable housing, and people with disabilities. Most SPPs are of the matching type. The amounts for SPPs are generally determined through standing agreements with the states, and they are updated annually by formula. They are distributed among states on an equal per-capita basis. In addition, there is a plethora (some 85) of smaller grants (the so-called National Partnership Agreements) to fund specific state activities and projects.

Special-purpose grants have been a main vehicle for the Commonwealth to influence spending policies of the states. Critics view them as promoting federal encroachment on functions reserved for the states by the Constitution, and they suggest that they blur the states' accountability to their electorates and discourage the states' own revenue-raising efforts. The Productivity Commission has recently recommended steps to strengthen the link between these grants and indicators of results for the programs they fund.

Transfers to local governments

Reflecting the limited scope of the local governments' functions and their relatively small VFI, transfers to them from the Commonwealth and from the states are not very significant. The transfers from the Commonwealth include two unrelated components: (i) a general-purpose one that is distributed to the states on an equal per-capita basis, and (ii) one linked to road-spending needs. Both are distributed by the states to their local governments on the basis of recommendations by the respective State Grant Commission (SGC). There are also tied grants for local investments on roads and for drought relief for rural communities.

Canada

A brief overview of the intergovernmental system

Canada is a federation comprising 10 provinces and 3 sparsely populated northern territories.[25] The provinces differ significantly in size, population, and per-capita income.[26] Local governments have no independent constitutional status, and their powers and responsibilities are set by the respective provincial legislations; for more details, see Boadway (2007).

The Constitution reserves a number of functions for the federal government. These include defense, international affairs and trade, monetary and financial policies, the provision of old-age and unemployment insurance, criminal justice, and the regulation of bankruptcy. The provinces are constitutionally assigned responsibility for the provision of health care, education, social services, civil justice, and highways. Agriculture and immigration are de jure areas of joint federal–provincial responsibility. Environmental policies and higher education are de facto also joint responsibilities. Municipal governments are responsible for the provision of local services, such as policing, fire protection, water and sewerage, garbage collection, recreation, and local transportation. Reflecting the substantial responsibilities assigned to the provinces and territories, their expenditures exceeded 22 percent of GDP in 2016, significantly higher than those of the federal government (17.5 percent of GDP) (Table A2). Provincial expenditures on wages and salaries, goods and services, and investments were all more than three times as large as those of the federal government. The only main categories of spending that were larger for the federal than for the provincial governments were social benefits and intergovernmental grants.

Local governments are also responsible for a significant share of spending—over 21 percent of consolidated general government expenditures and 8.7 percent of GDP in 2016. All local governments combined are larger employers than the federal government, with their wage bill more than twice as large. Local investments are almost equivalent to provincial ones (Table A2).

[25] There is also a sizable population of Indigenous peoples for which the federal government has fiduciary responsibilities.

[26] For instance, per-capita GDP in the province of Alberta is double that in the province of Prince Edward Island (Joanis and Vaillancourt, 2020).

The Canadian provinces enjoy substantial revenue-raising autonomy. The federal and the provincial governments share the power to levy on the main tax bases, namely incomes, consumption, and property. Moreover, the provinces have jurisdiction over the natural resources (hydrocarbons, minerals, hydroelectricity, and forestry products) in their respective jurisdictions. Provincial tax revenues amounted to 13.3 percent of GDP in 2016, only moderately below the corresponding federal ones (16.7 percent of GDP). Non-tax own revenues (including royalties, user fees, and revenues from financial assets) amounted to over 4 percent of GDP (Table A2).

All provinces levy both individual and corporate income taxes. Except in the province of Quebec, individual income taxes are collected on behalf of the provinces by the federal tax administration (Canada Revenue Agency, CRA) at no cost to the provinces if they use the same definition of the tax base as the federal government. The provinces maintain full autonomy in deciding the rate structure of the tax. Similar arrangements apply for the corporate income tax, but for this tax, three provinces (Alberta, Ontario, and Quebec) have chosen not to use the services of the CRA. With the exception of Alberta, all provinces also levy their own sales taxes. Four of them have agreed with the federal government to levy a destination-based harmonized VAT (called the harmonized sales tax, or HST) at the rate of 15 percent (5 percent for the federal government and 10 percent for the provinces) which is collected by the CRA, with the provincial share distributed among the provinces on the basis of their respective shares in private consumption. The province of Ontario has a similar arrangement, but with the HST at a lower combined rate of 13 percent. Three provinces levy their own retail sales tax (provincial sales tax or PST) at rates of 6 to 7 percent. In these provinces, the federal government levies and collects its own VAT (goods and service tax, or GST) at the rate of 5 percent. Finally, Quebec collects both its own VAT (QST) and the GST at the respective rates of 9.975 percent and 5 percent, the latter on behalf of the CRA. The territories do not levy their own sales taxes.

Local governments' own revenues, equivalent to 5 percent of GDP in 2016, consist mainly of property taxes and user fees. Property values are assessed on the basis of standardized criteria, but rates on commercial and residential properties vary across localities. There is scope to improve the capture of increases in land values as a result of local infrastructure investments or regulatory changes. There appears to be also scope for increasing cost recovery for some municipal services (especially in transportation) to finance the upgrading of local infrastructures (Bird and Slack, 2017).

Despite the substantial revenue autonomy enjoyed by SNGs in Canada, significant vertical imbalances remain. Specifically, in 2016 federal own revenues exceeded federal spending excluding grants by over 5 percent of GDP, while the provinces showed a corresponding aggregate shortfall of 1.4 percent of GDP, and local governments showed a corresponding aggregate shortfall of 3.7 percent of GDP. These imbalances are filled by grants from the respective higher levels of government (discussed in some detail following). After transfers, provinces experienced an aggregate deficit of nearly 1 percent of GDP, while local government were in balance in 2016.

The Canadian provinces are not subject to any federally imposed restriction on borrowing, although some have adopted rules or administrative restrictions on it. The provinces have accumulated significant debts in recent decades. Their total gross debt exceeded 48 percent of GDP (larger than the federal one) in 2016, based on the OECD Fiscal Federalism database. Net debt (excluding financial assets) was significantly lower. The eastern provinces (and including Quebec) had debt ratios significantly higher than Ontario and the western provinces at that time. The debt of local governments exceeded 10.5 percent of GDP as of the same date. The relatively high values of the subnational debt suggest that market discipline has not been fully effective in constraining provincial, and to a lesser extent local, borrowing in Canada.

Table A2: Canada—Main Fiscal Aggregates by Level of Government, As Percent of GDP, 2016

	Federal government and social security	Provinces and territories	Local governments
Revenues	17.9	21.5	8.7
Taxes and SS contributions	16.7	13.3	3.5
Grants	0	4.0	3.7
Other	1.2	4.2	1.5
Expenditures	17.5	22.2	8.7
Current	17.0	20.6	7.1
Wages	1.8	6.1	4.3
Goods and services	1.3	5.3	2.1
Social benefits	7.7	2.1	0.2
Grants	4.7	3.3	0
Interest	1.1	1.7	0.2
Capital	0.5	1.7	1.6
Current balance	0.9	0.9	1.6
Overall balance	0.4	-0.8	0

Source: IMF, Government Finance Statistics (GFS).

Intergovernmental transfers

There are three main federal–to–provinces transfer programs in Canada: Equalization, the Health Transfer (CHT), and the Social Transfer (CST). In addition, there are a number of lesser special-purpose transfers, earmarked for specific uses or projects. These are generally subject to some conditions and matching requirements. The CHT accounts for nearly half of total federal transfers to the provinces, while the equalization transfer accounts for about one-quarter of them.

The equalization transfer aims to ensure that each province is provided with the same per-capita revenue capacity as the national average, based on an average tax effort. It corrects only for disparities in the provinces' revenue-raising capacities, not in their spending needs nor in the unit costs of the goods and services of their responsibility. A broadly defined equalization requirement has been enshrined in the Canadian Constitution since 1982, but the specifics of the transfer program are defined by federal legislation. The latter has been amended several times in the past decades, mainly in response to federal budget constraints and to deal with disparities created by the provincial jurisdiction over natural resources (which are unequally distributed geographically) and their revenues.

The equalization transfer is fully funded by the federal budget. The total amount used to be determined through a bottom-up approach, summing the entitlement of each province under a standard formula. Since 2011, however, the total envelope of the transfer has been set at CAD$14.158 million, indexed to a three-year moving average of the rate of growth of nominal GDP. If the sum of the individual provincial entitlements exceeds this amount in any particular year, the entitlements are proportionally reduced to fit the envelope. If they fall short, they are proportionally augmented. The formula to determine each province's entitlement for revenue source *i* is as follows:

Entitlement of province j_i = (Standard fiscal capacity$_i$ -Fiscal capacity province j_i) × Average tax rate$_i$ × Population of province j.

The standard capacity is defined as the average nationwide per-capita base for each revenue source. The entitlements are calculated for five non-resource revenue sources and separately for resource revenues. Then, the total entitlement is calculated by summing the entitlements calculated for each non-resource revenue source and 50 percent of the resource revenue entitlement if this sum is higher than the sum of the non-resource entitlements alone. If it is lower, only non-resource entitlements are considered. This treatment of resource revenues is the result of a compromise between the interests of resource-producing provinces and the rest of the provinces. If a province's total entitlement is negative, the province does not receive equalization transfers, but it does not contribute to the scheme, which as mentioned above is fully federally funded (thus vertical equalization). The CHT and the CST are block grants by the federal government to fund provincial spending on health care and social assistance programs, respectively. There are very limited conditions attached to the use of these funds. The envelope for each of the grants is specified in the annual budget law. For the CHT, the amount was last set in dollar terms in 2005 and until 2017–18 was indexed at 6 percent a year. Since 2018–19 it is indexed to the rate of growth of nominal GDP. For the CST, the dollar amount was last set in 2009, and has been indexed at 3 percent a year since then.

Both funds are distributed among provinces on a per-capita basis, without attempting to address disparities in needs related to the demographic profile and per-capita income level, and in unit costs of health care and social assistance services. There is limited evidence on the extent of such disparities, but it appears that they largely offset each other.[27]

Provincial transfers to their respective localities tend to be similar to the federal ones. Most provinces use both revenue-capacity-based equalization transfers and conditional block grants to co-fund local spending on education and welfare.

Germany

A brief overview of the intergovernmental system

The Republic of Germany is a federation comprising 16 states (of which 3 are city-states: Berlin, Bremen, and Hamburg) and over 400 urban or rural districts, many of which include several municipalities or townships. Local governments are recognized by the Constitution as autonomous entities responsible for the provision of local services, but they are governed by the legislation of the respective state.

The German model of federalism is characterized by a high degree of sharing of both spending responsibilities and revenue sources among the different levels of government (cooperative federalism). The Constitution reserves a few functions (defense, citizenship, foreign affairs, customs, and the postal service) solely for the federal government. All other major spending functions (including education and culture, health care, transportation, and law and order) are joint federal and state responsibilities.

In these areas, the federal government is primarily responsible for the definition of policies, and for proposing the relevant legislation to the bicameral parliament (the lower house, the Bundestag, and the upper house, the Bundesrat). Since the states designate the members of the Bundesrat, the federal government must give due consideration to the states' perspectives when

[27] The main disparities tend to be intraprovincial, namely between urban and rural areas. See Boadway, 2007.

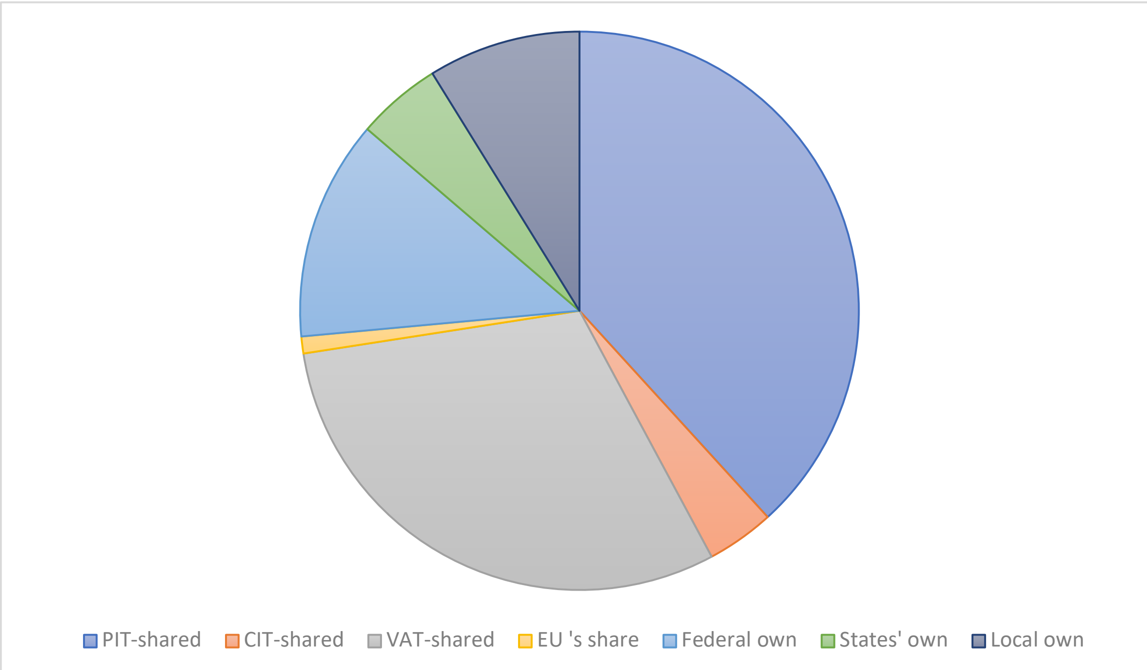
framing proposed legislation on matters of joint responsibility. Within this framework, the states have substantial administrative autonomy in carrying out the functions.

Figure A2 shows that the states account for about 30 percent of consolidated general government expenditures, but for more than 53 percent of the same if social security funds are excluded from the total. These shares are larger than the corresponding figures for the federal government, significantly so if grants are also excluded. Local governments account for less than 20 percent of the total (about one-third, when excluding social security funds). Compared with the federal government, the SNGs are larger employers and larger providers of goods and services and of investments.

The main revenue sources are also shared. Specifically, the personal income tax is shared between the three levels of government, in proportions of 42.5 percent federal, 42.5 percent states, and 15 percent local. The corporate income tax is shared 50–50 between the federal government and the states. The states' shares of both taxes are distributed among them on an origin (derivation) basis. The vertical sharing coefficients of the VAT have been adjusted over time, but currently stand around 50 percent for the federal government, 48 percent for the states, and 2 percent for the local governments. The subnational shares of the VAT are distributed horizontally on an equal per-capita basis.

Non-shared revenue sources include mainly excise taxes for the federal government; wealth and inheritance taxes, motor vehicle taxes, and taxes on certain transactions for the states; and a real estate tax for local governments. The local governments also levy a tax on local businesses, the yield of which is shared with the states. Figure A.2 shows the distribution of tax revenues among the different levels of government.

Figure A.2: Germany—Shares of Different Types of Own and Shared Tax Revenues in Total, 2017



Source: Spahn (2020).

The states do not have much control even over the revenues assigned to them, since both the base and the rates of these taxes are set by federal legislation on a nationwide basis. In contrast, local governments can decide the rates of the taxes assigned to them. This lack of tax autonomy for the states is widely regarded in the literature as sapping the states' political accountability to their electorates and contributing to a soft budget constraint (Feld and Von Hagen, 2007). Not surprisingly, the states do not object to it.

Table A3 shows that in 2016 total tax revenues accruing to the states were equivalent to about 9 percent of GDP, and to 38.5 percent of tax revenues of the consolidated general government. Those accruing to local governments amounted to just over 3 percent of GDP and to 13 percent of general government taxes.

Until the Euro Area crisis in the early 2010s, the German states faced limited constraints on their borrowing, mainly in the form of a prohibition to run current deficits (the so-called golden rule). The cooperative nature of its federalism, and the fact that the federal government intervened in various ways to bail out financially weaker states, meant that market discipline was not very effective.[28] The aggregate gross debt of the states has risen significantly in recent decades, and by 2016 it exceeded 22 percent of GDP (Table A3).

In the wake of the Euro Area crisis, as part of the fiscal consolidation effort undertaken by the German government, a Constitutional-level law was passed that requires the states to achieve and maintain structurally balanced budgets as from 2020. While this requirement could be relatively easily met by the fiscally stronger states (at least pre-COVID-19),[29] it is quite challenging for the weaker ones.

Table A3: Germany—Main Fiscal Aggregates by Level of Government, As Percent of GDP, 2016

	General Government	Federal Government	State Governments	Local Governments	Social Security
Revenues	44.9	12.7	13.3	8.2	19.4
Taxes	23.6	11.3	9.1	3.1	0
Social Security contributions	16.7	0.2	0.7	0.1	15.6
Grants	0.2	0.2	2.0	3.1	3.5
Other	4.4	1.0	1.4	1.8	0.2
Expenditures	43.7	12.3	13.1	8.0	19.1
Current	41.6	11.7	12.4	7.3	19.1
Wages	7.4	0.9	3.9	1.9	0.7
Goods and services	4.8	1.0	1.6	1.9	0.3
Social benefits	24.1	2.0	2.0	2.2	18.0
Grants	1.2	6.4	3.2	0.3	0
Interest	1.2	0.7	0.5	0.1	0
Capital	2.1	0.6	0.7	0.7	0
Current balance	3.3	1.0	0.9	0.9	0.3
Overall balance	1.2	0.4	0.2	0.2	0.3
Gross debt	78.5	49.7	22.3	n.a.	n.a.

Source: IMF, Government Finance Statistics (GFS).

[28] Evidence of this is the fact that borrowing costs were broadly similar for financially weak states and stronger ones. See Rodden et al. (2003).

[29] To accommodate the fiscal impact of the COVID-19 pandemic, the requirement is now waived for 2020 by the activation of the escape clause in the law.

Intergovernmental transfers

In addition to vertical transfers from the higher to the lower levels of government, Germany also has significant horizontal (equalization) transfers among governments of the same level. The equalization system aims to eliminate disparities in revenue-raising capacities among the states; as in Canada, but differently from Australia, Germany does not attempt to compensate for interstate differences in spending needs or costs, presumably reflecting greater homogeneity of states' conditions than in the Australian case. Since state taxes do not differ in the definition of their base or in their rate structure across the national territory, disparities in revenue capacities are proxied by the differences in states' revenue per-capita from the national average. This, however, can discourage improvements in tax administration and enforcement, since above-average efforts by one state in these areas may result in increased transfers to other states.

Under the equalization system, states with above-average revenue per capita make transfers to those with below-average revenue, according to a progressive formula. The redistributive impact of these horizontal transfers is substantial in some cases. In 2017, the shortfall (over 30 percent) from the average of the financially weakest state was reduced by two-thirds, while the excess (over 17.5 percent) of the strongest was cut back to 6.5 percent.

The equalization is further enhanced by supplementary untied and special-purpose grants by the federal government to the financially weaker states. In 2017, these supplementary payments reduced the gap in revenue per capita of the weakest state by a further 8 percent, to only 2.5 percent. While effective from a redistributive standpoint, the supplementary grants have been criticized by economists on the grounds of efficiency, because they can disincentivize states' efforts to develop their tax bases and because they aim to fill actual state deficits, rather than gaps between revenue and spending capacities, thereby rewarding spending inefficiencies.

Local governments receive both equalization payments and special-purpose transfers from their respective states and from the federal government (through the states). The equalization mechanisms vary somewhat from state to state, but they generally aim to partially compensate for disparities in own revenues and shared revenues per-capita (calculated at average tax rates for the own-revenue sources, which differ among localities). They are funded from combinations of a portion of each state's shared and own taxes and from budgetary transfers. Federal transfers are mostly used to support municipal investments, especially in the transport area.

The United States

A brief overview of the intergovernmental fiscal relations system

The United States is a federation comprised of a national government, 50 states, and more than 87,000 local governments (counties, cities, towns, and special-purpose districts). Both the states and the local governments vary widely in size, population, and per-capita income. The United States began as a confederation, which explains why the states are in principle responsible for all the functions not delegated to the other levels of government, but the powers of the federal government have strengthened over the last two centuries. State constitutions and statutes are the main determinants of the structure and powers of local governments, a fact that results in significant differences across the national territory.

The federal government has exclusive responsibility for several functions, notably defense, international affairs, macroeconomic policies, and the postal service. State and local governments share responsibilities for education and roads. Local governments are responsible for water, sewerage, solid waste management, and fire protection. All three levels of government share responsibilities in other important functions, such as health, social assistance, policing, and parks and recreation.

In some of these areas, the federal government sets nationwide policies and standards, creating mandates for the lower levels that deliver the services. As is common in the case of shared spending responsibilities worldwide, it has not always been easy to avoid overlaps, duplications, and a weakening of political accountability for shortcomings in the delivery of the affected services. Also, significant interjurisdictional conflicts and court litigation about the scope of different governments' responsibilities and powers continue.

Direct expenditures (excluding intergovernmental transfers) amounted in aggregate to 9 percent of GDP for states and to 9.8 percent of GDP for local governments in 2017, the latest year for which such data are currently available (see Table A4). Social assistance, higher education, and transportation accounted for the largest shares of states' spending, while primary and secondary education, health, and public safety were the largest expenditures for local budgets.

There is considerable overlap in the revenue-raising powers of the different levels of government. The only explicit restriction imposed by the U.S. Constitution on subnational taxation regards the taxation of exports. However, subnational taxes must comply with the clause prohibiting SNGs from distorting interstate commerce. The Constitution gives the U.S. Congress the power to regulate interstate commerce and thus to define which subnational tax actions can create distortions in it. There is a long history of federal legislation, subnational challenges to it, and court rulings in this area. Moreover, state constitutions may include limitations on the taxation powers of the respective state and local governments.

On average, states have a more-balanced composition of own revenues than either the federal or the local governments. In contrast to the federal government, which relies almost entirely on income taxes, the states levy general sales taxes, excises, property and motor vehicle taxes, and user fees in addition to income taxes. The main own-revenue source for local governments is the property tax, followed by user fees. Some (mainly large cities) also levy retail sales and income taxes (Table A4).

There is, however, a wide variation in tax capacities and tax effort among both state and local governments in the United States. These differences reflect not only disparities in per-capita income and other economic conditions, but also long-standing sociopolitical preferences. Typically, but not always, predominantly rural and more conservative states in the interior of the country have lower tax burdens than the more urbanized states on the East and West Coasts.

Intergovernmental transfers received (discussed in detail later in this case study) accounted for more than a quarter of state revenues, and they accounted for 30 percent of local revenues in 2017. The transfers filled aggregate vertical imbalances (difference between own revenues and total expenditures) equivalent to under 2.5 and 3 percent of GDP for state and local governments, respectively. There are significant differences in the vertical imbalance among both states and local governments.

Table A4: United States—Revenues and Expenditures by Government Levels, as Percent of GDP, 2017

	States	Local governments
Total revenues	13.0	10.0
Intergovernmental transfers received	3.4	3.1
Own revenues	9.6	6.9
Taxes	4.9	3.6
Property taxes	0.1	2.6
Income taxes	2.0	0.2
Sales taxes	2.4	0.6
User fees	1.2	1.5
Other	3.5	1.8
Total expenditures	12.0	9.9
Intergovernmental transfers	2.9	0.1
Current direct expenditures	8.4	8.6
Salaries	1.4	3.6
Interest payments	0.2	0.4
Capital direct expenditures	0.7	1.2
Overall balance	1.0	0.1
Vertical fiscal imbalance	-2.4	-3.0
Debt	6.0	9.8
Financial assets	24.6	6.8

Source: Authors' elaboration.

In the United States, the federal government is not legally empowered to set limits on subnational borrowing. However, nearly all states have constitutional or statutory rules requiring at least balanced current budgets, although there have been significant examples of circumvention or nonobservance of such rules. In 2017 states recorded an aggregate surplus (after intergovernmental transfers) equivalent to 1 percent of GDP, while local governments in the aggregate were in near balance (see Table A4).

Most state and local borrowing occurs to finance capital projects. Subnational bonds enjoy exemption from the federal income tax. Most borrowing (general revenue bonds and loans from banks) is backed by the full revenue-raising power of the corresponding government. However, some bonds issued to finance specific investments are serviced only through the revenues generated by the project. These bonds typically carry higher interest cost than the general revenue ones.

At the end of 2017, the aggregate debt of the states amounted to 6 percent of GDP (46 percent of total revenues), while the debt of local governments reached nearly 10 percent of GDP (nearly 100 percent of revenues). However, on the same date, the states held substantial financial assets, equivalent in aggregate to nearly a quarter of GDP, while local assets amounted to less than 7 percent of GDP. It should be noted that the debt figures do not include any unfunded liabilities for state and local workers' retirement benefits.

The United States has a well-established record of no federal bailout of states in financial difficulties since the middle of the 19th century. There have been a handful of cases of bailouts for cities and counties in acute financial distress, with significant policy conditions and political consequences attached to them. However, the main mechanism to deal with local insolvency have been bankruptcy procedures. Specifically, municipalities in crisis can file in the courts for bankruptcy under Chapter IX of the Civil Code, conditional on being insolvent, having worked out, or attempted to work out, a plan to deal with their debts, and having been authorized by the respective state to file for bankruptcy. Chapter IX is designed to carry a strong stigma for the distressed municipality, to minimize moral hazard. In addition to the financial costs, there are significant political ones. State laws commonly provide for a transfer to the state of control over the affairs of distressed municipalities.

The system of intergovernmental transfers

Intergovernmental transfers play an important role in state and local finances in the United States. In 2017, federal transfers to SNGs were equivalent to 3.5 percent of GDP and accounted for 17 percent of total federal spending (having risen from a low of 11 percent in 1990). State transfers to local governments amounted to 2.9 percent of GDP and to 24 percent of total state expenditures.

There is no revenue sharing across government levels in the United States. All intergovernmental transfers take the form of categorical grants linked to specific spending programs (special purpose grants), projects (capital grants), or broader spending areas (block grants). Many of these grants carry requirements for the recipient government to match some or all of the grant, or to maintain its own spending level before the grant.

The federal intergovernmental transfer system is characterized by a proliferation of special purpose grants, frequently of narrow scope and aimed at satisfying the demands of specific constituencies. However, the vast majority of the amounts transferred is accounted for by block grants to support subnational spending on more broadly defined functions. Most grant amounts are determined by formulas specified in the legislation instituting the grant. Most grants are capped, with the notable exception of the Medicaid one, which is open-ended.

The Medicaid grant is the largest federal grant to the states. It matches state expenditures on health services for poor citizens. The matching rate is determined by a formula based on the inverse of the ratio of the state's per-capita income to the national per-capita income, with a minimum of 50 percent and a maximum of 83 percent. The setting of a minimum reduces the redistributive power of the scheme across states, a fact that explains why better-off states that can afford to spend more on the Medicaid program have seen their share of the grant increase in recent years.

Other significant grants support state spending on various social assistance programs and on education programs for disadvantaged students. Capital grants are especially significant in the transportation and water management areas, but they have declined in relative weight because of the rapid growth of the Medicaid grant in recent years.

State grants to local governments are concentrated in the education area, where they fund nearly half of school spending. Although largely distributed on a per-pupil basis, and therefore not related to the per-capita income of the recipient jurisdiction, they are equalizing compared with local own revenues which, as mentioned above, are mainly derived from property taxes that tend to be quite unequally distributed across each state's territory.

Grants have played a countercyclical role in recent decades, supporting subnational spending during downturns in the crucial areas of health care, education, and social assistance. In particular, in the aftermath of the Great Recession of 2008–09, and under the American Recovery and Reinvestment Act (ARRA), the federal government injected some US$300 billion into the subnational finances, in particular in education, Medicaid, and infrastructures (Chernick, 2020). In addition to these "discretionary" transfers, increased state spending on health care and social assistance funded with open-ended matching grants automatically resulted in increased federal transfers for these programs during the recession.

Argentina

A brief overview of the intergovernmental fiscal relations system

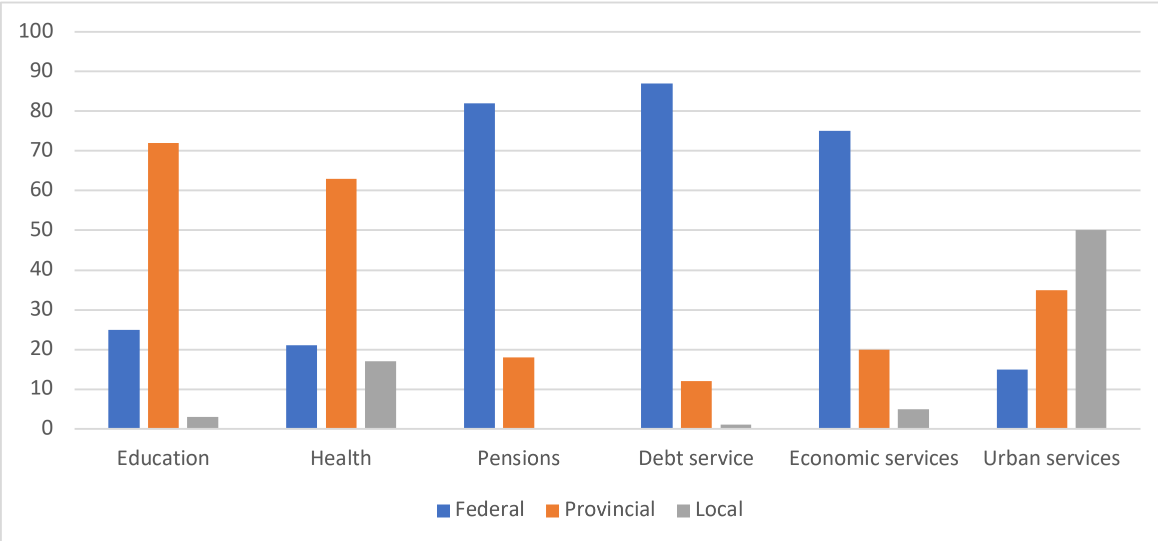
Argentina is a federation comprised of the federal government (la Nación), 23 provinces, and the capital city of Buenos Aires (Ciudad Autónoma de Buenos Aires, or CABA). Local governments do not have a national constitutional status and are ruled by provincial constitutions and legislation. The Argentine provinces are very heterogeneous in terms of size, population, economic development, and administrative capacity. The per-capita income of the richest province (Santa Cruz) was nearly 7.5 times larger than that of the poorest one (Formosa) in 2018. Argentina is also a strongly decentralized country in terms of spending responsibilities. The combination of these two characteristics poses substantial challenges in terms of inter-regional equity, as detailed below.

The Constitution assigns to the Nación the functions traditionally reserved for the central level of government (defense, foreign affairs, citizenship and immigration, international trade, and macroeconomic management). The most important spending responsibilities (including for education, health care, and social welfare) are concurrent ones between the federal government and the provinces. The provinces have residual responsibility for any other function not explicitly reserved for the federal government.

In recent decades, there has been a significant increase in the share of public expenditures carried out by the provinces, to more than 40 percent (even more in terms of primary spending). However, this decentralization has been driven less by efficiency objectives than by the federal government's budget restrictions, especially during the repeated crises that have characterized the Argentine economy and public finances in recent decades.

Figure A3 shows that the provinces carry out the bulk of expenditures on education and health care, while the federal government is responsible for most spending on pensions and interest on the public debt. The provinces spend on average about 50 percent of their budget on their wage bill and the remaining 25 percent on pensions for their employees, other social benefits, and transfers to municipalities. All these recurrent expenditures convey substantial rigidity to their budgets, leaving limited room for public investment, which has ended up being severely pressured during periods of adjustment. There is, however, significant variation across provinces in this respect, with some of the better-managed provinces (like San Luis and the capital city) spending much more in per-capita terms on investments than the other provinces.

Figure A3: Argentina—Distribution of Main Categories of Spending Among Different Levels of Government, as a Percent



Source: Larizza and Folgar, 2020, based on data from the Ministry of Finance.

Decentralization has progressed much less on the revenue side, giving rise to a large vertical imbalance between the Nación and the provinces. The high-yielding income taxes, VAT, excises, and some heterodox taxes on exports and financial transactions are levied by the federal government, while the main sources of own tax revenues for the provinces is a distortive turnover tax (*Impuesto sobre los Ingresos Brutos,* or IIBB, the Gross Income Tax), some property taxes, and stamp duties.[30] Provinces that are natural resource producers also have significant revenues from royalties. Local governments rely mainly on real estate taxes and user fees.

Even the limited sources of own revenues available to the provinces are not fully exploited due to administrative capacity constraints and due to disincentives to revenue-raising efforts created by the discretionary nature of a significant portion of federal transfers to the provinces (as described later in this case study) and by a history of repeated federal bailouts (Artana, 2012). As a result, the aggregate share of the provinces in total tax revenues is estimated at just over 21 percent or about half of their share in expenditures.

However, the degree of transfer dependence varies substantially across provinces, reflecting not only differences in per-capita income, degree of urbanization, natural resource

[30] In the context of a Fiscal Pact with the Macri government in December 2017, 22 of the provinces agreed to a program of tax reforms to reduce progressively over 5 years the distortions created by the turnover tax and stamp duties, while strengthening the administration of their other taxes. It is unclear whether this effort will continue under the new government that took office in late 2019.

endowment, and administrative capacity, but also differences in tax effort that can be linked to the variable softness of the budget constraint they have faced in recent decades.

Many (albeit not all) of the provinces have a protracted history of poor fiscal discipline, reflected in periodic bailouts by the federal government. Given the constitutionally sanctioned autonomy of the provinces, the Nación is not empowered to impose borrowing limits on them. Periodically the Nación has used various forms of financial inducements (including transfers and debt assumptions) to promote the adoption of fiscal rules aimed at limiting deficits and/or spending growth. For the most part, these rules have been ineffective in containing either spending or they resort to indebtedness, especially during periods of booms in commodity prices. For their part, financial markets have not exerted adequate discipline, especially on the larger provinces, some of which now are once again on the brink of default.

Intergovernmental transfers

Intergovernmental transfers take two main forms in Argentina: an extremely complex system of revenue sharing (*Coparticipación Federal de Impuestos*, CFI, a federal tax co-participation system) and discretionary grants. The shares of these two components in total transfers have fluctuated over time, but currently stand at about 88 percent to 12 percent.

Different sources of federal revenues enter the CFI in different ways. Some are not subject at all to sharing with the provinces. These include taxes on foreign trade, social security contributions, some excises, and the tax on financial transactions. Among the main taxes that are entirely subject to sharing with the provinces are the *impuesto a las ganancias* (income tax), the presumptive minimum income tax, and most excises[31.] As for the VAT (net of refunds), 89 percent of its yield is subject to sharing, while the remaining 11 percent is devolved to the Administración Nacional de la Seguridad Social (Social Security system, or ANSES). The total of *masa coparticipable bruta* (shared revenues) is subject to various deductions, after which the *masa coparticipable neta* (remainder) is shared in proportions of 61 percent to the provinces and 39 percent to the federal government.[32]

The provinces' share is shared horizontally on the basis of coefficients that were fixed in 1988 by the *Ley de Coparticip*ación (Law no. 23.548). This law has a special status that requires full majority in both houses of the Congress and the consent of all the provinces to be changed.

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[31] 1.9 percent of all tax revenues, prior to distribution, is earmarked for the financing of the Tax and Customs Administration *(AFIP).*

[32] More details on the vertical and horizontal distribution of the CFI can be found at https://www.minhacienda.gob.ar/dnap/recursos.html.

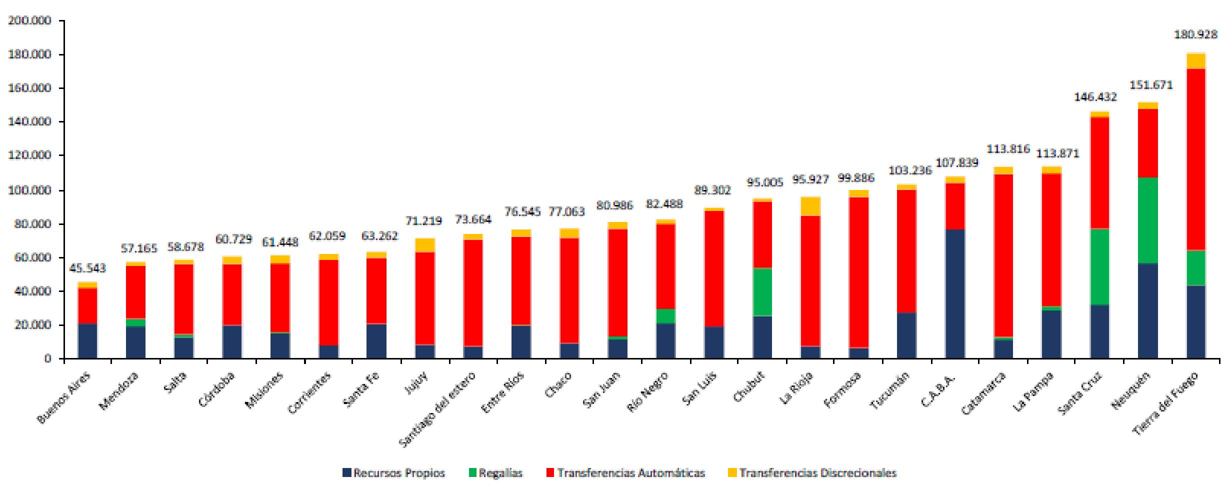
As a result, it has proven impossible so far to find the necessary consensus to revise the distribution coefficients.

An analysis of the horizontal distribution suggests that it favors the less-populated provinces, regardless of their level of economic development. This, in turn, reflects the disproportionate political weight of these provinces in the Congress due to the fact that all provinces have the same number of representatives in the Senate, and there is a minimum number of representatives per province in the Lower House.

There are no clear criteria underlying the distribution of the discretionary transfers. These have frequently been used by the federal government to pursue political objectives, as well as to shore up the finances of some provinces in financial difficulties. The power of provincial governors to influence voting by representatives of their respective province has constituted a significant incentive for the federal government to use such transfers to promote its agenda. This, however, has weakened the budget constraint on the beneficiary provinces, contributing to entrenching for many a culture of transfer dependency and lack of fiscal discipline, ultimately requiring bailouts or defaults.

Recent analyses of the redistributive impact of total federal transfers to the provinces suggest that it is significant, but not clearly equalizing either in terms of fiscal capacity or of relative needs (Capello, 2020; Larizza and Folgar, 2020). In particular, differences in transfers have fallen well short of what would be needed to compensate for the very unequal distribution of revenues from natural resources (see Figure A4).

Figure A4: Argentina—Composition of Revenues Per Capita of Different Provinces, 2019



Source: Capello (2020).

An agenda for reform of intergovernmental relations in Argentina should include the following:

- Steps to reduce the vertical imbalance, in particular by transferring more powers for raising own revenues to the provinces (e.g., allowing them to levy surcharges on the income tax and on the VAT on final sales, compensated with reductions in the corresponding federal taxes). This would allow provinces with larger tax bases, like Buenos Aires, to increase own resources.
- A reform of the horizontal distribution of shared revenues to introduce equalizing criteria.
- Replacing the current discretionary transfers with special purpose grants to support financially and improve the effectiveness of priority social spending programs.
- Strengthening the effectiveness of provincial fiscal rules.

Such a reform agenda would require, however, a political consensus that unfortunately appears very unlikely to materialize in the current economic and political environment.

Brazil

A brief overview of the intergovernmental fiscal relations system

The Brazilian federation encompasses the federal government (União), 26 states, and the Federal District around the capital city of Brasilia (DF), and some 5500 local governments. In contrast to most other federations, local governments are constitutionally recognized as autonomous entities, not subject to state control in the areas of their own responsibility. Both states and municipalities vary widely in size, population, other geographic and demographic characteristics, and level of per-capita income. These differences, and the fact that the Brazilian Constitution does not contemplate asymmetric forms of federalism, pose substantial challenges to the working of intergovernmental relations and their reform.

Both expenditure and revenue decentralization have gone through ebbs and flows during the history of the Brazilian state, possibly reaching their peak with the 1988 Constitution and its immediate aftermath. As discussed further below, the federal government has increased its share of total revenues and its influence on subnational spending through transfers in recent decades, partly as a result of macroeconomic pressures and partly for redistributive purposes.

The Constitution reserves for the federal government the usual functions of national interest, namely defense, foreign affairs and foreign trade, macroeconomic management, and social insurance for private and federal workers. Local services, including primary education and healthcare, and social assistance are responsibilities of local governments. The remaining functions are concurrent responsibilities of the states and the federal government. While in some instances these functions have been unbundled and the respective responsibilities have been clarified (e.g., secondary education is a state responsibility), in many other cases some duplications or substantial overlaps remain, and political accountability is weakened. Moreover, conflicts can arise when federal legislation and policies, not previously agreed with the affected states, create uncompensated burdens for the states. The lack of standing high-level vertical intergovernmental forums for dialogue in Brazil means that such conflicts often end up in protracted litigation in the courts, and ultimately before by the Supreme Court; see Ter-Minassian and de Mello (2016) for details.

Subnational governments accounted for more than half of general government primary spending in 2016, 31 percent for the states and 22 percent for local governments. They were responsible for nearly 70 percent of total public wages and over 78 percent of the (quite low) public investments. The federal government carried out the bulk of spending on social security benefits, intergovernmental transfers, and interest payments on the public debt (Table A5).

Table A5: Brazil—Main Fiscal Aggregates by Level of Government, as Percent of GDP, 2016

	Consolidated general government	Federal government	States and DF	Local governments
Revenues	41.4	28.9	12.3	9.1
Taxes	22.8	12.8	8.1	2.0
Social Security contributions	10.9	9.3	0.8	0.8
Grant revenue	0	0	2.5	5.2
Other	7.6	6.8	0.9	1.1
Expenditures	48.7	35.5	13.3	8.7
Current	47.3	35.2	12.8	8.1
Wages	13.0	4.0	4.8	4.2
Goods and services	5.4	1.2	1.6	2.6
Social benefits	16.9	13.9	2.4	0.6
Grants	0.1	5.7	2.1	0
Interest	10.0	9.7	1.3	0.2
Capital	1.4	0.3	0.5	0.6
Current balance	-5.9	-6.3	-0.5	0.9
Overall balance	-7.3	-6.6	-1.0	0.3

Source: IMF's Government Finance Statistics.

In comparison with the rest of Latin America and in comparison with many other federal countries around the world, Brazil is characterized by a relatively high degree of revenue decentralization. Subnational governments' revenues (from compulsory levies—i.e., not including grants and user fees) were equivalent to 12.3 percent of GDP and to 35 percent of total government revenues in 2016. However, decentralization was significantly more pronounced at the state level than at the local level, where compulsory levies were less than 3 percent of GDP (see Table A5). In 2019, own tax revenues of the states were nearly 10 percent of GDP, while those of local governments were less than 3 percent of GDP (Table A6).

The share of own revenues in total revenues varies widely among individual states and municipalities. While own revenues account for more than 80 percent of revenues in the more-developed states in the southern, southeastern, and central-western regions of the country, the poorer states of the northeast and the vast, sparsely populated ones of the north depend heavily on federal transfers[33.] These disparities are also evident among municipalities, reflecting not only the level of their state's development, but also their urban or rural nature and their proximity to nonrenewable natural resources.

Under the pressure of fiscal adjustment needs and of rapidly rising spending on pensions and other social spending, the federal government has significantly increased its share of revenues over the last two decades, mainly through especially distortive levies, such as the so-called social contributions levied on turnover (known as COFINS and PIS/PASEP) or on profits (known as the CSLL) earmarked for social spending. These levies, which raised more than 5.5 percent of GDP in 2019, are not subject to sharing with state or local governments.

[33] The median share of transfers in total primary revenues of the states was 31.6 percent in 2018, but the share ranged from about 10 percent in Rio de Janeiro to over 70 percent in Roraima and Amapá.

Table A6: Brazil—Level and Composition of the Tax Burden, By Level of Government and By Main Taxes, in Percent, 2019

	Consolidated general government	Federal government	States and DF	Local governments
Revenues	41.4	28.9	12.3	9.1
Taxes	22.8	12.8	8.1	2.0
Social security contributions	10.9	9.3	0.8	0.8
Grant revenue	0	0	2.5	5.2
Other	7.6	6.8	0.9	1.1
Expenditures	48.7	35.5	13.3	8.7
Current	47.3	35.2	12.8	8.1
Wages	13.0	4.0	4.8	4.2
Goods & services	5.4	1.2	1.6	2.6
Social benefits	16.9	13.9	2.4	0.6
Grants	0.1	5.7	2.1	0
Interest	10.0	9.7	1.3	0.2
Capital	1.4	0.3	0.5	0.6
Current balance	-5.9	-6.3	-0.5	0.9
Overall balance	-7.3	-6.6	-1.0	0.3

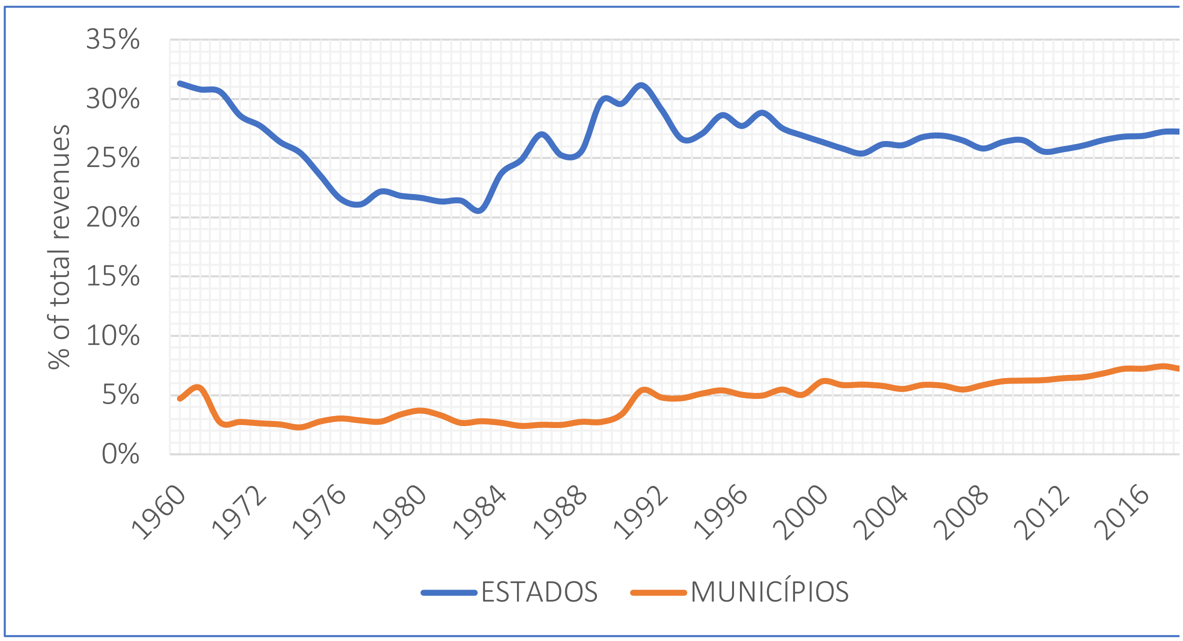
Source: Afonso and Kleber de Castro (2020).

The Brazilian subnational tax system is fraught with significant flaws, which are widely recognized to affect adversely efficiency, equity, and competitiveness. The main problem is the heavy reliance of state finances on a mixed origin- and destination-based VAT (the state-level sales tax, known as ICMS), with a large dispersion of effective rates across goods and services and across the national territory, which has led to predatory tax competition (the so-called fiscal war), de facto cascading, and high compliance costs for taxpayers.[34] Also, the ICMS does not include in its base most services, yet the service sector has been the most dynamic sector of the Brazilian economy in recent decades. As a result of these weaknesses, state revenues have been declining since their historic peak in 1988 (see Figure A4). Reform efforts to date have been stymied by the fact that a shift

[34] See Ter-Minassian (2012 and 2015) for more detailed analyses of the flaws in the Brazilian subnational tax system.

to a more-neutral destination-based VAT with a uniform base across the nation would entail significant losses for the states that are net exporters to the rest of the country. As well, there is resistance by local governments to the merger of the ICMS with the local tax on services (the municipal service tax, known as ISS) into a shared subnational VAT. Municipalities have been increasing their reliance on the ISS because of its relative ease of administration, at the expense of the tax on real estate, which is more difficult to assess and collect in property markets characterized by significant informality. On the whole, the share of own revenues of local governments in total revenues has increased moderately in recent decades (Figure A4).

Figure A4: Brazil—Historical Evolution of Subnational Own Revenues, 1960–2019

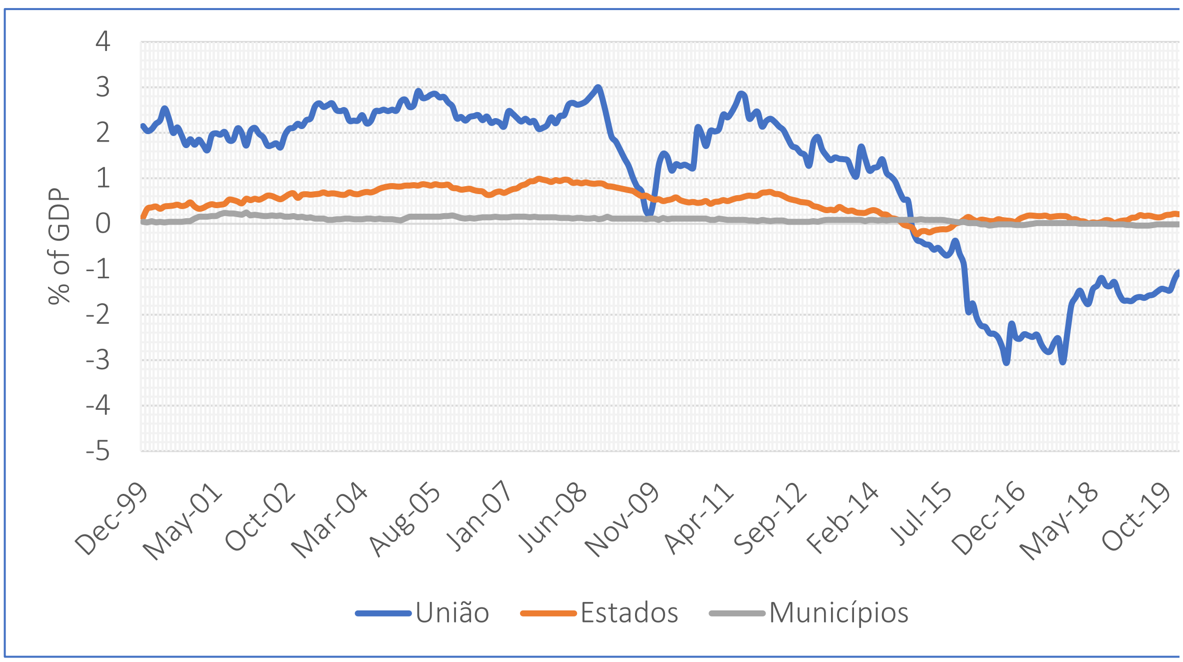


Source: Afonso (2020).

The financial performance of the states has undergone substantial fluctuations in recent decades. Their fiscal balances deteriorated significantly in the aftermath of the disinflation engendered by the *Plano Real* (Real Plan, a set of measures undertaken in 1994 to stabilize the economy), and in the absence of adequate borrowing controls, they resulted in severe debt crises in most of the states. The debt crisis prompted the federal government to assume the debt of the states in 1996–97, in exchange for fiscal adjustment and privatization programs by the states, backed up by intergovernmental contractual agreements that allowed the federal government to withhold transfers and even own revenues of states if the states failed to repay the debt on agreed schedules. Similar arrangements were also agreed with many municipalities. In addition, the 2000 Fiscal Responsibility Law imposed limits on both subnational debts and payroll expenditures, relative to current revenues.

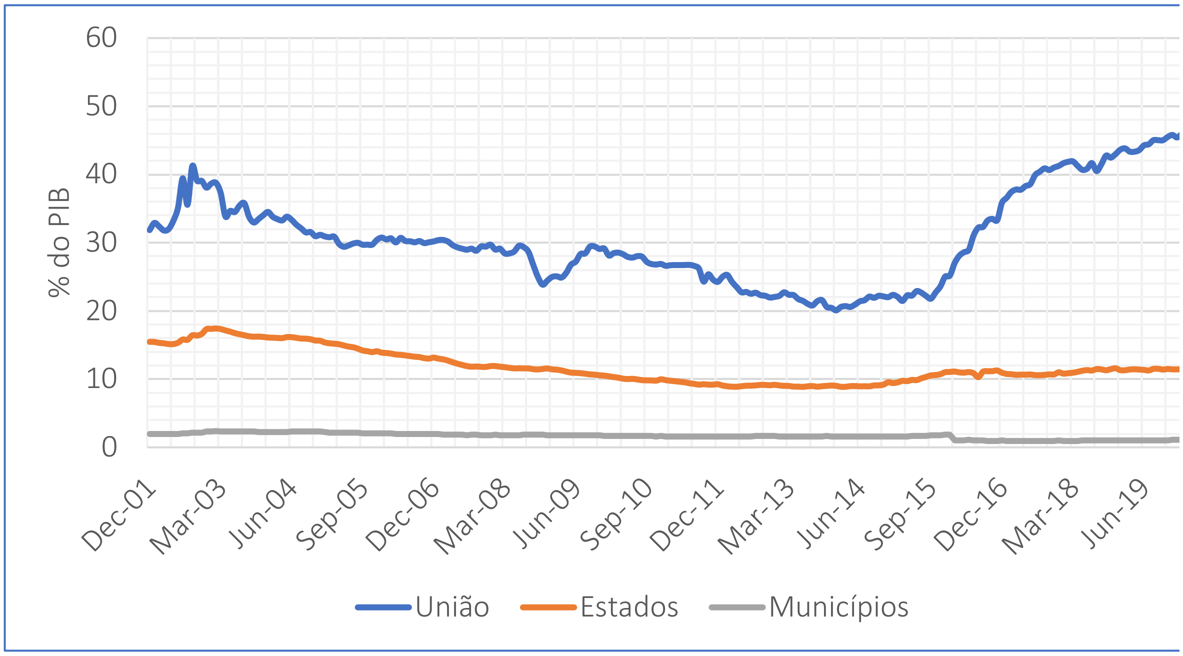
These steps ushered in a period of sustained fiscal consolidation at both the subnational levels of government, facilitated by the strong economic growth and commodity prices boom of the mid-2000s. The aggregate primary surplus of the states rose steadily through the 2000s, peaking at nearly 1 percent of GDP in 2008, while that of the municipalities fluctuated narrowly around 0.1 percent of GDP throughout the period (see Figure A5). As a result, the total debt of the states declined to under 9 percent of GDP in 2012, from over 17 percent of GDP 10 years earlier. The aggregate debt of the municipalities remained broadly stable around 2 percent of GDP (see Figure A6).

Figure A5: Brazil—Aggregate Primary Balances of the Different Levels of Government, 1999–2019



Source: Afonso (2020).

Figure A6: Brazil—Net Public Debt, By Levels of Government



Source: Afonso (2020).

Unfortunately, some of the progress made in the 2000s was reversed in the subsequent decade. First, in the aftermath of the global financial crisis, borrowing constraints on the states were eased by the federal government with a view to promoting public investments. However, the states used the opportunity to increase current spending, particularly on wages. Also, the protracted recession from 2015 to 2018 dampened revenue growth, and a number of states began facing severe financial pressures.

The federal government took a number of steps in 2016–17 to support the states, including a significant lengthening of debt maturities, grace periods, and a reduction of the interest rates charged on the state debt. It also put in place a debt resolution regime for the states facing acute difficulties, such as Rio de Janeiro. At the same time, it tightened the criteria for the granting of federal guarantees for states' new borrowing.[35] These measures stabilized the states' finances, at least until the recent shock induced by the COVID-19 pandemic.

[35] Details can be found at the website of the federal Treasury: https://www.gov.br/tesouronacional.

Intergovernmental transfers

The intergovernmental transfer system in Brazil includes three main but partly overlapping mechanisms, namely: (i) revenue sharing; (ii) mandatory transfers linked to education, health, and other programs; and (iii) discretionary grants, typically tied to specific subnational expenditure programs or projects. Revenues are shared by the federal government separately with the states and the municipalities, and by the states with their respective municipalities.

Main revenue-sharing mechanisms

The most important type of federal revenue sharing with the states (called the *Fundo de Participação dos Estados*, or FPE) was created by the 1967 Constitution and expanded by the 1988 one. The FPE currently consists of 21.5 percent of revenues from the federal income tax and selective VAT (the tax on industrial products, known as the IPI). The criteria for distribution among the states were set by a higher-level law (Lei Complementar 62) of 1989, following a lengthy negotiation, the result of which was a determination that the combined shares of the states in the less-developed regions of the north, northeast, and center-west should amount to 85 percent of the total. Within this constraint, the coefficients for individual states were determined through marginal modifications in the pre-existing criteria that related them to each state's territory (with a weight of 5 percent) and inverse of per-capita income (with a weight of 95 percent).

These coefficients remained unchanged for two and a half decades, despite significant changes in the distribution of per-capita income across states in the intervening period, because of lack of political consensus on their modification. Following a determination by the Supreme Court that their maintenance was unconstitutional, agreement was found on their progressive adjustment (at a glacial pace) over future decades. However, various studies suggest that, even after this modification, per-capita transfers received by each state from the FPE bear only limited relation to its per-capita income or its revenue capacity. The six largest recipients of FPE transfers (mostly in the sparsely populated northern region) are not among the poorest; rather they are in the middle of the distribution routes.

The most important mechanism of sharing of federal revenues with the municipalities (the *Fundo de Participação dos Municípios*, FPM) also has deep roots in the federation's arrangements, and it was significantly increased by the 1988 Constitution. The fund is made up of 23.5 percent of revenues from the income tax and the IPI. The FPM is in turn divided into three parts: 10 percent goes to capital cities, and the rest is divided among other municipalities, with 3.6 percent of the total resources being reserved for large non-capital cities. The portion reserved for capital cities is distributed among them on the basis of criteria relating to population size and the inverse of per-capita income of the respective state. The bulk of the FPM (86.4 percent) is distributed according to coefficients related to population size, and it disproportionately benefits smaller municipalities.

This bias reduces the redistributive potential of the FPM, since there is limited correlation between the size of a municipality and its level of per-capita income (or other development indicators). Thus, the distribution criteria for the FPM put at a disadvantage the relatively populous and frequently poor *cidades dormitórios* (satellite cities) surrounding large municipalities and capital cities, thereby reducing their capacity to provide essential public goods and services to the population. In contrast, the criteria benefit disproportionately small municipalities that grow around large industrial establishments and that already benefit substantially from own revenues and devolution-based state transfers.

The third (and largest) component of revenue-sharing arrangements is the transfer (mandated by the 1988 Constitution) of 25 percent of the state revenues from the ICMS to the respective municipalities. Three-quarters of these transfers are distributed according to a derivation criterion (i.e., proportionally to the VAT originating in the municipality), and one-quarter is distributed according to other criteria that are determined by each state.

These other criteria determined by each state vary widely across states; some are informed mainly by equity considerations; others aim at ensuring synergies between municipal and state programs; yet others aim at mitigating externalities (e.g., of an environmental nature). The predominance of the origin criterion results in a disproportionate concentration of these transfers on municipalities with large industrial establishments. It also creates an incentive to fragmentation, as localities around such establishments can maximize transfers per capita by setting themselves up as individual municipalities.

On the revenue side, the system has traditionally been based on the principle of separation of tax bases among the different levels of government. Specifically, the Union has been assigned the nonagricultural personal and corporate income taxes, some specific indirect taxes, and custom duties. The states could traditionally levy taxes on agricultural income and land, sales taxes, stamp duties, and other miscellaneous taxes on transactions. This led to a proliferation of state taxes, including some that created obstacles to interstate commerce. Local governments rely mainly on property taxes. All levels of government levy various non-tax charges and fees.

After years of unsuccessful attempts at rationalizing the system of indirect taxation, a shared VAT (GST) was finally adopted in 2017. The GST includes three components:

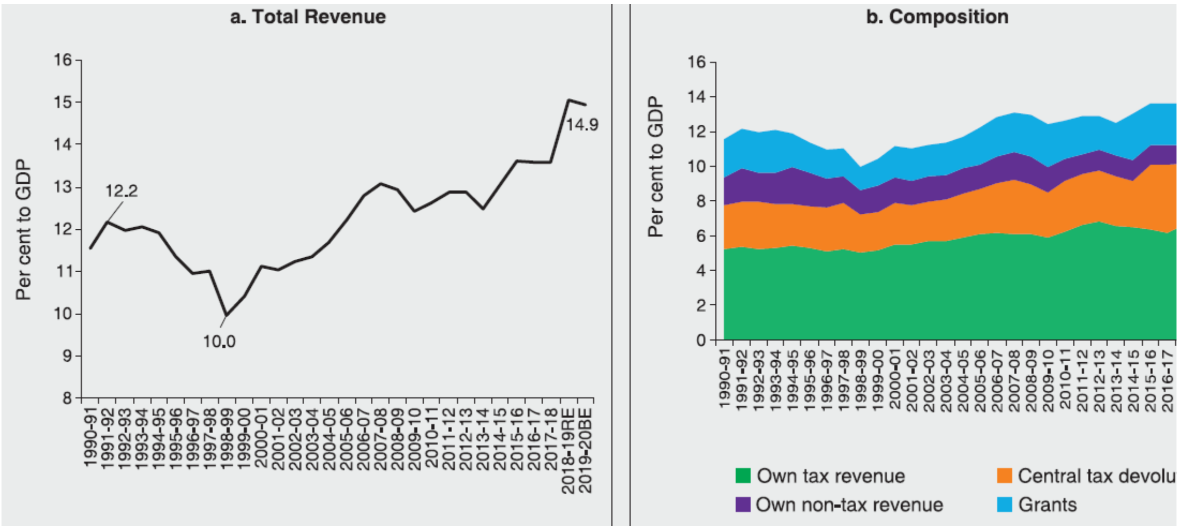
- The central component (CGST) and the state component (SGST) are levied on intrastate transactions on the same base and with the same rates, and the revenues are shared equally between the federal and the relevant state government. Each portion is collected and administered by the recipient government following general guidelines established by a national GST Council. Credits accrued under one component cannot be applied to the other.
- The third component is the integrated goods and services tax (IGST) which is levied on interstate transactions and on imports. Its revenues are shared between the federal government and the relevant state on a destination basis, in proportions of 60 percent and 40 percent respectively. This component is collected and administered by the federal government.

Negotiations of the reform took several years. Once approved by the Congress and ratified by the states, the shift to the new system was implemented relatively quickly (with only 10 months preparation), a fact that created some difficulties for smaller enterprises. By replacing a number of previous levies, the GST has allowed a substantial simplification of the system of indirect taxation at both levels of government, as well as a reduction of tax-induced distortions.

However, the reform process has involved costs as well, including the fact that consensus could only be secured by allowing a complex rate structure (with six rates) and many exemptions for the GST. Also, the new system still involves significant compliance costs for enterprises with sales in multiple states, since the administration of the SGST remains decentralized. Finally, the passing of the reform required the federal government to fund the guarantee of no loss in revenue for any of the states.

The system of revenue assignments has contributed to a substantial vertical fiscal imbalance (VFI) for the Indian states. Figure A6 shows that, in the aggregate, the states' own revenues have been nearly stagnant in recent decades, albeit with differences among the individual states. This trend has reflected the lower income elasticity of the taxes assigned to them, but also serious weaknesses in most state tax administrations, and the deleterious impact on the states' tax effort of the soft budget constraint stemming from the design of intergovernmental transfers and of borrowing controls, discussed further below.

Figure A6: India—Level and Composition of States' Revenues

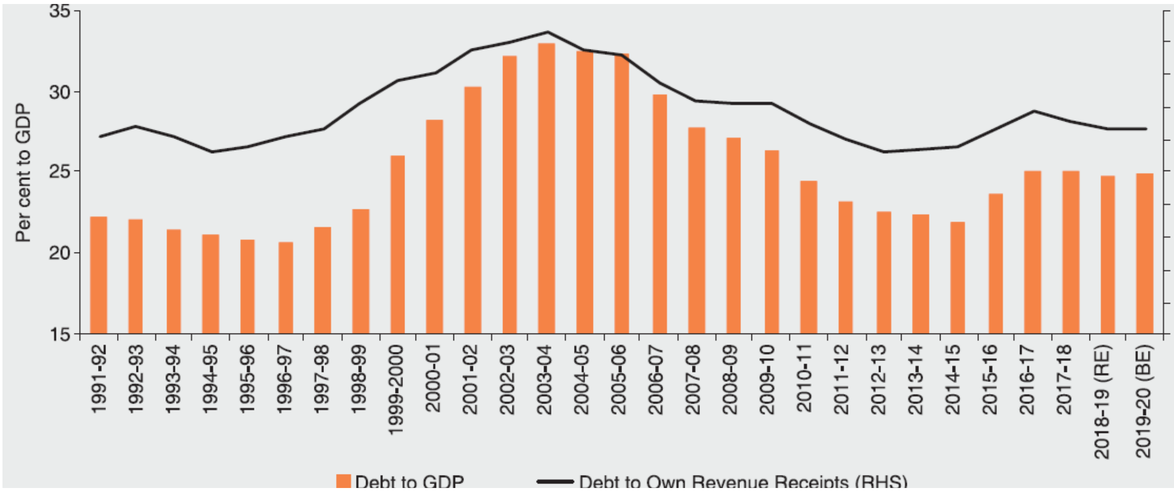


Source: Reserve Bank of India (2020).

Allowing the states to levy surcharges on the Union's income taxes, preferably within a band for the rates, could provide the states with an additional revenue approach to reduce their dependence on transfers, thereby promoting increased fiscal responsibility and political accountability. There is also scope for enhancing the use of state excises on goods with adverse environmental or health externalities, and the administration of the property tax accruing to the local governments.

The VFI has been filled by a combination of transfers from the Union and borrowing. States' deficits rose through most of the 1990s and the early 2000s, leading to a significant accumulation of debt, which peaked in 2003–04 at over 32 percent of GDP and nearly 450 percent of the states' own revenues (see Figure A7). The debt levels declined in subsequent years, reflecting a fiscal consolidation effort, ushered in by the adoption of state Fiscal Responsibility Laws requiring the elimination of current deficits and facilitated by the strong economic growth performance of the country. However, in recent years deficits have re-emerged in many states and there is a renewed upward trend in the aggregate debt, to nearly 25 percent of GDP and 250 percent of own revenues by 2018–19 (see Figure A7). This suggests that the system of borrowing controls, which relies on discretionary approvals by the Union rather than on objective prespecified criteria, has not succeeded in ensuring sustained fiscal discipline in the many of the states.

Figure A7: India—Aggregate Debt of the States, As Percent of GDP and of Own Revenues



Source: Reserve Bank of India (2020).

The states' debt sustainability, already challenged by the persistence of significant primary deficits, is further undermined by the fact that they have substantial contingent liabilities in the form of guarantees, mainly to their electricity distribution companies, most of which are loss-makers.

Intergovernmental transfers

Federal government transfers to the states include shared revenues, general purpose grants, and special purpose grants. Both the size of the pool of federal government revenues to be shared with the states and its distribution among the latter are set by the federal government every five years following the recommendations of a specially appointed Finance Commission. The members of the Commission are well-known personalities and enjoy ministerial rank. There have been so far fourteen such Commissions and the fifteenth one is currently preparing its recommendations. The various Commissions have been very influential in shaping the evolution of intergovernmental transfers in the country (Zahir, 2020). The 14th Commission in particular recommended wide-ranging changes to the system, including an increase in the vertical allocation coefficient from 34 percent of the Union's revenues to 42 percent, partly offset by a major reduction in grants-in-aid, including capital transfers by the now-defunct Planning Commission to finance investments by states. This change was aimed at increasing the states' autonomy in the use of the transferred resources.

In recommending a horizontal distribution of the shared revenues' pool, the Finance Commissions have generally aimed to make the transfers equalizing. For this purpose, they have focused on different variables intended as proxies for fiscal capacities and spending needs. The latest Commissions have used each state's deviation from the average in per-capita income, population, land area, and forest area as such proxies, with weights recommended by each Finance Commission.

These are rather rough proxies as they do not take into account differences in tax bases, in demographic and geographic profiles, and in unit costs of providing state services. For example, it would appear that the distribution of the state VAT (the SGST) would provide a better proxy of the states' taxable capacity, since this tax is levied on a uniformly defined based and with a uniform rate structure across the country, and it is the largest own-revenue source for the states (Martinez-Vazquez, 2020). The introduction in the formula of some demographic variables (such as the percentages of the population under 15 and over 65, and of indicators of relative poverty) would also help make it more equalizing.

Grants

General-purpose grants are also recommended by Finance Commissions to supplement the shared revenues. India has been traditionally characterized by a proliferation of special-purpose, conditional grants provided directly by the Union to the states to promote national objectives and standards, as well as often to fill ex-post states' fiscal imbalances. Following a recommendation of the 14th Finance Commission, these grants were somewhat consolidated and streamlined in 2015–16. There are now some 28 Centrally Sponsored Schemes (CSS) and another 45 transfer programs administered by Union sectoral ministries.

Special-purpose grants are in principle an important policy instrument to supplement untied transfers for the purpose of ensuring nationwide minimum standards of services. However, in practice they suffer from significant shortcomings, including a multiplication of objectives, spreading resources too thin and thus undermining their effectiveness, and uniform matching requirements that are difficult to meet for the poorer states.[36]

[36] See Rao (2017) for details.

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