Introduction
Mexico has experienced two major macroeconomic crises in the last two decades. The 1994–95 Tequila Crisis and the 2008–09 global financial crisis had important implications for the functioning of subnational debt markets. In the Tequila Crisis, the macroeconomic shock affected subnationals through higher interest rates on their debt and the simultaneous reduction in their federal transfers. These shocks made their debt unsustainable, and the federal government intervened with an ambitious restructuring program. In 2009, the global crisis did not affect interest rates in Mexico, but the slowdown in economic activity and the decline in the price of oil reduced federal transfers to subnationals considerably, dramatically affecting their repayment capacity. In this context, an innovative mechanism was designed to smooth the shock and ensure the sustainability of local public finances. These episodes hold important lessons for policy makers interested in designing debt management mechanisms for subnational debt in developing countries. They also shed light on the behavior of subnational debt markets in periods of stress, and policy responses that can be used in dealing with recovery during a crisis.
This chapter contributes to the study of the Mexican Fiscal Federalism Framework in Mexico. While Giugale and Webb (2000) and Revilla (2012) presented general overviews of Mexican intergovernmental relations, this chapter is part of a new wave of efforts to study aspects of intergovernmental fiscal relations in the country. In particular, it adds to the few studies that have been done on subnational debt in Mexico. Among these, Giugale, Korobow, and Webb (2000) describe the “new subnational regulatory framework in Mexico,” in place since 2000. In addition, Hernández, Díaz-Cayeros, and Gamboa (2002a) study the determinants and consequences of the 1995 bailout, while Giugale, Hernández, and Oliveira (2000) give an overall overview of the subnational debt market at the dawn of the century.

This chapter more closely relates to the literature on subnational debt restructuring, as in Liu and Waibel (2009); Prasad, Goyal, and Prakash (2004); and Ter-Minassian and Craig (1997). In particular, it adds a developing country dimension to those studies of subnational debt markets after the global crises, such as the ones in Canuto and Liu (2010a, 2010b). Together with the other chapters in this volume, this chapter sheds light on the very difficult questions and dilemmas that policy makers face when dealing with subnational debt markets after macroeconomic crises, especially in developing countries.

The chapter is structured as follows. Section two describes the Mexican fiscal federalism framework. Section three describes the restructuring of subnational debt after the Tequila Crisis. Section four describes the response after the global crisis. Section five discusses the similarities, differences, lessons, and conclusions for subnational debt management.

**The Fiscal Federalism Framework in Mexico**

All intergovernmental fiscal relations systems are different and constrained by the local culture, politics, and the economics of the institutional setup. Mexico’s fiscal federalism is defined by a very large vertical imbalance, an enormous dependence of subnationals on federal transfers, and on a low level of subnational debt, all of which influenced the objectives and constraints of the policies implemented during the two crises discussed in this chapter.
Mexico is a federal country divided into 31 sovereign states and one federal district. Each state is composed of municipalities, which are the basic political unit and which have some sovereign autonomy over their political and fiscal development. Being political subdivisions of states, municipalities are extremely heterogeneous in their level of development. The fiscal federalism framework in this three-tier government structure consists of the set of laws, rules, and institutions that allocate spending and tax responsibilities, and the transfers and the institutional framework for subnational debt.

A salient feature of Mexico’s fiscal federalism framework is the strong dependence of state and municipality finances on federal transfers (see, for example, Giugale and Webb [2000], Revilla [2012], and references therein). On average, the share of resources from federal sources accounts for 85 percent of total revenues for subnationals. This strong dependence on federal resources has remained mostly constant over time. This feature of Mexico’s federalism is the main characteristic that determines the politics and economics of current and future reforms on the subject.

Table 4.1 shows the composition of the annual flow of resources to subnationals in Mexico. As can be seen, around 85 percent of revenues for states and municipalities come from federal transfers, around 11 percent from own-source revenues, and borrowing accounts for only 5 percent of annual flow, on average. Federal transfers can be grouped into three main channels: (a) earmarked transfers; (b) nonearmarked transfers; and (c) a smaller, but growing, component of new transfers for specific purposes and infrastructure.

Nonearmarked transfers, called participaciones, are the biggest item in states’ budgets and the biggest line item in the federal budget. They consist of a set of funds that vary in size and composition. The biggest one accounts for 86 percent of the total and is called the General Participation Fund (Fondo General de Participaciones). It is calculated as 20 percent of a federal pool of revenues that are shared and distributed according to a formula that correlates per capita transfers to the level of economic activity (measured by growth in states’ gross domestic product [GDP]) while giving incentives to increase own-source revenue. The rest of the funds are smaller and include a fund for municipalities, one to give incentives to improve tax administration
Table 4.1 Subnationals’ Resources in Mexico

<table>
<thead>
<tr>
<th></th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>Composition%</th>
<th>As % of GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total resources</td>
<td>895</td>
<td>911</td>
<td>1,080</td>
<td>1,100</td>
<td>1,169</td>
<td>100</td>
<td>8.9</td>
</tr>
<tr>
<td>Federal transfers</td>
<td>785</td>
<td>781</td>
<td>943</td>
<td>936</td>
<td>973</td>
<td>83</td>
<td>7.4</td>
</tr>
<tr>
<td>Nonearmarked transfers (participaciones)</td>
<td>329</td>
<td>333</td>
<td>423</td>
<td>421</td>
<td>437</td>
<td>37</td>
<td>3.3</td>
</tr>
<tr>
<td>Earmarked transfers (aportaciones)</td>
<td>388</td>
<td>379</td>
<td>420</td>
<td>439</td>
<td>461</td>
<td>39</td>
<td>3.5</td>
</tr>
<tr>
<td>Other</td>
<td>68</td>
<td>70</td>
<td>99</td>
<td>76</td>
<td>74</td>
<td>6</td>
<td>0.6</td>
</tr>
<tr>
<td>Convenios</td>
<td>44</td>
<td>56</td>
<td>73</td>
<td>76</td>
<td>74</td>
<td>6</td>
<td>0.6</td>
</tr>
<tr>
<td>Excedentes</td>
<td>24</td>
<td>13</td>
<td>26</td>
<td>—</td>
<td>—</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Own-source revenue</td>
<td>93</td>
<td>103</td>
<td>120</td>
<td>116</td>
<td>133</td>
<td>11</td>
<td>1.0</td>
</tr>
<tr>
<td>Financing</td>
<td>17</td>
<td>26</td>
<td>17</td>
<td>49</td>
<td>63</td>
<td>5</td>
<td>0.5</td>
</tr>
</tbody>
</table>

Memorandum items

<table>
<thead>
<tr>
<th></th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>Composition%</th>
<th>As % of GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Federal budget</td>
<td>2,264</td>
<td>2,486</td>
<td>2,861</td>
<td>2,817</td>
<td>2,960</td>
<td>100</td>
<td>23</td>
</tr>
<tr>
<td>Federal nonoil revenue</td>
<td>1,015</td>
<td>1,205</td>
<td>1,358</td>
<td>1,508</td>
<td>1,492</td>
<td>50</td>
<td>11</td>
</tr>
</tbody>
</table>

Sources: Ministry of Finance; Mexico and states’ public accounts.

Note: — = not available. GDP = gross domestic product.
a. States and municipalities.
b. Values correspond to 2010.
c. Includes resources for education expenses in the Federal District, where education has not been decentralized.
d. Includes special decentralization agreements and excess revenue surplus.
e. Corresponds to registered debt with the Ministry of Finance and includes all debt approved by local legislatures; it does not include short-term loans (for cash management) or contingent liabilities (that is, pensions).

at the local level, compensatory funds for states where oil is extracted, and a redistributive fund for the 10 poorest states. For a complete description, see table 4A.1.

Earmarked transfers, called aportaciones, consist of eight funds and are itemized in “Ramo 33” of the federal budget. There are special funds for education, health, social development, and public security. The biggest one is the Fund for Basic Education, which accounts for 59 percent of the total. This fund, and the Fund for Health Services (Fondo de Aportaciones para los Servicios de Salud), is meant to cover the wage bill for paying teachers and medical professionals who were transferred to states in the 1990s with the decentralization of education and health. There is widespread agreement that the large amount of money spent through these funds has not contributed to more efficient
service delivery, that the assignments among states are extremely inefficient, and that there is some level of corruption in the spending of these resources (see IMCO 2010). For a complete description of earmarked transfers, see table 4A.2.

Regarding own-source revenues of subnationals in Mexico, the first salient fact is the low level of own tax effort by states and municipalities. The level of subnational own revenue is low by international standards and relative to its potential. The main tax handle of municipalities is the property tax. Mexican municipalities collect 0.2 percent of GDP. This figure is the lowest in Latin America (Bolivia collects 0.3 percent of GDP, Brazil 0.7 percent, Colombia 1.3 percent, and Argentina 1.7 percent) and one of the lowest in the world (the Organisation for Economic Co-operation and Development average is 2 percent of GDP) (ECLAC 2009; OECD 2010). In practical terms, only the Federal District and some big municipalities collect the property tax efficiently, and the vast majority of local governments in the country do not collect it at all. This remains one of the biggest challenges for the Mexican fiscal federalism framework.6

For states, the main taxes are the payroll tax7 and the administration of federal taxes on vehicles and gasoline, from which the states are allowed to keep the revenue. States have other local taxes such as a lodging tax (important in states with high rates of tourism), taxes on the use of old motor vehicles, and taxes on local lotteries and games. However, the revenue collected from these taxes does not represent significant resources. For details on states’ local revenues in Mexico, see table 4A.3.

Subnational debt in Mexico is low by all accounts and relative to international standards; the stock of subnational debt in Mexico accounts for 79 percent of annual nonearmarked transfers, or 2.9 percent of GDP. Figure 4.1 shows the stock of debt for subnationals in Mexico in 2011. Although subnational debt as a share of nonearmarked transfers increased from 50.7 percent in 2008 to 79.2 percent in 2011—the debt as share of GDP increased from 1.7 percent in 2008 to 2.9 percent in 2011—subnational debt in Mexico is low when comparing with countries such as Brazil, China, and India.8

The debt in figure 4.1 includes all direct liabilities that are incurred by subnationals that are registered with the Federal Ministry of Finance and that were approved by their local legislatures. It does not include
Figure 4.1 Subnational Debt in Mexico, by State, 2011

a. As a share of nonearmarked transfers

b. As a share of state’s GDP

Source: Ministry of Finance, Mexico.
Note: GDP = gross domestic product. Data include municipal debt.
short-term loans (incurred and paid in full within the fiscal year and used mostly for cash management), or contingent liabilities such as pensions or supplier’s credit, both of which can pose risks. If short-term debt is not officially registered as debt, it could potentially be used to finance current expenditures. In addition, short-term debt was exempted from a higher risk rating and the need to establish prudential reserves. Although state retirement plans represent only 2.3 percent of total retirement accounts in the country, there is a risk that they might become unsustainable in the next decade.

There is a great diversity in terms of the structure and financial sustainability of state retirement schemes. A majority of state retirement plans operate as defined benefit plans, which are, in general, unfunded liabilities of state governments. There are no recent studies that estimate the amount of these liabilities. However, according to the conclusions of a meeting of the National Fiscal Convention (Convención Nacional Hacendaria), Hewitt Associates estimated that states’ pensions in 1998 accounted for around 25 percent of GDP. Nearly one-third of state retirement plans operate as funded defined benefit plans, but only 7 percent of states have defined contribution schemes based on individual retirement accounts.

As can be seen in figure 4.1, the stock of subnational debt in Mexico is only 79 percent of annual nonearmarked transfers, or 2.9 percent of GDP. At first glance, this low level of debt represents a puzzle from the point of view of economic theory, given the shocks that subnationals faced during the crisis and the need for infrastructure investment. Some observers of the Mexican fiscal federalism framework have concluded that some kind of hidden bailouts must exist in Mexico simultaneously with incentives for subnationals to rent-seek from the federation as an instrument to smooth fiscal shocks and close year-end budgets (see Hernández, Díaz-Cayeros, and Gamboa 2002a, 2002b). These grants would make debt unnecessary as a mechanism to balance the fiscal accounts.

Table 4.2 shows the structure of the stock of subnational debt in Mexico. The total stock of subnational debt is collateralized with federal transfers or with a future flow of local taxes. That is, no lender gives an unsecured loan to a subnational in Mexico. Three-quarters of the total stock of state and municipality debt in Mexico has federal transfers as
collateral. The income pledged is usually the nonearmarked transfers, but some earmarked funds are starting to be used as well. As regards the creditors, private commercial banks hold 51 percent of the debt, government development banks hold 24 percent, and the rest is placements with the markets (mainly bonds or securitized notes). Since 2005, this composition has remained almost unchanged.

In Mexico, the institutional framework for subnational debt starts with the 1917 Constitution, which mandates a “golden rule” for state and municipal debt: all indebtedness must be used to finance “productive public investments.” What this means in practice (and whether it includes modern debt operations such as refinancing or debt buybacks) has been the subject of much debate among lawyers, including the Supreme Court, state treasuries, and investment bankers who advise subnationals on the flexibility of the constitutional rule. The Constitution also prohibits states and municipalities from borrowing in foreign currency or from a foreign creditor.

Below the constitutional level, Mexico’s subnational debt framework was reformed in 2000. The old framework was based on the concept of the mandato (mandates). This meant that the federal government

Table 4.2 Subnational Debt Structure in Mexico, 2011

<table>
<thead>
<tr>
<th>Creditor</th>
<th>Federal transfers</th>
<th>Own revenue</th>
<th>Total</th>
<th>% of GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial banks</td>
<td>186</td>
<td>15</td>
<td>201</td>
<td>1.5</td>
</tr>
<tr>
<td>Development banks</td>
<td>86</td>
<td>6</td>
<td>92</td>
<td>0.7</td>
</tr>
<tr>
<td>Securitizations</td>
<td>18</td>
<td>40</td>
<td>58</td>
<td>0.4</td>
</tr>
<tr>
<td>Trust funds</td>
<td>8</td>
<td>11</td>
<td>19</td>
<td>0.1</td>
</tr>
<tr>
<td>Other</td>
<td>19</td>
<td>2</td>
<td>21</td>
<td>0.2</td>
</tr>
<tr>
<td>Total</td>
<td>317</td>
<td>74</td>
<td>391</td>
<td>2.9</td>
</tr>
</tbody>
</table>

% of GDP

2.4 0.6 2.9

Source: Ministry of Finance, Mexico.

Note: GDP = gross domestic product.

a. Includes debt collateralized with nonearmarked transfers (participaciones) and with FAIS and FAFE, which are earmarked funds (aportaciones) that may be collateralized, see table 4A.2.

b. Includes Sofoles (Limited Purpose Financial Institutions), Sofomes (Multiple Purpose Financial Institutions), and suppliers.
acted as a trustee in servicing state debt that had been collateralized with participaciones. What happened in practice was that the mandato was perceived by the markets as a guarantee by the federal government on subnational debt. Not surprisingly, as argued in Giugale, Korobow, and Webb (2000), this perception of a federal bailout created two problems: (a) banks had the incentive to make loans, since they perceived them to be risk free; and (b) subnationals also had the expectation of a bailout since it was not credible that the federal government would in fact reduce transfers. To eliminate these problems, several reforms were implemented from 1997 to 2000 (for a detailed account of these reforms, see Guigale, Hernández, and Oliveira [2000]).

The reforms regarding the new regulatory framework for subnational debt, in place since 2000, were based on two main concepts: an explicit renunciation of federal bailouts and a new system aimed toward a correct evaluation by lenders of idiosyncratic subnational risk. These objectives were pursued through (a) the elimination of the mandatos; (b) establishment of a link between the capital risk weighting of bank loans to subnationals and their credit rating; (c) and a requirement to register subnational loans with the Ministry of Finance, conditional on being current on fiscal transparency requirements.

Ten years after the establishment of the new regulatory structure, it can be said that Mexico’s subnational debt framework is more of a hybrid between a rules-based and a market-based system. Indeed, it can be described as a quasi-market-based system that rests on the following three distinct characteristics.

The first characteristic is the credible threat of no federal bailout. This was accomplished with the elimination of the mandato (the instruction that subnationals gave to the federal government to service their debt for them, out of their transfers) and the creation of intercepts (which, in practice, are set up as trust funds established by the subnational and their creditors).

The second characteristic is the increased transparency of the subnational debt market. All collateralized debt must be registered with the Ministry of Finance (conditional on having been approved by the local congress, and the state being up-to-date in transparency requirements). If it is not registered, then the loan is automatically risk weighted by
regulators at the penalty rate of 150 percent, which not only raises the cost of the loan directly but also makes the bank credit committees reluctant to lend at all. States have found that there is a strong incentive to register loans that are not legally required to be registered, since this often results in better credit conditions from the lenders. Therefore, the Mexican registry of subnational public debt is quite accurate in listing all outstanding claims. This process has resulted in increased transparency of the Mexican subnational debt market. Thus, the general public and opposition parties have imposed a certain amount of fiscal discipline on local governments with this mechanism.

The third characteristic that defines the regulatory regime is that many of the constraints on the market are the result of the prudential regulation of banks, rather than the result of direct fiscal rules on subnationals. In particular, a capital risk weight is assigned to loans to subnationals depending on the credit rating of the loan. Therefore, the pricing of credit should be a function of the creditworthiness of the state or municipality. Almost all of them now get credit ratings, since not having a credit rating also leads to the penalty capital weighting of 150 percent.

The combination of the described rules and mechanisms implemented in Mexico has ensured an orderly and functional subnational debt market. Notwithstanding the low stock of subnational debt, as in any comparison among Mexican states, there is a wide heterogeneity across states in their indebtedness level, and some states continue to face fiscal adjustment challenges. Nonetheless, the level of subnational debt does not appear to pose a significant systemic or macroeconomic problem.

In fact, the relevant policy question might very well be the opposite: is subnational debt in Mexico suboptimal, given increased needs for development and infrastructure? The answer is beyond the scope of this chapter. However, the low amount of subnational debt in Mexico (as a percentage of GDP) is the second salient fact of its fiscal federalism framework, and frames the policy responses that were taken under the extreme macroeconomic shocks suffered during the 1994–95 Tequila Crisis and more recently with the “great recession” of 2008–09. The different policy responses regarding the safeguarding of the subnational debt market are detailed in the following two sections.
The 1994–95 Tequila Crisis and the Restructuring of Subnational Debt

For Mexico, 1994 was a disastrous year. It included the assassinations of the official party’s presidential candidate and of its leader, the rise of an armed insurrection in the southern state of Chiapas, and the continual deterioration of foreign investors’ perceptions. With a fixed exchange rate, these events led to a massive run on foreign reserves. On December 19, 1994, Mexico suffered one of its greatest macroeconomic shocks in its history when the fixed exchange rate regime was abandoned. In 1995, the GDP dropped 6.2 percent in real terms compared to the previous year. Inflation reached 52 percent that same year. The Mexican peso lost 49.7 percent of its value in December 1994, and throughout 1995 the currency depreciated an additional 49 percent. The nominal value of the exchange rate, which was 3.4 pesos per dollar at the beginning of December 1994, reached 7.7 pesos per dollar by the end of December 1995. International reserves at the central bank dropped from US$30 billion at the beginning of 1994 to only US$6 billion in December 1994. The impact on interest rates was astounding, as well: interest rates of a one-month Treasury bill reached more than 80 percent during 1995.

The crisis brought painful costs in terms of increased poverty, a costly bank restructuring, and a difficult economic environment for firms and families. It is no surprise that under these conditions, states and municipalities faced dire financial circumstances, and, given that their debt was mostly contracted at a variable rate, their obligations became unsustainable overnight. Figure 4.2 shows the interest rate of a one-month Treasury bill, and the impact of the crisis on GDP and consumption, employment, and the exchange rate.

Subnationals faced two main direct shocks that made them unable to service their debts. First, the extraordinary rise in interest rates made their debt untenable, since most of it was contracted at variable rates. Second, given that the main source of income was the participaciones (which fluctuate with the federal taxes that are shared), the impact of the crisis on federal revenue implied that in 1995, federal nonearmarked transfers were 22 percent lower in real terms than in 1994. With lower income sources and higher interest payments, the specter
Figure 4.2 The Macroeconomic Impact of the 1994–95 Tequila Crisis in Mexico

a. GDP and consumption growth in Mexico, 1992–95

b. Unemployment rate, 1993–95

c. Mexican peso, 1994–96

d. Interest rate of a 28-day Cete, 1994–96

Source: Banco de México.
Note: GDP = gross domestic product. A Cete is a credit title issued by the federal government.
of default loomed larger. In this context, the federal government intervened to engineer an important restructuring process that was based on the following four main pillars. The following series of interventions did not occur as a single event, but were spread over the recovery period of the crisis.

First, the federal program included a direct restructuring mechanism. In this way, the federal government, through the Ministry of Finance, restructured around 90 percent of the outstanding subnational debt (in an amount equivalent to US$8 billion at 2009 prices). The restructuring lowered the interest rate to a fixed 10.5 percent nominal rate and increased the maturity from an average of 6.6 years (see Fedelino and Ter-Minassian 2010) to 15 and 20 years. It was structured by Banobras, the federal government’s development bank that lends to subnational governments.

Second, to help states deal with the decrease in federal transfers (participaciones) caused by the lower federal collection of shared taxes, the federal government gave an extraordinary transfer to all states in 1995 and 1996 of approximately US$1 billion (2009 prices) for each year, equivalent to 10 percent of annual transfers.

Third, the federal government, again through Banobras, engineered an extraordinary loan for states collateralized with nonearmarked transfers. The loan was equivalent to US$500 million (2009 prices) or 5 percent of annual transfers. It would be paid out of one-year transfers and at the federal government’s cost of financing.

Fourth, the federal government resorted to extraordinary discretionary transfers to some states that were negotiated independently and usually not reported. By definition, this “hidden bailout” is difficult to quantify because there are no data and it does not appear in traditional accounting or reports of subnationals. However, Hernández, Díaz-Cayeros, and Gamboa (2002b) try to quantify these “secret” transfers using reductions in debt stocks that are unmatched by state government surpluses, and differences in interest rates before and after debt renegotiations, since interest rates negotiated after the crisis varied among states. Hernández, Díaz-Cayeros, and Gamboa also argue that some of the new credit obtained via official development banks was used for current expenditures and not investment (as the law mandates), which would amount to an indirect bailout. Finally, when considering the
determinants of these hidden bailouts, they find that the size of the bailout was related to the size of the state and to the previous level of fiscal indiscipline (with states that had bigger deficits getting more support), but not to political variables.

The bailout worked in preventing the meltdown of subnational debt markets, thus preserving the functioning of local governments and service delivery. In studying the consequences of the bailout (both the open and hidden parts), Hernández, Díaz-Cayeros, and Gamboa (2002b) find two important consequences. First, there were distributional effects, with higher per capita extraordinary transfers given to states with higher per capita GDP. Hence, poorer states (less indebted) received less in extraordinary support. Second, as with any bailout, some moral hazard problems were created, since the bailout did not resolve structural fiscal imbalances. It consisted basically of a one-year relief program. After the crisis, subnational governments kept incurring deficits because they anticipated they would be bailed out again.

These special bailouts came from a large discretionary account for the presidency, which had traditionally been in the budget. After the ruling party lost control of Congress in 1997, however, this practice stopped, and that contributed to the decision to move to the hybrid rules- and market-based system described earlier.

The “Great Recession” of 2008–09 and Subnational Debt in Mexico

As in most countries, the global crisis of 2008–09 caused deep macroeconomic management problems for Mexico. The impact was severe: growth slowed to a painful minus 6.1 percent in 2009, and the public finances of all levels of government suffered accordingly. However, a few things had changed since the Tequila Crisis. One decade of sound macroeconomic management that achieved much needed fiscal and monetary space, combined with a different transmission channel and the external origin of the crisis, produced a very different effect on the subnational debt market. Table 4.3 summarizes the similarities and differences of both crises.

What was fundamentally different in the 2008–09 crisis for subnationals was the absence of an interest rate shock. The one-month
### Table 4.3 Two Crises: Implications for the Subnational Debt Market in Mexico

<table>
<thead>
<tr>
<th></th>
<th>Tequila Crisis, 1995</th>
<th>Global financial crisis, 2008–09</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Origin</strong></td>
<td>Domestic</td>
<td>Foreign</td>
</tr>
<tr>
<td><strong>Cause</strong></td>
<td>Reversion of large capital inflows together with some financial vulnerabilities:</td>
<td>• Global asset price bubbles and low interest rates</td>
</tr>
<tr>
<td></td>
<td>• Semifixed exchange rate</td>
<td>• Subprime mortgage crisis in the United States</td>
</tr>
<tr>
<td></td>
<td>• Large current account deficit resulting from a huge credit expansion</td>
<td>• Excessive leveraging leading to serial defaults</td>
</tr>
<tr>
<td></td>
<td>• Substantial rise in interest rates in the United States</td>
<td>• Weak regulation of financial markets</td>
</tr>
<tr>
<td></td>
<td>• Accumulated political tensions during 1994</td>
<td></td>
</tr>
<tr>
<td><strong>Macroeconomic impact for Mexico</strong></td>
<td>• Currency depreciation of 117 percent(^b)</td>
<td>• Currency depreciation of 49 percent(^d)</td>
</tr>
<tr>
<td></td>
<td>• GDP dropped 6.2 percent in real terms</td>
<td>• GDP dropped 6.1 percent in real terms</td>
</tr>
<tr>
<td></td>
<td>• Inflation exceeded 50 percent</td>
<td>• Inflation of 4 percent</td>
</tr>
<tr>
<td></td>
<td>• Interest rates reaching 80 percent(^c)</td>
<td>• <em>Interest rate fluctuations between 4 and 8 percent</em></td>
</tr>
<tr>
<td><strong>Impact on Mexican credit markets</strong></td>
<td>• Complete dry-up of local credit</td>
<td>• Dry-up of foreign credit, but less impact on local credit markets since local banks remained strong throughout the crisis</td>
</tr>
<tr>
<td></td>
<td>• Banking crisis</td>
<td></td>
</tr>
<tr>
<td><strong>Impact on subnational credit markets</strong></td>
<td>• Severe dislocation</td>
<td>• Significant effort to contain the impact</td>
</tr>
<tr>
<td></td>
<td>• States unable to repay debt service because of:</td>
<td>• States suffered only through a lower capacity to service payments, but Rainy Day Funds were used to smooth the shock</td>
</tr>
<tr>
<td></td>
<td>• Higher interest payments</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Less capacity for repayment, as revenues dropped</td>
<td></td>
</tr>
</tbody>
</table>

**Note:** GDP = gross domestic product.

\(a\) Gil-Díaz 1998.

\(b\) From December 1994 to December 1995.

\(c\) Rate on one-month Treasury bill.

\(d\) Maximum depreciation during 2009. However, the Mexican peso recovered part of its value throughout 2009.
Treasury bill fluctuated from 4 to 8 percent from 2008 to 2010. This is in contrast to what happened during the Tequila Crisis, when the rate increased from 10 percent at the beginning of 1994 to above 80 percent by the first quarter of 1995. This meant that there was no immediate increase in the cost of servicing the debt for states and municipalities. The shock, however, came through a different set of channels that affected the revenue of subnational governments and, hence, the possibility of servicing that debt.

First, a dramatic decrease in the price of oil meant significantly lower oil revenues, which are shared among levels of government. In 2009, federal government oil revenue dropped 32 percent in real terms. Second, the slowdown of economic activity implied a significant reduction in federal tax revenue, which is also shared. Federal nonoil tax revenue during 2009 decreased 10.5 percent in real terms. The combined impact of these shocks on federal revenue meant significantly reduced transfers for subnationals. Without the use of Rainy Day Funds (RDFs) (see discussion below), transfers in 2009 would have decreased 15 percent in real terms. Given their almost complete dependence on federal resources, this implied a momentous reduction in their capacity to service their debt and finance government operations. In the absence of federal intervention, many states would have defaulted on their debt. Figure 4.3 shows the deterioration in subnational credit ratings, and therefore on credit conditions, during the crisis.

Under this scenario, the federal government could have provided a direct bailout of the states via extraordinary transfers or a combination of the mechanisms discussed in the previous section, or it could have forced or been instrumental in a system-wide restructuring of subnational debt. The solution, however, came from a different and innovative mechanism: the coordinated sale of future federal surplus revenues that belong to the states.

The coordinated, collective mechanism has been developed to smooth the shock on local public finance. The Mexican macroeconomic management framework was significantly improved in 2005 with the approval of a Federal Fiscal Responsibility Law. Among other things, the law mandated a balanced federal government budget and created RDFs for the federation and for subnationals. The funding of the RDFs was through annual federal surplus revenue (both oil
and federal tax) when, in any given year, receipts exceed the program. Although the size of the funds in terms of GDP was small (reaching 0.7 percent of GDP for the federal RDF, and 0.2 percent of GDP for the subnational RDF), by 2008 the federal fund had accumulated 86 billion pesos and the subnational fund—the Fund for the Stabilization of the Federal Revenue for the Federal Entities (Fondo de Estabilización de los Ingresos de las Entidades Federativas, FEIEF)—had accumulated 25 billion pesos. The funds were designed to be used to smooth out temporary decreases in federal revenues, which was the case in 2009.

To understand the size of the macroeconomic shock for Mexico caused by the global crisis, consider the difference between expectations for 2009, formed in the fall of 2008, as reflected in the macroeconomic forecasts included in the budget, and the observed data for the close of that fiscal year. The federal budget for 2009 included both a real GDP

Figure 4.3 Deteriorating Subnational Credit Scores in Mexico during the Global Financial Crisis

Number of increases in subnational ratings minus decreases

Sources: Fitch Ratings; Standard & Poor’s.
Note: Increases in graph (+1 for each positive change in rating), decreases (-1 for each negative change in rating), changes in economic outlook (+/-0.25).
growth forecast of 1.8 percent and an average price of oil of US$70 per barrel for the year. When 2009 ended, growth was a full 6 percentage points lower, while the price of oil averaged US$53 per barrel. This implied a gap of 480 billion pesos in the federal government balance, and a reduction in federal nonearmarked transfers for subnationals of 70 billion pesos (or 15 percent) relative to the budget. In the absence of a smoothing mechanism, chaos would have ensured for states and municipalities. As in other parts of the world, services would have to be cut dramatically; taxes raised; subnational workers would have been laid off, with the associated political cost; and defaults would have been inevitable.

The first line of defense to smooth the decrease in federal transfers and prevent problems in the subnational debt market was to use savings in the state’s RDF, the above-mentioned FEIEF. Soon it became clear that the entire available balance in the fund (25 billion pesos) would not be enough to cover the expected decrease in transfers for that year (a gap of 70 billion pesos between state aggregate budget transfers and expected transfers was projected by June 2009). The federal government, under pressure from states and municipalities, and under financial stress of its own, was considering more traditional avenues for restructuring subnational obligations as described in the previous section, to close the projected gap: a generalized extraordinary transfer, a restructuring of subnational debt to lower payments, and giving much needed space to local treasuries, or a direct loan to states. They all had their drawbacks.

An extraordinary transfer would put additional pressure on the federal government’s finances, and would completely shift the cost of the crisis onto the federation. A restructuring of subnational debt would have been difficult to achieve given the decentralized nature of the market, the heterogeneity of lenders, and the diverse exposure of states. A direct loan by the federation to subnationals had the disadvantage that the federal government would have to put the asset on its books at a time when its fiscal position was weak—in relative terms—and the loan would have had to be standard in the sense that each state would have had to get local legislative approval (a difficult process that was complicated by federal and local politics and slow and difficult timing, and would not have been successful because some states were already at their locally established debt limit). Also, the proceeds from the financing
would have had to conform to the constitutional golden rule and be used for infrastructure.\textsuperscript{28}

Instead of using one of the traditional avenues for restructuring, the federal government, together with the states, engineered an innovative mechanism that satisfied the following criteria: (a) involvement of the subnationals’ own balance sheets in the smoothing of shocks;\textsuperscript{29} (b) giving subnationals a direct substitute of nonearmarked transfers;\textsuperscript{30} and (c) making it fast, credible, and efficient. The process was as follows: the federal government used its coordination powers to harmonize the needs of all subnationals for additional financing and put them on a path to access the market collectively at a low cost of finance. The specific mechanism used was the leveraging of the RDF for states, that is, the FEIEF.

Since the FEIEF belongs to the states, and is funded by a future flow of income (the sequence of future annual excess surplus that corresponds to subnationals), it was an effective vehicle to bring to present value future resources. Essentially, the correct response to a transitory fiscal gap is to use debt financing to avoid increasing taxes or reducing expenditure.\textsuperscript{31} However, no state by itself would have had access to the markets, or would have done so at high prices, given the deterioration of liquidity in the credit markets at the time. The federal government coordinated the states—and municipalities—to agree to the selling of future flows of their RDF for a present value amount to be received and used as nonearmarked transfers in 2009.

States and municipalities, through the Mexican National Association of State’s Secretaries of Treasury,\textsuperscript{32} (Comisión Permanente de Funcionarios Fiscales) orchestrated the operation with the advice and coordination assistance of the federal government. The whole structuring process, from initial design to its closing, took four months. Subnationals obtained 40 billion pesos in the market\textsuperscript{33} (equivalent to 10 percent of annual nonearmarked transfers), to be paid back in 13 years (or sooner if the future flows toward the RDF are larger than expected) at a cost of financing similar to that of the federation—and about 200 basis points lower than the average cost of finance for subnationals in Mexico.\textsuperscript{34} This substantial amount of resources almost completely closed the gap in nonearmarked transfers, bringing it to minus 2.2 percent (compared to the budget forecast), an astoundingly
small shortfall given the worst crisis since the Great Depression in the 1930s. In fact, the federal government had a substantially bigger fiscal gap to close that year, and for all practical purposes, the Mexican subnationals did not suffer the impact of the global crisis in their finances. Debt continued to be served on time, and there was no dislocation in the subnational credit market.

Figure 4.4 compares the fall in nonearmarked transfers in each of the crises. Whereas the Tequila Crisis reduced nonearmarked transfers by 22 percent relative to the previous year (and hence the restructuring program described in the previous section was implemented), the global crisis, in the absence of policy intervention, would have reduced transfers by 15 percent in 2009 relative to 2008. However, with the mechanism described (using the subnational RDF, current and future), transfers were reduced only 5 percent in real terms relative to 2008. This shock was then easily absorbed by subnational governments.

Figure 4.5 shows the evolution of the expectations of the end-of-year gap between observed transfers and the budget forecast, during 2009. Each point on the lines represents the expected gap for 2009 as of the month indicated. The lower line represents the gap without the use of the RDF, and the upper line represents the expected gap with the innovative use of the RDF. Several conclusions can be drawn.

**Figure 4.4 Fall in Transfers Relative to Previous Year in Mexico during the 1994–95 Tequila Crisis and the 2008–09 Global Financial Crisis**

Source: Ministry of Finance, Mexico.

Note: w.o. RDF = without Rainy Day Fund.
First, one can see the evolution of the crisis and how it was worsening during the first half of the year. At its worst point (June 2009), nonearmarked transfers were expected to be 20 percent lower than what was forecasted in the budget. This would have been a substantial blow to subnational governments. Second, in the last half of 2009, there was a slight recovery in the economy, which was reflected in improved expectations; but still, without the RDF transfers, it would have been 12.6 percent lower than budgeted. Third, as mentioned, the RDF operation almost closed the gap completely and, by the end of the year, transfers were only 2.2 percent lower than budgeted.

After the operation, subnational debt markets continued functioning normally and debt continued to be serviced. As the recovery occurred, credit conditions gradually improved, beginning in the second quarter of 2010 (see figure 4.3 earlier). The innovative use of credit markets and the involvement of the subnational governments’ own balance sheets in the debt management have contributed to preserving the health and stability of the subnational debt markets. The stability of the subnational debt markets continued functioning normally and debt continued to be serviced.
debt markets has also been helped by the improved macroeconomic management in the country prior to the crisis and the turnaround economic growth. In 2010 and 2011, the Mexican economy grew at 5.4 and 3.9 percent, respectively.

**Lessons and Conclusions**

Subnational debt markets perform essential functions, expanding the resources of local governments to finance infrastructure and facilitating the transfer of resources across time to smooth out transitional fiscal shocks. They also pose risks, particularly if the central government has to bail out local governments in times of stress.

In reality, however, all debt markets will fail from time to time. That is why a well-structured regulatory framework needs to take into consideration both the ex-ante rules for getting into debt, and the ex-post mechanisms to deal with insolvency and restructuring. Governments will deal with crises constrained by the mechanisms in place, the nature of the crisis, and the tools available at the time. Learning from other times and places is of value to add to the toolkit of policy makers, improve the current set of institutions, and prevent further dislocation in markets.

Mexico experienced two major macroeconomic crises in the last two decades, both of which had important bearings on the subnational debt market. While the two episodes affected local governments substantially, the policy responses were markedly different and therefore had distinct consequences. This chapter explored Mexico’s approach to subnational debt management in each of those crises.

One of the main lessons of the 1995 experience is that if a bailout of subnational governments is necessary, it should not be addressed exclusively to closing the year-over-year deficits in primary balance. Instead, the main focus should be solving the structural fiscal imbalances of states. This means that the expenditure path must be determined by the expected flow of future income. The federal government should condition the extraordinary transfers to certain results, such as reducing unnecessary expenses (a “structural adjustment” strategy).

The global crisis introduced a different set of challenges to ensuring the orderly functioning of the subnational credit market. In this case,
since interest rates remained low, the channel affecting subnational finances was in their repayment capacity because of the lower resources that states and municipalities had available in 2009. In this case, the federal government did not resort to a traditional bailout or to extraordinary transfers, but used its coordinator function to achieve a more efficient outcome: the subnational governments got directly involved to bring to present value the future flow of revenue of their RDF. This innovative mechanism ensured that states’ own balance sheets were used to smooth the fiscal shock. Also, the use of the (present and future) RDF implied that subnational governments in Mexico did not suffer significant fiscal consequences from the global crisis. Given the fiscal consequences on governments around the world, of economies advanced and developing, this is remarkable. Nonetheless, the uncertainty of the global recovery poses challenges to macroeconomic management, including the management of public finance at both the federal and subnational levels.

The desired level of RDFs is a complex subject. A range of factors influence the level, including macroeconomic and market conditions, fiscal policy objectives, and the size and duration of macroeconomic shocks. In the case of Mexico, the success of leveraging the RDF might imply a lower optimal long-run level of RDFs—since one could bring to present value future flows of the fund. (The large RDFs might become a temptation for politicians to spend.) However, one would be averse to having to depend on access to markets specifically at the time when one is experiencing a fiscal shock. Mexico had a solid fiscal position coming into the crisis, and hence had extraordinary access to markets even in the downturn (consider also the path of interest rates and access to credit for the 2008–09 global crisis, shown in table 4.3). But crises come in different shapes and have different transmission channels, so this might imply a larger optimal long-run level of RDFs. Hopefully, the Mexican experience contributes to the larger debate on the optimal size of stabilization funds.

Another important lesson is the consideration of the relative benefits of a rules-based mechanism for subnational debt regulation compared to a market-based mechanism. Mexico has evolved into a hybrid, quasi-regulated market system. In this regulatory framework, the major ingredients are the federal threat of no bailout, the transparency
of markets and, more important, the regulation of the market via the prudential regulation of banks. This appears to have worked. Subnational debt, at its low levels, does not appear to pose a macroeconomic or systemic threat. Indeed, it is the fact that it has a relatively low value (at 2.9 percent of GDP) that is surprising, given the infrastructure needs of subnationals in Mexico.

A country’s macroeconomic framework has an important bearing on its subnational debt markets. The important elements of the macroeconomic management framework for the health and evolution of subnational debt markets are (a) the fiscal position and debt stock of the federal government, (b) the currency regime, (c) monetary policy, and (d) economic growth. Future challenges for Mexico include translating the success of macroeconomic management at the federal level to create a more dynamic and transparent subnational debt market that contributes more effectively to the financing of infrastructure at the local level and, hence, to the economic growth and development of the country.
Table 4A.1 “Ramo 28.” Nonearmarked Transfers (Participaciones Federales), Mexico

<table>
<thead>
<tr>
<th>Fund</th>
<th>Purpose</th>
<th>Funding</th>
<th>Distribution criteria</th>
<th>Destination</th>
<th>Share of total(^a) (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FGP</td>
<td>Revenue sharing with states and municipalities</td>
<td>20 percent of RFP(^b)</td>
<td>State GDP growth; local revenue (level and growth)</td>
<td>State and municipal(^c)</td>
<td>86</td>
</tr>
<tr>
<td>FFM</td>
<td>Revenue sharing with municipalities</td>
<td>1 percent of RFP(^b)</td>
<td>Municipal revenue (water and property tax)</td>
<td>Municipal</td>
<td>4</td>
</tr>
<tr>
<td>FOFIE</td>
<td>Incentive for enforcement of tax laws</td>
<td>1.25 percent of RFP(^b)</td>
<td>Measures of local effort of enforcement of tax law</td>
<td>State and municipal(^c)</td>
<td>5</td>
</tr>
<tr>
<td>3.17 percent(^d)</td>
<td>Resources for oil-producing municipalities</td>
<td>3.17 percent of a special oil royalty</td>
<td>Municipal revenue (water and property tax)</td>
<td>Municipal</td>
<td>0.3</td>
</tr>
<tr>
<td>0.136 percent(^e)</td>
<td>Resources for borderline municipalities</td>
<td>0.136 percent of RFP(^b)</td>
<td>Municipal revenue (water and property tax)</td>
<td>Municipal</td>
<td>0.7</td>
</tr>
<tr>
<td>FEXHI</td>
<td>Compensate for oil and gas extraction</td>
<td>0.6 percent of main oil royalty</td>
<td>Oil and gas production</td>
<td>State and municipal(^c)</td>
<td>1</td>
</tr>
<tr>
<td>IEPS</td>
<td>“Sin tax” revenue sharing with states and municipalities</td>
<td>8 percent of tobacco; 20 percent of beer and alcohol</td>
<td>Local consumption of those goods</td>
<td>State and municipal(^c)</td>
<td>2</td>
</tr>
<tr>
<td>FOCO</td>
<td>Compensate the 10 poorest states</td>
<td>2/11 of local gasoline tax collection</td>
<td>Inverse of nonoil GDP per capita</td>
<td>State and municipal(^c)</td>
<td>1</td>
</tr>
</tbody>
</table>

Source: Ministry of Finance, Mexico.

Note: FGP = General Participation Fund (Fondo General de Participaciones), FFM = Fund for Municipal Aid (Fondo de Fomento Municipal), FOFIE = Tax Enforcement Fund (Fondo de Fiscalización), FEXHI = Fund for Oil Extraction (Fondo de Extracción de Hidrocarburos), GDP = gross domestic product, IEPS = “Sin Tax” Revenue Sharing (Impuesto Especial sobre la Producción y Servicios), FOCO = Compensation Fund (Fondo de Compensación).

a. Shares calculated based on data for 2010.
b. Shared Federal Revenue (Recaudación Federal Participable, RFP). The pool of federal revenues that is shared with states and municipalities includes the income tax, the value-added tax, all other federal taxes, and oil revenues. It does not include revenue from public enterprises, federal government financing, or certain other sources of nontax revenue.
c. States are required by law to share at least 20 percent of these resources with municipalities.
d. 3.17 percent of special oil royalty [3.17 percent del Derecho Adicional].
e. 0.136 percent of RFP [0.136 percent de la RFP].
<table>
<thead>
<tr>
<th>Purpose</th>
<th>Funding</th>
<th>Distribution criteria</th>
<th>Destination</th>
<th>Share of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>FAEB   Elementary education</td>
<td>Theoretically, enough money to cover payroll</td>
<td>Student enrollment and state spending on education</td>
<td>State</td>
<td>59</td>
</tr>
<tr>
<td>FASSA  Health services</td>
<td>Theoretically, enough money to cover payroll</td>
<td>Health indicators; number of health workers</td>
<td>State</td>
<td>12</td>
</tr>
<tr>
<td>FAIS   Social and rural infrastructure</td>
<td>0.303 percent of RFP</td>
<td>Poverty index</td>
<td>State</td>
<td>9</td>
</tr>
<tr>
<td>FORTAMUNDF Municipal strengthening</td>
<td>2.35 percent of RFP</td>
<td>Population</td>
<td>Municipal</td>
<td>9</td>
</tr>
<tr>
<td>FASP   Public security</td>
<td>Budget negotiation process</td>
<td>Population; delinquency and criminality indexes</td>
<td>State</td>
<td>2</td>
</tr>
<tr>
<td>FAETA  Promote adult education and literacy</td>
<td>Theoretically, enough money to cover payroll</td>
<td>Schooling and workers</td>
<td>State</td>
<td>1</td>
</tr>
<tr>
<td>FAM    Social assistance and education infrastructure</td>
<td>0.814 percent of RFP</td>
<td>Social vulnerability index</td>
<td>State</td>
<td>3</td>
</tr>
<tr>
<td>FAFEF  Financial needs and pensions</td>
<td>1.4 percent of RFP</td>
<td>Inverse of GDP per capita</td>
<td>State</td>
<td>5</td>
</tr>
</tbody>
</table>

Source: Ministry of Finance, Mexico.

Note: FAEB = Fund for Elementary Education (Fondo de Aportaciones para la Educación Básica), FASSA = Fund for Health Services (Fondo de Aportaciones para los Servicios de Salud), FAIS = Fund for Social Infrastructure (Fondo de Aportaciones para Infraestructura Social), FORTAMUNDF = Fund for Municipal Strengthening (Fondo para el Fortalecimiento Municipal y de las Demarcaciones Territoriales del D.F.), FASP = Fund for Public Security (Fondo de Aportaciones para la Seguridad Pública), FAETA = Fund for Adult Education (Fondo de Aportaciones para la Educación Tecnológica y de Adultos), FAM = Fund for Social Assistance (Fondo de Aportaciones Múltiples), FAFEF = Fund for State Strengthening (Fondo de Aportaciones para el Fortalecimiento de las Entidades Federativas), GDP = gross domestic product.

a. Shares calculated based on 2010 data.

b. Shared Federal Revenue (Recaudación Federal Participable, RFP). The pool of federal revenues that is shared with states and municipalities includes the income tax, the value-added tax, all other federal taxes, and oil revenues.

c. These funds were created to cover states’ education and health payrolls after the decentralization of these sectors in the 1990s. The size of these funds has usually been determined by political forces during the federal budget negotiation process, and almost all states argue that the resources they receive from these funds are insufficient to fully cover their payroll.
Table 4A.3 Mexican States’ Total Local Revenue: Own-Source and Coordinated Federal Taxes*  

<table>
<thead>
<tr>
<th></th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total local revenue</td>
<td>106,762</td>
<td>124,420</td>
<td>138,213</td>
<td>160,687</td>
<td>165,433</td>
<td>184,338</td>
</tr>
<tr>
<td>Own revenue</td>
<td>81,894</td>
<td>92,892</td>
<td>103,262</td>
<td>119,667</td>
<td>115,552</td>
<td>132,829</td>
</tr>
<tr>
<td>Taxes</td>
<td>34,818</td>
<td>39,160</td>
<td>44,396</td>
<td>47,864</td>
<td>49,417</td>
<td>57,706</td>
</tr>
<tr>
<td>Payroll</td>
<td>20,178</td>
<td>23,276</td>
<td>27,567</td>
<td>30,227</td>
<td>31,523</td>
<td>36,466</td>
</tr>
<tr>
<td>Other taxes</td>
<td>4,761</td>
<td>6,065</td>
<td>6,729</td>
<td>7,113</td>
<td>7,851</td>
<td>9,684</td>
</tr>
<tr>
<td>Use of motor vehicles (&gt; 10 years)</td>
<td>721</td>
<td>1,295</td>
<td>1,299</td>
<td>1,360</td>
<td>1,344</td>
<td>1,361</td>
</tr>
<tr>
<td>Lodging</td>
<td>788</td>
<td>866</td>
<td>1,054</td>
<td>1,104</td>
<td>1,110</td>
<td>1,337</td>
</tr>
<tr>
<td>Personal property</td>
<td>992</td>
<td>1,170</td>
<td>1,275</td>
<td>1,299</td>
<td>1,267</td>
<td>1,235</td>
</tr>
<tr>
<td>Otherb</td>
<td>2,259</td>
<td>2,734</td>
<td>3,101</td>
<td>3,350</td>
<td>4,130</td>
<td>5,752</td>
</tr>
<tr>
<td>Property tax and property sales taxc</td>
<td>9,879</td>
<td>9,818</td>
<td>10,100</td>
<td>10,523</td>
<td>10,042</td>
<td>11,556</td>
</tr>
<tr>
<td>Nontax revenued</td>
<td>47,075</td>
<td>53,732</td>
<td>58,865</td>
<td>71,803</td>
<td>66,135</td>
<td>75,123</td>
</tr>
<tr>
<td>Coordinated federal taxes*</td>
<td>24,868</td>
<td>31,528</td>
<td>34,952</td>
<td>41,020</td>
<td>49,881</td>
<td>51,509</td>
</tr>
<tr>
<td>Vehicle-related taxes</td>
<td>20,873</td>
<td>23,989</td>
<td>25,827</td>
<td>26,175</td>
<td>24,515</td>
<td>23,773</td>
</tr>
<tr>
<td>Federal tax on use of motor vehicles</td>
<td>15,262</td>
<td>18,814</td>
<td>20,245</td>
<td>21,100</td>
<td>20,448</td>
<td>19,093</td>
</tr>
<tr>
<td>Tax on new vehicles</td>
<td>5,611</td>
<td>5,175</td>
<td>5,582</td>
<td>5,075</td>
<td>4,067</td>
<td>4,680</td>
</tr>
<tr>
<td>Fuel tax</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>5,080</td>
<td>15,334</td>
<td>17,482</td>
</tr>
<tr>
<td>Other coordinated federal taxes*e</td>
<td>3,995</td>
<td>7,539</td>
<td>9,125</td>
<td>9,765</td>
<td>10,032</td>
<td>10,254</td>
</tr>
</tbody>
</table>

Sources: Ministry of Finance, Mexico; states’ public accounts.

Note: — = not available.

a. “Coordinated federal taxes” are federal taxes (the base and rate are defined by the federal government) administered and fully collected by state governments. In that sense, they behave (and are sometimes considered as) local revenue.
b. Includes taxes on lotteries and games, special profession taxes, state tax on use of motor vehicles, etc.
c. Considers the revenue from the property tax and the property sales tax in the Federal District, where these taxes are collected at the state level. For the rest of the states, they are collected at the municipal level.
d. Alcohol, drivers’, and other licenses; received; state-owned enterprises; fines and charges; and other.
e. Federal income tax and value-added tax for low-income firms, federal taxes in coastline areas, special fund for the tax on new vehicles.
Notes

The findings, interpretations, and conclusions expressed in this work are those of the authors and do not necessarily reflect the views of The World Bank, its Board of Executive Directors, the governments they represent, or any other institutions with which the external authors may be affiliated.

1. There are 2,440 municipalities in Mexico, with a wide heterogeneity in size and level of development. Population ranges from 1.8 million in the largest municipality (about the size of Phoenix, Arizona) to only 102 in the smallest. The most developed municipality in Mexico has a Human Development Index close to that of Portugal, while the least developed can be compared to Sierra Leone. Municipal budgets range from 4.2 million pesos to 4.1 billion pesos, a ratio of 1:1,000.

2. This “third channel” consists mainly of a set of new special-purpose funds that are mostly earmarked for infrastructure. The growth of this channel can be seen in “Ramo 23” of the federal budget: in 2007 it amounted to 10.5 billion pesos, while for 2012 it is budgeted at 30.6 billion pesos (an increase of 134 percent in real terms). Examples of funds included are the “regional fund” (for 10 states); the new “metropolitan funds,” which currently distribute resources to 46 metropolitan areas; and other funds for specific purposes such as natural disasters, aid to migrant workers, and for paving municipalities.

3. The pool of federal revenues that is shared with states and municipalities includes the income tax, the value-added tax, all other federal taxes, and oil revenues. It does not include revenue from public enterprises, federal government financing, or certain other sources of nontax revenue.

4. The formula was reformed in 2007 from an old formula that caused wide distortions in Mexico’s fiscal federalism. For a detailed description of the distribution formula and its reform, see Revilla (2012).

5. “Ramo 33” refers to line item 33.

6. Efforts have been made since 2007 to give incentives to subnationals to increase own-source revenues. The most important was the reform of the formula for non-earmarked transfers, which started being used in 2008. The new formula is designed to substantially increase the incentives for states and municipalities to increase their own revenue. After only four years (and considering that the new formula provides for a gradual transition, since it was designed with a generous hold-harmless clause), it can be seen that subnationals are greatly increasing their local tax efforts.

7. The subnational payroll tax is collected on the payrolls of businesses that operate within state lines, at a rate that is freely set by the state legislature. All states collect the tax now at a rate that fluctuated between 1 and 3 percent in 2011.

8. See chapter 1 on Brazil, chapter 10 on China, and chapter 3 on India in this volume.

9. According to the Global Competitiveness Report published by the World Economic Forum (2006), Mexico’s “infrastructure competitiveness” is ranked 64th among countries. Its performance stands below the world average and below the average for Latin America. Mexico’s investment in infrastructure accounts
for only 3.2 percent of GDP, and compares poorly to the investment of countries like Chile (5.8 percent of GDP) and China (7.3 percent of GDP).

10. Particularly from the Fund for Social Infrastructure (Fondo de Aportaciones para Infraestructura Social) and the Fund for State Strengthening (Fondo de Aportaciones para el Fortalecimiento de las Entidades Federativas). Of the total 206 billion pesos collateralized with transfers, only 5 billion (2.3 percent) pesos are collateralized with earmarked transfers.

11. See Fitch Ratings (2011); Mexican Congressional Budget Office (Centro de Estudios de Finanzas Públicas) (CEFP 2009); and Velázquez (2005) and references contained therein.

12. If a state borrows from an international financial institution, the credit must be channeled through federal government development banks first (so that the forex risk is borne by the federal government and the state does not have any direct obligation to a foreign entity).

13. In theory, the federal government could deduct subnationals’ debt service payments from the transfers to the states.

14. Especially because most of the participaciones are used for current expenditure, so a reduction in them would leave a state unable to operate and provide basic services.

15. The relevant laws and regulations are the Fiscal Coordination Law (Ley de Coordinación Fiscal), the Public Debt Law (Ley de Deuda Pública), and the Regulation of Article 9 of the Fiscal Coordination Law.

16. The author is indebted to discussions with Emilio Pineda for this interpretation.

17. The registered debt, as mentioned elsewhere in this chapter, includes all explicit loans obtained by subnationals from private commercial banks, government development banks, and the market that were approved by local legislatures. It does not contain contingent (implicit) liabilities, such as pensions, or unsecured short-term loans used for cash management. The registered debt can be accessed online at http://www.hacienda.gob.mx/Estados/Paginas/Deuda.aspx.

18. Subnational fiscal rules for the case of Mexico have the added disadvantage that the accounting practices of local governments are widely heterogeneous and, in some cases, deeply flawed. There is an accounting harmonization process that was set up in 2008 with a constitutional reform that will modernize accounting procedures at all levels of government. As of 2012, states have progressed slowly toward accounting harmonization.

19. These banking regulations were put in place in 1999–2000, as part of the prior actions for the 1999 Decentralization Adjustment Loan from the World Bank. They had to be done through financial sector regulation, over which the federal government has authority, because constitutionally the federal government could not impose such rules directly on the states.

20. In 2011, it was revealed that Coahuila, a northern state, falsified documents to hide the true size of its debt. In reality, in the previous two years it had accumulated a debt of $35 billion pesos (295 percent of its annual nonearmarked
transfers, or 9 percent of its GDP), while reporting only $7 billion pesos. While this case highlights the need to strengthen the transparency of subnational financial reporting, it does not change the overall view of the Mexican subnational debt market as one of low indebtedness without significant systemic risks.

21. In some cases, the extraordinary support could have taken the form of a direct transfer, a renegotiation of debt with a federal development bank (including a reduction in interest and principal or the outright forgiveness of the debt), or support through a budgetary mechanism (for example, reducing the share of subnational expenditure in projects that combine federal and local resources, that is, a reduction in the pari passu of programs, and so forth).

22. The price of Mexican oil suffered a dramatic fall as the crisis hit financial markets, dropping from a maximum of US$130 per barrel in July 2008 to a minimum of US$28 per barrel in December of the same year. Data source: Bloomberg.

23. As in any subnational debt market, there is the question of whether credit ratings truly reflect state’s idiosyncratic credit risks (and these, in turn, fiscal risks). While a detailed analysis of the informational content of subnational credit ratings in Mexico is beyond the scope of this chapter, we consider the observed ratings as a good approximation of the credit quality of subnationals at a given moment in time.

24. Total funds amounted to US$8.4 billion, at the exchange rate for December 31, 2008, of 13.82 pesos per dollar.

25. This gap for the federal government was finally closed with the use of the federal RDF, with additional debt, a cut in expenditure, and nonrecurring revenues.

26. “In the United States the estimated collective gap between states’ income and obligations for 2011 will be $55 billion dollars. This means that more than 30 states are projecting a 2011 shortfall of 10 percent or more as a percentage of this year’s budget. Many states have already used a big proportion of their RDFs: according to the same report, 14 states are expected to have reserves of less than 1 percent of their annual spending. In order to close the budget gap, states in the U.S. are supposed to make serious expenditure cuts, which might be a difficult job given the upward pressures arising from certain areas, particularly Medicaid” (“The Other Financial Crisis,” Time, 175 (25), June 28, 2010).

27. For example, the debt of the State of Mexico and the Federal District is at the higher boundary, so there was no space for additional financing.

28. Which, given the fungibility of money, would not have been a problem for those states with significant investment programs. However, some states would not have had space to use it otherwise.

29. In the sense of imposing, or making credible, a hard budget constraint on states.

30. This criterion gives economic efficiency to the restructuring process. Since nonearmarked transfers are the freest form of financing for subnationals, they would use the proceeds to finance their own budgetary priorities during the crisis, as defined by their own legislature process.
31. Provided, of course, that the transitory fiscal gap does not materially reduce the present value of receipts.

32. This is the main representative body in the Mexican national fiscal federalism system. It consists of eight states’ ministers of finance who represent the 32. It has powers to decide, as representative of the states, and it coordinates with the federation all relevant topics of fiscal federalism in the country.

33. Given that (according to the Federal Fiscal Responsibility Law) FEIEF is to be used as a perfect substitute of nonearmarked transfers, the funds obtained from the operation had the same nature: they could—and were—used legally as nonearmarked transfers (and not for infrastructure).

34. The loan was paid in full in only two years—by mid-2011 (11 years ahead of schedule)—because of the favorable evolution of oil prices, which increased the repayment capacity of subnationals.

**Bibliography**


