Fiscal Decentralization in Mexico: The Bailout Problem

by

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Abstract[*]

The purpose of this paper is to identify and analyze the determinants and consequences of bailing out states, in particular, those observed in Mexico. This case is important because lessons can be obtained for other LDCs. It is important to pinpoint that bailouts of lower-level governments have not been the object of much research in economics.

This work suggests that the explicit generalized bailout carried out by the federal government in Mexico in 1995 created a moral hazard problem. Another result of the analysis is that the existing institutional-legal framework is not adequate, since it provides incentives for states to borrow and for banks to lend without evaluating the risk of the project. Likewise, the importance of the state is a major determinant in providing bailout transfers. Also, the more fiscal need a state government has when the state government is incapable of adjusting its expenditure, the more likely the state to get an extraordinary transfer during the period of study. On the other hand, political variables are not an important determinant of a bailout, except, perhaps, when there are state elections. It is also shown that excessive indebtedness of local states may have equity implications as well: bailouts tend to be highly regressive, as the poorer—and less indebted—states receive much less in extraordinary resources.

1. Introduction

Subnational government (SNG) debt bailouts occur from time to time in countries in which local governments have autonomy in the amount they borrow. When an SNG is unable to meet its debt payment obligations without drastically cutting its expenditure, that government, like other sovereign borrowers, faces the dilemma of affecting its creditors and its future access to borrowing, reducing the level of services that it provides to its constituency, or increasing local taxes. The difference between the case of an SNG and that of a country is that the former affects other levels of government that could also be responsible for the well-being of the constituency; for example, the federal government. The federal government, even if it did not create the conditions for the crisis, has to face the consequences of cutting local services, or increasing taxes, or if there is no payment, of affecting the financial system or access to the credit market of that or other local governments. That is, the typical dilemma of a sovereign borrower is passed on from the SNG that took the debt to the higher authority. A typical response of the higher level of government that has more access to financial sources is to bail out the indebted entity. The problem with this behavior is that it provides incentives for the SNG to acquire unsustainable levels of debt in the future.

Mexico is no exception. One such episode emerged in the aftermath of the so-called *Tequila* crisis. The 1995 financial crises of Mexico came after a period of reckless credit expansion and with a sharp increase in interest rates. This combination left many SNGs with heavy debt loads and huge payment obligations that the federal government eased through extraordinary transfers and debt rescheduling programs. This was certainly not the first SNG bailout by the federal government, but this episode provides us with the only direct evidence of financial transfers by the federal government to rescue SNGs. Previous bailouts took place without leaving actual data that could be analyzed in a systematic way.

In this paper, we use the available data of the generalized *Tequila* crisis bailout to evaluate several questions on the logic behind past bailouts in an effort to extract lessons to prevent future ones. First, this bailout could have been caused by perverse incentives to SNGs, which took on debt with the expectation of being rescued, or at least, the generalized bailout could have set a precedent for future bailouts, thus providing incentives for SNGs to keep borrowing beyond their capacity to repay. That is, a moral hazard problem existed or might have

been created and states might now consider borrowing as a strategic behavior to obtain additional federal funds.

Second, the federal government claims that the 1995 SNG bailout was an excellent point of departure for imposing fiscal discipline on the SNGs, as it acted like the IMF (it called itself "Interstate Monetary Fund"). We will examine whether the behavior of the SNGs actually changed.

Third, this process could also have represented states' and municipalities' response to their very limited sources of revenue, which suggests that a reform in fiscal intergovernmental relations is necessary. Finally, political factors could have created this problem, as Mexico has become a more democratic society.

The results of this paper suggest that the size of the constituency, measured as number of formal workers in the State, is important in explaining bailouts. This is in accordance with the *too-big-to-fail* hypothesis. On the other hand, the total dependence of SNGs on federal transfers (vertical fiscal imbalance) is also an important determinant of a financial rescue. It is also shown that fiscal indiscipline may pay off (that is, the local deficit is associated with a larger transfer). Political variables do not appear to determine whether a state is bailed out.

Even though the generalized bailout episode included almost all Mexican state governments, the amounts provided to each state differed, as did the states' respective financial situations. Therefore, we can infer the reasons the federal government had to assign the amount of transfer to each government. To provide a more robust result, which does not only depend on the generalized episode, a measurement of bailouts for other periods is developed that confirms the generalized bailout results.

It is also shown that the excessive indebtedness of many states may have equity implications: bailouts tend to be highly regressive, because the poorer and less indebted states received fewer extraordinary resources.

In addition, we argue that the explicit generalized bailout carried out by the federal government in Mexico in 1995 may have created a moral hazard problem. There is ample evidence that states overborrow in order to obtain extraordinary funds, since they use the funds for activities that do not generate enough resources to pay back and their financial situation is weak. Another result of the analysis is that the existing institutional-legal framework is

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inadequate, since it provides incentives for states to borrow and for banks to lend without evaluating the risk of the project.

Our results also suggest that development bank debt acquired by the SNGs during the period under study could have been used for financing current expenditures instead of investment. This result may be seen as a hidden bailout carried out by the development bank.

In terms of policy lessons, the study suggests that the rules-based approach is an adequate way of avoiding overborrowing in Mexico, at least at the current state of development, but additional actions should be taken to try to replicate market discipline. Finally, the paper warns of a potential problem in SNG finances, namely, contingent liabilities. While total state and local debt does not pose a macroeconomic problem, since it only represents 2 percent of GDP, contingent liabilities (associated with public pension plans) could become a problem, since they represent more than 6 percent of GDP and could reach up to 10 percent. The politics of public sector employment and unions involved in these liabilities could also prove to be explosive in the future.

The paper is structured as follows. Section 2 presents an overview of Mexican fiscal federalism, which is necessary for understanding the Mexican credit market, and provides an examination of the evolution of state debt. Section 3 explores the possible explanations for past bailouts and examines the aftermath of the 1995 bailout. Section 4 presents policy implications and recommendations. Section 5 concludes.

2. Antecedents

2.1. Institutional Arrangements

Mexico is a federal republic made up of three levels of government: the central government, 32 local entities (which include 31 states and a federal district[1]) and 2,477 municipalities. The country is characterized by strong regional disparities. While the Federal District, the State of Mexico and the state of Nuevo Leon produce about 40 percent of total GDP (their GDP per capita is around 40,000 pesos a year), Chiapas, Guerrero, Hidalgo and Oaxaca account for only 7 percent of total GDP (with 11,000 pesos of GDP per capita).

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[1] During the course of this study we do not make a distinction between a state and a federal entity.

To understand the subnational government bailout processes, this section first examines the institutional arrangements regarding fiscal intergovernmental relations. We emphasize the assignment of tax revenues and expenditure responsibilities of each level of government.

2.1.1 Historical Antecedents

When Mexico became an independent nation, a federal system was adopted, mainly to subdue secessionist tendencies existing at the time; Mexican federalism followed the US model. The independence of local governments reached its peak during the nineteenth century, when states managed not only their own fiscal systems but also their own currencies. At the beginning of the twentieth century, the Mexican Revolution erupted, and at the end of this civil war, the federal government increased control over expenditures and tax revenues. Only with the creation of the Partido Revolucionario Institucional (PRI),[2] when political power became concentrated in only one party, was a system formally established based on three levels of government: federal, state, and municipal. Political and fiscal control, however, remained highly centralized.

The federal government played a very important role in the modernization of the country, a fact that shifted the balance of power between SNGs and the central government in favor of the latter. There were other elements that increased the degree of centralization, especially the import substitution industrialization strategy followed by Mexico for nearly forty years. This strategy of development required huge amounts of public investment to support productive capacity. These two elements strengthened the fiscal power of the federal government. Meanwhile, various fiscal coordination agreements gradually limited SNGs to only two main sources of tax revenue: a turnover sales tax for states and a property tax for municipalities. Those taxes did not yield enough revenue to pay for many of the necessary local public goods. In the end, this created a situation in which the central government ended up being *rich* while SNGs remained *poor*.

By the 1970s, tax policy in the country created serious distortions. Coexistence of federal and state taxes favored tax cascading (and thus inefficient allocation of resources). In addition, the lack of collaboration among the different levels of government made it difficult to administer taxes. After several efforts at tax coordination, which were only partially successful, the National System of Fiscal Coordination (NSFC) was created in 1980, together with the introduction of a

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[2] Originally named the Partido Nacional Revolucionario, it was founded by Plutarco Elías Calles.

unique federal value-added-tax. This system, which will be described below, has since then regulated fiscal intergovernmental relations in Mexico.

2.1.2 Tax Assignment

In theory, the National System of Fiscal Coordination (NSFC) regulates fiscal intergovernmental relations in Mexico through "Letters of Intent" in which states and municipalities give up their right to levy the main taxes in their jurisdictions. Table 1 shows how the responsibility for collecting taxes is distributed among the different levels of government. The NSFC has two main functions. First, it compensates states and municipalities for having given up their power to tax. Second, it regulates transfers from rich to poor states.

   As shown in Table 1, the federal government collects the main taxes: the value-added, corporate, and personal income taxes, which generate more than 70 percent of total tax revenue. The main direct sources of revenues of the lower levels of government are property taxes, payroll taxes and fees, and represent less than 4 percent of total tax revenues.

Table 1. Revenue Sources and Expenditure Responsibilities

SOURCES OF REVENUES	RESPONSIBILITIES
Federal Government Taxes	Federal administration
Corporate Income Tax	Service of Domestic and Foreign Debt
Personal Income Tax	Defense
Tax on assets of enterprises	Post and Telecommunications
Value Added Tax	External affairs
Duty on oil extraction	Irrigation
Oil export tax	Foreign Trade
Tax on production and services (excises)	Railways, highways, airways, and shipping
Tax on new vehicles	Federal and Border police
Tax on the ownership of vehicles	
Import duties	
Miscellaneous	
Shared Taxes	**Shared Expenditures**
Income taxes	Health
Value added tax	Education
Excises	Specific purpose grant program
Oil export duties*	Solidaridad
Import duties	Single development Agreements
Tax on ownership of vehicles**	Special Police
Tax on new cars**	National Parks

Table 1, continued

State Government Taxes	State Expenditures
State payroll tax	State Administration
Real state transfer tax	State infrastructure
Tax on motor vehicles older than 10 years	State public order and safety
Tax on the use of land	Sanitation and water supply
Education tax	Service of state debt
Indirect taxes on industry and commerce	Public Libraries
Fees and licenses for some public services	
Municipal Government Taxes	**Municipal Expenditures**
Local Property Tax	Local Administration
Real State Transfer Tax	Local public order and safety
Water fees	Local transportation
Other local fees and licenses	Local infrastructure including water supply and sanitation
Residential development	Local Transit
Other indirect taxes on agriculture, industry and commerce	Waste Disposal and street lighting
	Slaughter, cemeteries, and parks

Source: Amieva (1997).

In essence the NSFC is a *revenue-sharing* system, where states share the revenues coming from the federal government (main taxes). They also sign formal agreements of administrative collaboration with the federal government. The NFCS was created to harmonize the Mexican tax system and to avoid differences in levels of taxation, which could affect productive activities. The system has undergone different changes, but funds have always been distributed to the states and municipalities through a formula.[3] Changes made to the NSFC since its introduction in 1980 have mostly focused on the percentage that is redistributed. Initially 18.7 percent of total tax income was redistributed among the states; this percentage was increased in 1995 to 20.5 percent as a result of the decentralization process initiated in Mexico that year.

Federal sources of revenue (excluding oil-related income) accounted for an average of 96 percent of public sector income between 1992 and 1995. Even after the 1995-1998 process of

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[3] This formula contains several shortcomings. Several authors (Arellano, 1994; Hernández, 1998) have identified different limitations to the formula: a) it supposes homogeneity in regions and thus homogeneity in the costs of public services; b) the part of the formula that rewards the positive changes in tax collection does not include all taxes and does not include potential total tax collection; this element favors rich states because they have a broader tax base; c) future collection is very sensitive to the base year; and d) there is asymmetric information in terms of the effort a state makes. These problems were not addressed during the decentralization/deconcentration process of 1995-98.

decentralization, the fiscal assignment remained unbalanced because decentralization did not give back any tax powers; it only included matching and conditional transfers. The result is a high level of vertical imbalance, as seen in Table 2, which shows the percentage of SNGs' own revenues with respect to their total income, as well as state by state. For the 1995-98 period this figure averaged 9 percent, which is a clear indication of the high degree of vertical imbalance present in Mexico. From this point of view, the decentralization process could be better considered as a deconcentration process that gave more transparency to intergovernmental relations and at the same time made them more balanced horizontally.[4]

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[4] In addition, the federal government transfers resources to municipalities through the States, which distribute these funds according to their own legislatures. For details on the problem of regional inequality, see Díaz Cayeros, (1995).

Table 2. Own Revenues with Respect to Total Revenues

States	1989	1990	1991	1992	1993	1994	1995	1996	1997
TOTAL	*0.13189815*	*0.15689486*	*0.15041018*	*0.1801545*	*0.15579674*	*0.11053025*	*0.12793565*	*0.08667055*	*0.08395462*
Aguascalientes	0.13800029	0.25461384	0.19923365	0.13898085	0.07263641	0.10733191	0.05897881	0.04800122	0.05389571
Baja Calif.	0.14191375	0.16581416	0.15915106	0.17472625	0.15371836	0.19269059	0.16811866	0.19615823	0.18300633
Baja Calif. Sur	0.0589546	0.05586918	0.05175243	0.0357928	0.02236971	0.03136757	0.02674237	0.02214285	0.02234484
Campeche	0.02803973	0.05048665	0.06076609	0.12622055	0.07561487	0.06445005	0.07609771	0.12028972	0.08139048
Coahuila	0.06670208	0.0957262	0.0879141	0.11038379	0.08767956	0.09875612	0.10081966	0.10040068	0.09170948
Colima	0.04194973	0.11491516	0.11146759	0.11971896	0.08140248	0.05386476	0.05801673	0.04297528	0.04650207
Chiapas	0.0982642	0.1329816	0.13051578	0.13577007	0.13217678	0.06599085	0.1627516	0.10849144	0.11182613
Chihuahua	0.16928451	0.22860724	0.24904821	0.26988896	0.26587075	0.1714357	0.16852288	0.15057142	0.17504658
Durango	0.14504843	0.12683655	0.06947555	0.09700352	0.08372239	0.09007399	0.11075538	0.05673451	0.04660803
Guanajuato	0.20105352	0.23267946	0.23066751	0.25053311	0.23090503	0.07035232	0.52280432	0.12337934	0.10714782
Guerrero	0.12801811	0.23215034	0.19110226	0.1351985	0.09047041	0.06271864	0.14741758	0.05476626	0.06506189
Hidalgo	0.20773818	0.1978138	0.13400289	0.11781822	0.04847956	0.04106032	0.03195011	0.04733031	0.03612699
Jalisco	NA	na	na	0.28295955	0.2779116	0.21496765	0.12789568	0.117126	0.10362147
México	0.1296016	0.18191749	0.15327109	0.18499838	0.17092861	0.16168201	0.10750423	0.07920746	0.08201225
Michoacán	0.06686991	0.10588295	0.07977317	0.08312381	0.06776937	0.0408635	0.11507951	0.05459902	0.05285242
Morelos	0.13932368	0.174757	0.178257	0.19459385	0.19063204	0.14469002	0.15546085	0.10978976	0.11344598
Nayarit	0.09988417	0.15062321	0.17207124	0.19289727	0.07417097	0.07790535	0.07729578	0.06455363	0.05789769
Nuevo León	0.2360198	0.31559257	0.25945133	0.22557158	0.29585044	0.26862865	0.21018527	0.16425738	0.18810613
Oaxaca	0.20217709	0.15074575	0.103081	0.07275643	0.03565648	0.02562255	0.03338086	0.023475	0.02105735
Puebla	0.11149782	0.12412625	0.12416593	0.15007005	0.10455052	0.09682707	0.11067264	0.07079623	0.05463861
Querétaro	0.09392919	0.1241566	0.08834892	0.07507425	0.07688481	0.12768233	0.10330568	0.04843854	0.06688501
Quintana Roo	na	na	na	0.19762105	0.23272429	0.11167565	0.09876726	0.10827787	0.12800797
San Luis Potosí	0.09069957	0.07129286	0.10758587	0.08646168	0.0666736	0.0662957	0.0583524	0.09939547	0.04752913
Sinaloa	0.10188051	0.13608675	0.25383816	0.26520794	0.11635812	0.0686238	0.0868986	0.09212991	0.09654922
Sonora	na	na	na	0.39106879	0.38926557	0.26012002	0.15235226	0.1035459	0.11638707
Tabasco	0.12315811	0.0926991	0.06437877	0.04867764	0.21198176	0.0597747	0.06419526	0.05681397	0.04159593
Tamaulipas	0.15352466	0.16349519	0.13570782	0.14121963	0.10341024	#DIV/0!	0.13982532	0.09888156	0.08052764
Tlaxcala	0.10507479	0.09945156	0.11508135	0.10158406	0.06348455	0.05274176	0.1293925	0.08595337	0.04754493
Veracruz	0.10199544	0.09532962	0.10580523	0.13255128	0.05884643	0.04743282	0.05577915	0.0395593	0.03903171
Yucatán	0.08458099	0.07829252	0.12544036	0.37050006	0.21762229	0.12479702	0.12367869	0.12786758	0.13170913
Zacatecas	0.24177934	0.2135729	0.25418737	0.1933438	0.07945572	0.09006051	0.04094765	0.04491531	0.03435008

Although the NSFC is their best known feature, Mexican intergovernmental fiscal relations are more complex than that. It may at first seem that fiscal intergovernmental relations are documented and regulated solely by the NSFC and, in fact, most authors (see Arellano, 1994, and Martínez Almazán, 1989) suggest as much. When these relations are analyzed, though, one has to keep in mind that Mexico has a long history of centralization. Direct federal expenditures carried out in the states and the municipalities are an important part of the overall picture. We briefly describe this process next.

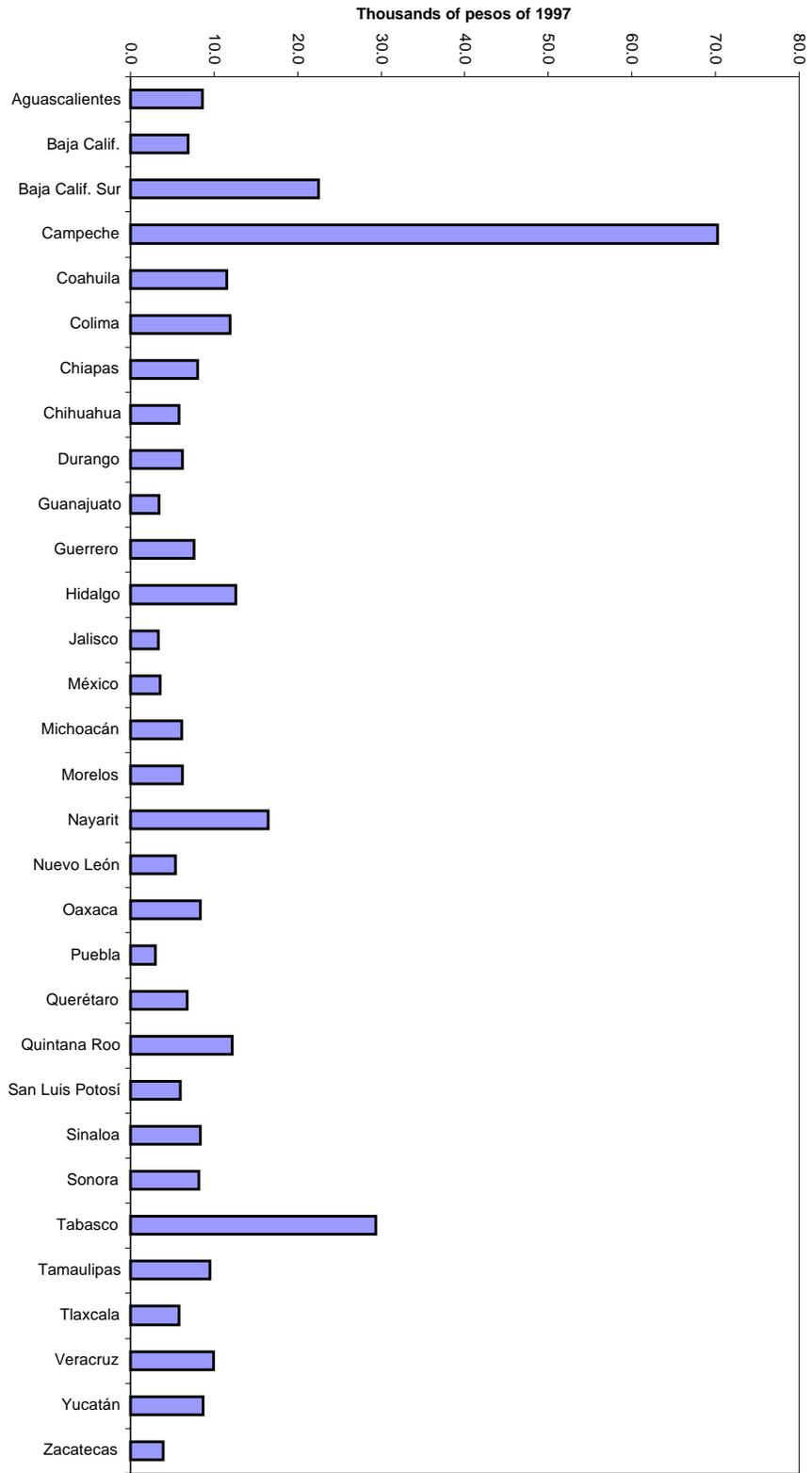*2.1.3 Expenditure Responsibilities and Federal Transfers*

The current distribution of responsibilities among the three levels of government, including those that are shared, is shown in Table 1. The number of shared responsibilities (financed by the federal government but provided by SNGs) has increased since 1995 when the federal government began, during the Zedillo administration, a significant decentralization effort.[5] The decentralization process, which started with shared responsibilities in education, was extended to other areas such as health, agriculture, social development and public safety. As a result, in 1999, out of each peso of the federal government budget, nearly 31 centavos are spent by SNGs.

The federal government funds most of these shared activities through conditional transfers. The way in which these transfers are distributed has been the subject of intense debate. Until recently, federal government discretion largely determined the assignment of transfers. Direct federal public investments in the states and extraordinary transfers were mainly assigned in a discretionary manner. As a result, state governors and finance ministers spent an important part of their time lobbying the federal government in order to obtain resources.

To provide an example of the degree of discretionality in the allocation of federal funds (other than the revenue-sharing formula) during the years previous to the decentralization process, Figure 1 presents the federal public investment in the states. The unequal distribution among states apparent in this graph is strengthened by the average coefficient of variation of

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[5] In fact, the first significant decentralization action, that of basic education in 1991, was promoted by the then Education Secretary, Ernesto Zedillo.

federal public investment per capita for the period 1989-1997 of 1.13, which suggests that the dispersion was quite high compared to the mean.

Thousands of pesos of 1997

Figure 1.

Federal Investment Per Capita (1989-1997)

State	Value
Aguascalientes	
Baja Calif.	
Baja Calif. Sur	
Campeche	
Coahuila	
Colima	
Chiapas	
Chihuahua	
Durango	
Guanajuato	
Guerrero	
Hidalgo	
Jalisco	
México	
Michoacán	
Morelos	
Nayarit	
Nuevo León	
Oaxaca	
Puebla	
Querétaro	
Quintana Roo	
San Luis Potosí	
Sinaloa	
Sonora	
Tabasco	
Tamaulipas	
Tlaxcala	
Veracruz	
Yucatán	
Zacatecas	

Source: INEGI.

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More recently, however, this situation has started to change. Although there is still room for improvement in this regard, the allocation of transfers has become more transparent, which has also led to a more equitable per capita distribution of resources (see Courchene and Díaz Cayeros, 2000). For example, beginning in 1998, a budgetary item (called Ramo 33) was created to combine all the funds transferred in one way or another to SNGs. While the bulk of Ramo 33 is made up of education transfers resulting from the decentralization of education carried out in 1991, the allocation of municipal funds for public investment projects remains the most controversial part of this budget item. Still, the expenditure allocation is more transparent because resources are distributed according to explicit formulas.

While subnational governments have become responsible for spending a larger portion of the budget, more than half of what they spend is out of their control. Out of the 31 centavos per peso of general government spending for which SNGs are responsible, they can decide how to spend only 14 centavos; the rest is earmarked for particular activities. This imposes constraints on their expenditure flexibility. With respect to the SNGs' own responsibilities, the importance of current expenditures creates additional rigidity in their finances as, on average, more than 55 percent of total revenues are devoted to current expenditures. Table 3 shows current expenditures as a proportion of total expenditures; this figure does not include debt service, which on average accounts for 12 percent of total expenditures. These two figures suggest the lack of flexibility available to SNGs for addressing current conditions—that is, responding to external shocks. This is due, in part, to deficient decentralization in education. Before the educational system was decentralized, teachers were hired at either the state or federal level, and their salary depended on the level at which they were hired. In fact, the pay of the teachers hired at the state level depended on the financial capacity of each state. After the 1991 decentralization, both types of teachers were paid the same salary. Yearly negotiations are made between the Federal National Union of teachers and the federal and state governments. When they reach an agreement, states must at least equal the federal increase.[6] This process has posed a financial burden for many states (mainly Baja California, Chihuahua, State of Mexico, Guanajuato and Queretaro[7]).

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[6] That is, state teachers are followers, while the federal union is the leader.

[7] Some states (Oaxaca, Federal District and Hidalgo) do not have state teachers. Thus they do not face this problem.

Table 3. Current Expenditures as a Proportion of Total Expenditures

Table 3									
Current Expenditures/Total Expenditures*									
STATE	1989	1990	1991	1992	1993	1994	1995	1996	1997
TOTAL	*0.6148*	*0.6263*	*0.683*	*0.6252*	*0.582*	*0.5569*	*0.5615*	*0.5335*	*0.5159*
Aguascalientes	0.4302771	0.4153403	0.2994677	0.1345595	0.0872864	0.2255455	0.221007	0.3158696	0.3063041
Baja Calif.	0.8090757	0.9239863	0.925938	0.960929	1.0053912	1.0140508	1.0134966	1.06255	1.0636535
Baja Calif. Sur	0.8091659	0.7466208	0.8331787	0.7483769	0.4936158	0.3746854	0.4012847	0.3498818	0.317128
Campeche	0.3962896	0.4418009	2.2182678	0.5659579	0.3344155	0.3605448	0.3402488	0.3155264	0.292345
Coahuila	0.7033126	0.5989855	0.6102744	0.6404521	0.4278517	0.3922826	0.5407257	0.5436904	0.5548196
Colima	0.6755897	0.7639919	0.6772612	0.774949	0.5709916	0.4238142	0.4213958	0.4234788	0.3922611
Chiapas	0.976097	0.8373459	0.7910063	0.7543233	0.8034212	0.459359	0.8365046	0.5088248	0.5330895
Chihuahua	0.778897	0.8099627	0.7169538	0.5146178	0.7553777	0.563977	0.5528157	0.547725	0.6138465
Durango	0.8726692	0.8830604	0.8794653	0.9808363	0.9825787	0.9015164	1.0106634	0.4672041	0.4436042
Guanajuato	0.7817218	0.7341362	0.809853	0.8225179	0.902111	0.5828467	1.2963941	1.2360855	1.282383
Guerrero	0.7077633	0.7273662	0.660697	0.3670569	0.3762064	0.3384045	0.6228299	0.2858043	0.2670152
Hidalgo	0.0560699	0.4307894	0.6623591	0.4138658	0.2447691	0.2118226	0.2151556	0.1710347	0.1782123
Jalisco	0.852056	0.852056	0.852056	0.852056	0.8263682	0.7977688	0.606642	0.6285381	0.550109
México	0.8363462	0.9197072	0.9186182	0.9550187	0.7190895	0.9294769	0.7606098	0.7829914	0.7488504
Michoacán	0.4511301	0.4938664	0.5030928	0.4972143	0.466954	1.145761	0.2811018	0.3274102	0.300046
Morelos	0.3854001	0.3470499	0.3871889	0.393385	0.3808274	0.416603	0.4461518	0.3913499	0.4207779
Nayarit	0.7599771	0.7600603	0.7383572	0.7952995	0.4405331	0.4418174	0.4359037	0.4125297	0.3225682
Nuevo León	0.7912103	0.8720782	0.7568885	0.8832538	0.8815816	0.8909765	0.7430919	0.6465836	0.7355482
Oaxaca	0.454425	0.4501332	0.5062672	0.6263427	0.7116648	0.6525737	0.2661122	0.2649752	0.2605709
Puebla	0.761536	0.7450879	0.7520003	0.6538211	0.7290534	0.4199102	0.4224258	0.4852179	0.4858934
Querétaro	0.4903095	0.43606	0.4296313	0.2923002	0.3093999	0.2993618	0.3662768	0.3138666	0.3426551
Quintana Roo	0.1918538	0.1918538	0.1918538	0.5497656	0.4364297	0.3224209	0.2844107	0.2927783	0.2478171
San Luis Potosí	0.5263114	0.5550644	0.5278511	0.5820576	0.8546136	0.8087601	0.4696053	0.9778628	0.8681959
Sinaloa	0.8074036	0.8059935	0.6468586	0.6573864	0.545877	0.4869805	0.5360185	0.5277465	0.5137451
Sonora	0.3078624	0.3078624	0.3078624	0.6857752	0.5546018	0.5784922	0.5592329	0.5782595	0.6036235
Tabasco	0.5329951	0.4482581	0.424383	0.5308086	0.5132562	0.5454706	0.656874	0.6153036	0.7073417
Tamaulipas	0.4347356	0.4884645	0.4844058	0.4557581	0.2886379	0.1384144	0.3112979	0.300756	0.3269854
Tlaxcala	0.6853669	0.7279913	0.6894601	0.7451071	0.4969316	0.4145675	0.8670472	0.9286141	0.4805975
Veracruz	0.5757425	0.4813349	0.578424	0.5493032	0.6598205	0.5354106	0.5613598	0.477413	0.5076781
Yucatán	0.7996415	0.7648486	0.813773	0.688681	0.8975106	0.9269546	0.9664645	0.9023918	0.903948
Zacatecas	0.417885	0.4534135	0.5778075	0.3100188	0.3439042	0.6645763	0.3919083	0.457369	0.4208885
*Total expenditures includes debt service									
Source: SHCP									

2.1.4 Subnational Debt Regulation in Mexico

This subsection describes the institutional and legal design for state debt in the National Fiscal Coordination Law (NFCL).

2.1.4.1 Institutional Framework Before the 1995 Financial Crisis

Subnational government borrowing is regulated mainly by the National Constitution. The Federal Congress has the power to establish the basis upon which the executive branch may arrange loans and take responsibility for federal public debt. The criteria that all local entities must follow are contained in Article ll7 for the federative entities, and in Article 115 for the municipalities. These articles state that SNGs can only borrow in Mexican pesos and only from Mexicans. In order to get around this restriction, Banobras (the development bank in charge of lending to SNGs) and other financial institutions lend in pesos while they obtain their funds in foreign currencies.

These articles also state that SNGs can borrow only for productive investments. In accordance with the benefit principle of public finance, to the extent that benefits from local public investment projects accrue over a number of years into the future (which is the case with productive projects, such as infrastructure), it is both fair and efficient for future generations to share the cost of financing such projects. Borrowing for local capital development projects thus has a sound conceptual rationale.

The details for guaranteeing state credits are contained in Article 9 of the National Fiscal Coordination Law (NFCL), passed in 1980, which states that these entities can borrow from commercial and/or development banks to finance investment projects only, subject to the previous authorization of the State Congress.

This article allowed the states and Federal District to use their federal transfers as collateral until 1997. In case of arrears or a threat of default, on behalf of creditors the federal government deducted debt service payments (on registered debt) from revenue-sharing transfers before the funds were transferred to states. This amount, in turn, was handed out to the creditor bank. This arrangement began in the 1980s.

On the other hand, for individual cases, the state government proposes the debt level each year, and state Congresses approve or reject the proposed debt ceiling. This includes municipal

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debt. Municipalities in principle can borrow money, but any municipal debt must be approved by the state legislature.

The institutional arrangement previous to the crisis was very simple. For *participaciones* (block transfers) to be used as collateral, states needed only to register the new debt contract before the Secretaría de Hacienda once it was authorized by their State Congress. The treasurer could skip the registration of the new debt. In this case the debt was not backed by *participaciones*. This could have been the instrument of the federal government for controlling SNG debt, but it was seldom used as such before 1995.

2.1.4.2 The 1997 Modification of Legal Framework for SNG Debt

The 1997 reform of Article 9 of the NFCL was intended to impose new obligations on state and local governments in this area. The legislation still allows SNGs to finance their investment projects through debt and to use their federal transfers as collateral. However, in case of arrears or the threat of default, banks would not be able to ask the Treasury Department to discount the corresponding amount from the defaulting State's federal transfers. They would have to exercise the collateral in accordance with state debt laws, i.e., the SNG and the bank would have to create a repayment mechanism. In other words, SNGs would be responsible for repaying their contracted debts even when federal transfers are used as collateral. This was an attempt to avoid explicit pressures to rescue a SNG.

2.1.5 Political Arena

Mexico has been undergoing an important political transformation in recent years, and this transformation has affected SNG credit markets. From a disciplined system long dominated by one political party at all levels of government, Mexico is being transformed into a highly competitive and complex configuration of local political profiles where it is increasingly common to find divided local governments (where the legislature is fragmented or controlled by a party different from that of the governor or mayor) or municipalities that are governed by parties different from that governing the state or the country. The federal executive under the PRI has repeatedly been accused of manipulating financial instruments in order to produce favorable political cycles (Ames, 1989; Weldon and Molinar, 1994; Lamoyi and Leyva, 1998). But the erosion of federal authority is evident in many spheres. In fact, the main contenders in the 2000

presidential race were governors (Vicente Fox from the PAN; Francisco Labastida from the PRI; and Cuauhtémoc Cárdenas from the PRD), while in the past presidential candidates (all from the PRI) always came from the president's cabinet. Thus, the relative importance of local politicians, especially governors, has reshaped the financial relation between the federal and state governments, weakening local fiscal discipline and making federal bailouts more likely.

2.2 Evolution of State Debt

To understand the 1994-95 bailout carried out in Mexico, it is worthwhile to examine the evolution of SNG debt in the 1990s. As we will show in this section, the debt problem does not yet pose a macroeconomic problem. It does, however, represent a burden on many individual states and may lead to macroeconomic difficulties in the future.

2.2.1   Evolution

In contrast to other Latin American countries like Argentina and Brazil, Mexico's SNG debt has not yet affected its macroeconomic performance. Total SNG Debt (excluding the Federal District) reached 45 billion pesos by 1994, or 1.8 percent of GDP, and about 6 percent of total public sector debt. However, it is important to note that the accumulation of state debt in the period 1988-1993 rose at an annual rate of 62 percent (see Gamboa, 1998 and Table 4).

Table 4. State Debt

Mexico – Total State Debt, 1994-98					
(millions of 1996 pesos)					
State	**1994**	**1995**	**1996**	**1997**	**1998**
Aguas-calientes	660.3	413.2	339.2	237.9	162.5
Baja Cal. Norte	1,813.4	1,290.5	1,214.3	1,144.2	1,093.0
Baja Cal. Sur	552.0	398.8	350.6	373.4	323.8
Campeche	905.3	619.4	518.1	347.5	163.3
Coahuila	935.2	1,244.4	1,116.4	492.0	476.4
Colima	348.1	354.0	291.0	196.6	137.7
Chiapas	1,858.9	1,333.0	1,088.1	797.1	666.3
Chihuahua	1,671.7	1,633.0	1,538.5	1,400.2	1,139.4
Durango	1,001.4	621.2	606.7	591.8	577.0
Guanajuato	735.8	553.2	464.5	428.7	406.9
Guerrero	935.7	1,153.2	983.7	968.7	897.5
Hidalgo	41.0	19.1	16.1	10.5	7.7
Jalisco	5,100.6	4,531.2	3,876.2	3,321.6	3,159.5
Mexico	8,785.8	11,615.7	13,396.7	13,769.0	13,282.4
Michoacan	452.8	344.3	251.8	179.1	179.9
Morelos	261.8	312.7	244.1	302.7	285.7
Nayarit	403.8	252.1	178.0	95.5	74.8
Nuevo Leon	4,260.3	8,637.1	5,463.5	5,559.6	5,341.9
Oaxaca	472.2	197.5	192.9	168.1	186.9
Puebla	283.2	431.9	308.7	291.6	341.9
Queretaro	2,327.2	1,464.7	1,016.8	879.6	831.8
Quintana Roo	816.9	864.6	740.3	698.4	722.1
San Luis Potosi	627.5	572.9	543.9	496.9	506.8
Sinaloa	1,584.8	1,797.5	1,677.4	1,600.9	1,582.4
Sonora	5,714.7	6,543.5	6,085.5	3,044.4	2,853.6
Tabasco	939.9	461.3	411.1	358.0	428.0
Tamaulipas	668.5	714.8	363.8	261.3	200.0
Tlaxcala	247.1	70.8	0.0	0.0	0.0
Veracruz	631.9	509.8	262.3	65.3	37.3
Yucatan	553.5	387.1	320.9	308.5	207.4
Zacatecas	224.8	511.9	468.8	195.6	97.4
SUB TOTAL	45,816.2	49,854.4	44,329.9	38,584.9	36,371.4
Fed. District	3,090.2	3,725.7	8,322.3	9,913.1	14,847.1
TOTAL	**48,906.4**	**53,580.2**	**52,652.2**	**48,498.0**	**51,218.5**

Source: SHCP.

SNG debt grew an additional 8 percent in real terms from 1994 to 1995, mainly due to the increase in interest rates caused by the financial crisis. Between 1995 and 1998 total SNG debt fell by 20 percent in real terms, if we again exclude the Federal District. This reduction, as we will show, can be explained by the bailout carried out by the federal government and the fiscal adjustment undertaken by SNGs.

By 1995, SNGs' debt burden represented a fiscal problem for the majority of the states, in part because they had so little disposable income available for debt service. Table 5 presents the ratio of total debt to disposable income by state.[8] This ratio ranges from a maximum of 1.9 for Sonora to a minimum of 0.04 for Hidalgo, with an average value of nearly 0.8 and a coefficient of variation of 0.66, suggesting a high degree of dispersion. These numbers show an important degree of financial vulnerability.

In addition, financial vulnerability was enhanced by the states' limited ability to raise additional revenues, because of the centralization of the tax system, and by the high degree of fixed expenditure.

Table 5. Ratio of Total Debt to Disposable Income

STATES	1994	1995	1996	1997
Average	**0.791**	**0.835**	**0.759**	**0.698**
Coeff. of Variation	**0.613**	**0.733**	**0.734**	**0.662**
Aguascalientes	0.846	0.617	0.548	0.449
Baja Calif.	0.844	0.615	0.61	0.597
Baja Calif. Sur	1.578	1.211	1.028	0.771
Campeche	1.196	0.719	0.617	0.465
Coahuila	0.609	0.82	0.669	0.588
Colima	0.729	0.868	0.678	0.482
Chiapas	0.727	0.535	0.367	0.27
Chihuahua	0.684	0.506	0.731	1.378
Durango	0.799	0.596	0.512	0.679
Guanajuato	0.313	0.131	0.168	0.179
Guerrero	0.533	0.95	0.631	0.58
Hidalgo	0.04	0.02	0.015	0.01
Jalisco	1.268	1.033	1.025	0.811
México	1.308	1.791	1.672	1.657
Michoacan	0.229	0.186	0.151	0.118
Morelos	0.195	0.274	0.237	0.284
Nayarit	0.541	0.405	0.219	0.149
Nuevo Leon	1.096	1.798	2.325	1.535
Oaxaca	0.31	0.074	0.129	0.143
Puebla	0.101	0.289	0.124	0.121
Queretaro	1.494	1.474	1.027	0.871
Quintana Roo	1.385	1.135	1.202	1.094
San Luis Potosi	0.532	0.546	0.495	0.442
Sinaloa	0.892	1.026	0.941	0.844
Sonora	1.882	2.767	1.837	1.323
Tabasco	0.308	0.218	0.143	0.322
Tamaulipas	0.945	0.855	0.2	0.144
Tlaxcala	0.365	0.109	0	0
Veracruz	0.067	0.038	0.058	0.02
Yucatan	0.528	0.255	0.323	0.295
Zacatecas	0.235	0.637	0.595	0.184

Source: Secretaría de Hacienda y Crédito Público.

[8] Net disposable income is defined as total revenue, less municipal transfers and educational transfers.

2.2.2   Contingent Liabilities

As noted above, the level of debt is not a problem from a macroeconomic perspective, because the total subnational debt represents only about 2 percent of national GDP. It must be noted, however, that important existing channels of soft budget constraints are not revealed by these statistics, and are generating hidden direct and indirect liabilities to the SNGs.[9] Given the existing moral hazard problem of SNG debt, contingent liabilities become an important issue. This section describes the most important source of off-budget debt.

This is the case with the contingent liabilities that are running off-budget, e.g., the SNGs' social security systems (improperly funded pay-as-you-go pension and health plans that included schemes provided by the SNGs to their employees). Still-incomplete estimates reveal that the size of outstanding contingent debt is truly daunting. Table 6 shows these debts in 1997 pesos. 1997. While total direct and indirect debt amounted to 72 billion pesos in 1998,[10] a partial account of the states' contingent debt for pensions alone reached 167 billion pesos in 1997 (about 6% of national GDP).

Table 6.

Mexico - Contingent Debt, 1997

(million of pesos)

State	Actuarial (projected) Deficit	Reserves year of sufficiency	number of pensioners	number of workers	OBS.
Aguascalientes	1,019.0	2,010.0	868.0	11,032.0	
Baja Cal. Norte	11,987.0	1,999.0	1,158.0	10,912.0	
Baja Cal. Sul	no plan	no plan	no plan	no plan	
Campeche	1,320.0	NA	NA	NA	
Coahuila	5,695.0	2,001.0	2,838.0	17,173.0	teachers
Coahuila	1,051.0	2,022.0	700.0	7,895.0	bureaucr.
Colima	NA	in deficit	668.0	4,125.0	
Chiapas	9,837.0	2,011.0	1,406.0	19,777.0	
Chihuahua	18,602.0	2,000.0	6,348.0	27,546.0	
Durango	NA	1,999.0	1,741.0	12,046.0	
Guanajuato	NA	in deficit	2,917.0	33,889.0	
Guerrero	NA	2,000.0	1,191.0	13,148.0	
Hidalgo	NA	NA	998.0	7,610.0	
Jalisco	39,814.0	2,011.0	4,432.0	85,219.0	
Mexico	NA	2,009.0	11,248.0	185,739.0	

[9] Besides the guarantees provided by the Federal District, states and municipalities to their own parastatal enterprises (decentralized agencies and public companies). These are included in the analysis.

[10] This figure includes indirect debt, which includes municipalities' and parastatal enterprises' debt.

State	Actuarial (projected) Deficit	Reserves year of sufficiency	number of pensioners	number of workers	OBS.
Michoacan	60.0	2,006.0	1,347.0	21,747.0	
Morelos	NA	NA	1,424.0	10,457.0	
Nayarit	NA	2,050.0	904.0	6,878.0	
Nuevo Leon	NA	NA	7,075.0	34,911.0	
Oaxaca	NA	2,002.0	919.0	9,279.0	
Puebla	NA	2005-2008	2,483.0	36,806.0	
Queretaro	NA	NA	353.0	8,597.0	
Quintana Roo	no plan	no plan	no plan	no plan	
San Luis Potosi	6,140.0	2,006.0	1,140.0	13,871.0	
Sinaloa	NA	NA	1,013.0	8,905.0	bureaucr.
Sinaloa	5,483.0	in deficit	2,212.0	10,959.0	teachers
Sonora	3,035.0	in deficit	4,202.0	34,226.0	
Tabasco	NA	2,009.0	1,155.0	52,001.0	
Tamaulipas	2,471.0	2,018.0	2,085.0	18,159.0	
Tlaxcala	1,426.0	2,013.0	495.0	7,503.0	
Veracruz	45,805.0	1,999.0	10,893.0	58,431.0	
Yucatan	NA	2,015.0	2,549.0	17,690.0	
Zacatecas	1,320.0	2,020.0	2,375.0	45,421.0	
SUB TOTAL	155,065.0		79,137.0	831,952.0	
Fed. District	11,663.0	in deficit	11,732.0	57,891.0	raya list
Fed. District	NA	NA	NA	NA	police
TOTAL	**166,728.0**		**90,869.0**	**889,843.0**	

Source: Farell and Associates (1997).

This contingent debt constitutes a federal problem for several reasons. On the one hand, the vertical fiscal imbalance makes it difficult for the states to solve this problem. On the other hand, the states know they will be bailed out because, as will be shown, the federal government created a moral hazard problem as a result of the bailout carried out from 1995 to 1998.

3. Analysis of Bailouts

After describing the economic and institutional situation that surround SNGs debt before and after the *Tequila* crisis, in this section we attempt to determine the reasons for the bailout. According to the definition given in the introduction, we consider three different types of bailout. The first is the open bailout that took place as a result of the *Tequila* crisis, when the federal government had to rescue virtually all states. Second, we attempt to identify other possible forms of bailouts, or hidden bailouts, which we associate with discrepancies between decreases in levels of debt and fiscal balances. These figures may reflect a hidden bailout. For example, how else can one explain a situation where a state with a primary fiscal deficit also reports a reduction

in its debt level? Third, the debt contracted with development banks may have been used for purposes other than investment (this debt would not be valid, as stated in the legal section above), which in principle could also represent a hidden bailout.

3.1 The Generalized Bailout

As noted previously, by 1994 many states were highly indebted. On average total debt represented 80 percent of the total annual disposable income of the states. When the financial crisis of December 1994 erupted, interest rates more than quintupled, from a one-month Cetes rate of 13.8 in November 1994 to 74.8 in April 1995, and SNGs simply could not keep servicing their debts. This was partially due to a lack of financial instruments to absorb external shocks. At the same time, commercial banks were experiencing liquidity and capitalization problems (see Hernández and Villagómez, 2000).

For these reasons, the federal government came under pressure from the states and commercial banks to provide a major bailout. As a result, the federal government implemented a program called *Programa de Fortalecimiento Financiero de los Estados*[11] (PFFE). This program cost around 7 billion pesos in 1995, representing more than 17 percent of the *participaciones* for the year and about 10 percent of non-contingent SNG debt. This program continued until 1998 with about the same annual figure in real terms. Some government officials claimed that this was not a bailout because the source of the problem was macroeconomic, which is a federal government responsibility. However, many other countries have experienced major financial crises and have not bailed out highly subnational governments (the most recent examples include Japan and South Korea). Also, macroeconomic problems gave rise to other well-identified bailout episodes in Argentina and Brazil.

The episode started with the rapid accumulation of debt at the beginning of the 1990s, leaving state governments in a vulnerable position when interest rates increased sharply after the 1994 crisis. Official information on cash transfers from the federal government to state governments will be used to illustrate this situation.

The cash transfers provided by the federal government are called *transferencias extraordinarias* (extraordinary transfers). Even though the bailout was generalized to almost all SNGs, the size of the transfer and the year in which it was given to each of the states provide

relevant information on the motivation of the federal government to provide its discretionary and temporary help.

It is important to point out that the amount of the extraordinary transfers differs across states. This variation is shown in Figure 2, using official government data. We proceed to study the causes of these differences.

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[11] This program existed since 1992, but was not widely used until the *Tequila* crisis.

Figure 2.

ACCUMULATED EXTRAORDINARY TRANSFERS PERCAPITA
(1995-1997)
MILLIONS OF 1997
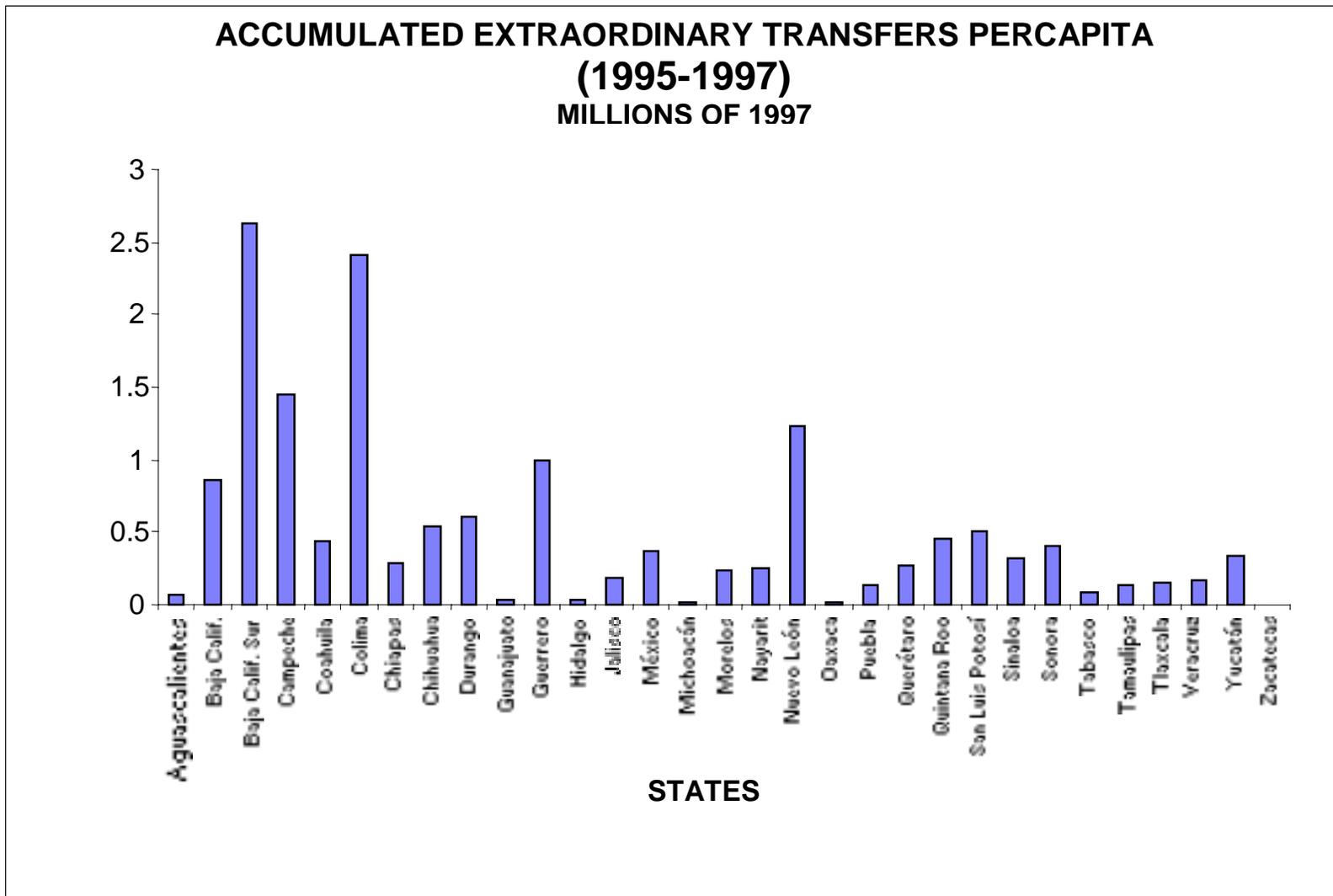
STATES

Source: Secretaría de Hacienda y Crédito Público.

The mechanics of the bailout were as follows. The PFFE was intended to promote fiscal discipline among states and was part of Ramo 23, a federal government budgetary item, which contained the resources for this program. The program required states, starting in 1995, to restructure their debts in *Unidades de Inversión* (UDIs), a new unit of account indexed to inflation. For those states that voluntarily restructured their debts into UDIs, the maturity of their debt was extended to 10 or 15 years starting in 1995, with a two-year grace period, and the federal government would grant a discount. The amount of the discount was to be determined by a study of the finances of each state.

In exchange, to obtain access to the program, SNGs had to sign a "Letter of Intent." In this letter they committed to the following measures: balancing their budgets (which included reducing current expenditures, increasing their own revenues and privatizing of public enterprises), presenting their financial statements in a uniform way (using the same methodology), reducing their debt ratios, and publishing or updating a state debt law to regulate and limit the debt of the state and its municipalities. By the end of 1995 all states had signed Letters of Intent (*convenios*) with the federal government. There was, however, no mechanism to enforce the commitments once the transfer had been provided.

3.2 Possible Explanations of the Generalized Bailout

We will explore whether concentration of public income sources (vertical fiscal imbalance) is important in explaining the bailout. In addition, we also investigate whether the size of the state matters (the *too-big-to-fail* hypothesis). Third, we will attempt to show that the legal and institutional framework contained perverse incentives for moral hazard in this market. It is important to emphasize that fiscal indiscipline may be behind the bailout process.

3.2.1 Vertical Fiscal Imbalance

As discussed earlier, the federal government collects the richer tax bases: the value-added and the corporate and personal income taxes, which generate 70 percent of total tax income as well as oil royalties. The only sources of direct revenues of lower levels of government are property taxes, payroll tax, and fees (see Table 1). For this reason, between 1992 and 1997, states and municipalities collected on average only 6 percent of total public sector revenue. State taxing

capabilities account for approximately 15 percent of their total income. The other 5 percent comes from other own sources such as fees, charges and public services prices.

As previously noted, net block transfers represent the main source of revenue for states and municipalities. The SNGs have little flexibility in absorbing a macroeconomic shock since these transfers are highly pro-cyclical. Block transfers are a fixed proportion of federal taxes and oil royalties On the other hand, although states and municipalities receive more transfers than in 1995-96, when decentralization efforts started, most of these are in the form of matching grant or earmark transfers. Thus, many of these transfers are conditional to a particular expenditure. On the other hand, the matching grant poses some inflexibility because there is a fixed pie to be distributed from which everyone wants a share, and the only way to get a share is lobbying and spending some money to get more money. The result is that richer states get a larger share of the pie—a regressive way of distributing financial resources.

We may conclude that the vertical imbalance determinant is potentially important in explaining the generalized bailout of 1995, as states cannot levy taxes to absorb shocks. The econometric analysis presented below confirms this hypothesis.

3.2.2   The Institutional-Legal Design

This subsection describes the institutional and legal framework of the National Fiscal Coordination Law (NFCL). This is important because this framework may have contained perverse incentives for both creditors and borrowers.

Two implications in particular are important. First, banks had incentives to make loans to SNGs, as the federal government guaranteed repayment under Article 9. Second, states also had incentives to borrow because, under the above conditions, the federal government was highly likely to bail them out.

A bailout was more likely under this law because, as discussed above, state and local governments spent nearly 60 percent of their total budgets on current expenditures such as the salaries of teachers, state police, doctors and so on, which are difficult to adjust. This reduces these governments' flexibility in adequately managing the budget.

Thus, in case their net block transfers were seized to pay their debts, they would not have been able to meet their current expenditure obligations, since on average net block transfers

account for nearly 80 percent of total revenue.[12] A failure of the SNGs to meet such obligations has high political costs for SNGs and the federal government.[13] Consequently, the federal government has little choice but to bail out the defaulting state.

The two points above could account for at least part of the over-borrowing behavior in subnational credit markets, and the lack of explicit local regulations for borrowing and of any obligation to present and/or publish financial statements. This obviously would make project evaluation very difficult for lending institutions. These institutions rarely made the evaluation, as the risk they face is passed on to the federal government.

3.2.3 The Too-Big-to-Fail Hypothesis and the Political Factor

There is ample evidence in the banking literature that size matters when it comes to bailing out an entity. Following this reasoning the size of the state could also be important in explaining the bailout. This is known as the *too-big-to-fail* hypothesis. When a particular state is bailed out, this hypothesis may be present for several reasons. For example, a very populated state may be important because of the impact it may have on national elections. Second, from an economic point of view, a strong state (with a high GDP) may also be important because a reduction in its growth rate may affect the national rate of growth. In addition, a financial crisis in an important state may lead to a loss of confidence among foreign investors in the country. There is also an externality created in the sense that creditors may limit funds to all states (both the well and poorly-behaved).

Along with the *too-big-to-fail* factor there may be a political element, which may be especially true in Mexico. As the country's political system as a whole has undergone a transformation in recent years, parallel processes of democratization have dramatically reshaped intergovernmental relations. From a disciplined system long dominated by one political party at all levels of government, Mexico is passing to a highly competitive complex configuration of local political profiles where it is increasingly common to find divided local governments (where the legislature is fragmented or controlled by a party different from the governor) or municipalities that are governed by parties different from the local or the federal executive. The

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[12] The states with the lowest percentages are Coahuila and Hidalgo with 64 and 66 percent, respectively, without taking into account conditional transfers.

[13] It is very common to see state workers, such as teachers, demonstrating in both the state capital and in the Federal District.

federal executive under the PRI has repeatedly been accused of manipulating financial instruments in order to produce favorable political cycles (Ames, 1989; Weldon and Molinar, 1994; Lamoyi and Leyva, 1998). But the erosion of federal authority is evident in many spheres, and the relative importance of local politicians, especially governors, has reshaped the financial relation between the federal and state governments, weakening local fiscal discipline and making federal bailouts more likely. For this reason electoral variables are included in the analysis.

3.2.4 *Credibility of Withholding Participaciones: Some Examples*

In Section 3.2.2 we suggested that the threat of withholding *participaciones* may not be credible due to revenue and expenditure inflexibility. This fact introduces the issue of the credibility of a threat to withhold net block transfers. That is, some states assume implicitly that if they are unable to pay their debt the federal government will withhold revenue shares and they will be bailed out. On the other hand, creditors probably foresee a bailout, and they do not trust federal threats of withholding transfers. Since most of the revenue-sharing funds a state receives are largely committed to current spending, it is not easy for the federal government to withhold revenue shares, if it believes that the state will eventually request grant to cover, for example, the state teacher's payroll. In addition, limited tax capabilities at the local level further limit SNGs' ability to compensate for withheld revenue shares by increasing their own revenues; that reduces the credibility of withholdings even more. Anecdotal evidence suggests that federal government threats to withhold revenue shares are generally not seen as credible.

The first public debate over guarantees, and state debt in general, took place in Baja California under the first ever opposition governor, Ernesto Ruffo, who defeated the PRI candidate in 1989. Although Baja California was already running a deficit of around 20 billion old pesos, the new governor contracted debt for an additional 25 billion old pesos (Campuzano, 1995, p. 208). The justification was peculiar, to say the least. The Ruffo government argued that it needed this debt since the 39 percent increase in teacher salaries granted by this government was much larger than the 12 percent increase in revenue sharing. Of course the opposition (PRI) legislators pointed out that debt could not be used to meet current expenditures. By 1993, local public opinion was divided as to whether the state government was close to bankruptcy. The finance minister, Eugenio Elorduy, argued, however, that bankruptcy was unlikely, since the debt burden constituted only 20 percent of total revenues, or around 1.2 percent of state GDP. In

February 1994, the state government attempted to issue bonds in the open market in order to service its debt. These bonds were not issued, but instead, by 1995, the state benefited from the generalized bailout of that year. However, it is interesting to note that every commentator expected that bailout even before the shock of December 1994 took place. As Campuzano puts it, writing before the bailout, "regardless of the fact that at the end of the sexenio [the six-year presidential term] the federal government will take over the debt…in the short run interest payments on the outstanding debt will increase" (p. 213).

The state of Chihuahua provides the most recent example of the federal government's low level of credibility in threatening to withhold funds. This case is directly related to the federal development bank, Banobras. The states's PRI governor, Patricio Martínez, came into conflict with the federal government over the legalization of cars smuggled into the state. At the beginning of 1999, the Chihuahua government began issuing a sticker that would protect smuggled cars, which constitute around a third of the cars in the State, from federal requisition. If all owners of smuggled cars bought the sticker, the state government would collect almost as much revenue as the car property tax *(tenencia)*. Federal authorities found this measure unacceptable, so in retaliation, the *Secretaria de Hacienda* (Treasury Department of Mexico), upon a "request" from Banobras (the development bank), announced at the beginning of April that it would withhold 12 million pesos of revenue-sharing transfers to the state. It was claimed that this request was unrelated to the illegal car conflict, and that the transfers were being withheld in order to repay arrears on a 30-million peso housing construction loan to the previous government. Although the withholding of 12 million pesos represented only 0.3 percent of the state's revenue-sharing transfers, this figure equaled around 10 percent of what was collected from the *tenencia*. When the state government threatened to stop payment on other loans, on April 27 the federal Secretaría de Hacienda announced it would not fulfill its threat.

Two features are particularly significant about this case. First, it seems to be common for loans to Banobras, the development bank, to be in arrears. Second, as the state government's threat of stopping payment on other debts could have a snowball effect in other states, the federal government did not fulfill its threat of withholding *participaciones*. This represents one more instance in which the federal government declined to withhold revenue-sharing transfers if SNGs could be affected.

3.3 Empirical Analysis

This section tests the different hypotheses discussed above. First, we define our variables (both dependent and independent); then the model is estimated. Finally, we discuss the empirical results.

3.3.1 The Data

Mexico's Instituto de Estadística, Geografía e Informática (INEGI) publishes an annual document that includes all states' financial statements. In addition, this publication contains all federal investment that each state receives every year. Unfortunately, sometimes these data are sometimes inconsistent across years and states. There are two reasons for these discrepancies. First, until 1995, each state employed different methods for gathering data. Second, this information was provided by the states, which had incentives to provide the wrong information in order to pressure the federal government for extraordinary grants. Instead of this data, we use the information that the states provide to the federal government when they request extraordinary financial aid. Thus, our source is the Secretaría de Hacienda.

As a first measure of bailout we use extraordinary transfers as a proportion of total revenues (ET) documented between 1994 and 1998. (Hidden forms of bailouts will be defined later in the paper.) The independent variables include, as a measure of fiscal vertical imbalance, the proportion of own revenues to total revenues, and proxies for the size of the state known as the *too-big-to-fail* hypothesis and political factors, as well as other control variables. The econometric test includes several indicators that proxy the size of the bailout as a function of the importance of the state, the political situation of the state, and its fiscal flexibility. As the fiscal rules that determine state government access to credit are basically the same for each state, ex-ante circumstances that allow for bailouts are not included.

Thus we include the ratio of "own revenues" to total revenues (VERT) for vertical fiscal imbalance, net of municipal transfers. The lower this variable is, the more dependent the state is on federal transfers, which may suggest that states have low tax capabilities for collecting revenues. The primary deficit (PRIM) is included to proxy for fiscal imbalance.

The importance of the state is not an observable variable either. We use as proxies the number of formal workers in the state (FORMAL). We consider this a good proxy because they can exert political pressure in different forms such as strikes. We also include population (POP)

because a highly populated state has a greater impact on federal elections. The higher this variable is, the more likely a state is to be financially rescued.

Finally, two variables are used to represent political pressures in bailing out local governments. The first variable is a dummy that takes the value of one when there are municipal elections in the state in the year of the bailout (MUN). The second is also a dummy that takes the value of one when there is an election for governor in that year (GOV).

3.3.2 Results

Table 7 presents the results of the regression when the dependent variable is the generalized bailout measured as extraordinary transfers from the federal government to the state (this was run considering fixed effects by year[14]) as proportion of its total revenue.[15] The period of this exercise is 1994-1998.

Table 7. Bailout Determinants

Dep. Var.	EXTRA				
Fixed effects by year					
	coef.	coef.	coef.	coef.	coef.
POP	0.021814		0.01945		0.0194
	5.290918		*4.703969*		*4.7*
FORMAL		0.252027		0.251365	
		5.482098		*5.462125*	
PRIM.	0.186335	0.180147	0.184617	6.178191	0.1831
	5.142153	*4.630784*	*4.94723*	*4.59922*	*4.8625*
VERT.	179610.9	26808.9	188954.1	30890.69	190579.2
	2.19847	*0.35876*	*2.26082*	*6.404606*	*2.239*
GDP PERC.	3084763	186529			
	3.9091	*2.584499*			
GOV				-5919.87	-4198
				-0.2162	*-0.2076*
MUN				-3973.92	-4664.631
				-0.2666	*-0.29924*
R2	0.3388	0.369851	0.302201		
DW	2.0299	2.035954	2.0117		

[14] Coefficients are not reported in the table. We also ran cross-section time-series OLS regressions. Results are quite similar and are not reported here.

Results suggest that the *too-big-to-fail* hypothesis is valid for the generalized bailout carried out in Mexico in the aftermath of the Tequila crisis. As shown in Table 7, the sign of the coefficient of number of workers in the formal sector (FORMAL) is positive and statistically significant at the standard significance levels. When the number of formal workers is substituted for population (POP) the coefficient remains positive and statistically significant. This means that, measured in these terms, the state's size matters in determining the size of a bailout.

The coefficient of the level of fiscal vertical imbalance (VERT) is also positive and statistically significant. However, our hypothesis was that it would be negative, since the more the state depends on its own sources of income, the smaller the amount of extraordinary transfers the state needs. Thus, vertical fiscal imbalance does not appear to be associated with larger, generalized, bailouts.

The sign of the coefficient of the variable representing the size of fiscal deficit excluding extraordinary transfers (PRIM) is also positive and significant. This coefficient has to be interpreted cautiously because, on the one hand, it may suggest that lack of fiscal discipline pays. On the other hand, it may suggest that states incur deficits because they do not have sufficient sources of income to meet their expenditure obligations, or that inflexibility makes it necessary to draw on additional sources of revenue. In addition, a problem of endogeneity may be present, since it is not clear whether extraordinary transfers cause a primary deficit or vice versa. The above discussion suggests that the former follow the latter.

The political variables (existence of election for either governor or municipal president, GOV and MUN, respectively) turned out to be statistically insignificant.

An additional regression was run, including GDP per capita, for each of the states. The first thing to note is that the sign and statistical significance of the other variables remained unchanged. Second, the coefficient of GDP per capita was positive and statistically significant. This can be interpreted as evidence that the bailouts have a regressive distributional effect, i.e., the richer the state, the higher the size of the bailout. The next section deals with this effect.

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[15] The regression was run with this dependent variable because it provides the best measure of the importance of the bailout for the state government. The two variables that measure state government fiscal flexibility are presented as a fraction of total expenditure.

3.3.3 Distributional Effects of the Generalized Bailout

The econometric results above suggest that bailouts may present distributional effects, as states with higher per capita GDP received higher per capita extraordinary transfers.

As shown in Figure 2 above, per capita extraordinary transfers show a high degree of variation, with a coefficient of variation reaching 1.1522. Furthermore, bailouts of SNGs may have equity implications. The most indebted states are those with a high per capita GDP. That is, rich states have higher revenues per capita, thus, higher debt per capita because there is a perception that they are more creditworthy. As states with more debt and importance receive bailouts, these bailouts tend to be highly regressive, as the poorer—and less indebted—states receive less in extraordinary transfers. This is illustrated in Figure 3, which shows the relationship between GDP per capita (horizontal axis) and extraordinary transfers per capita (vertical axis).[16] This relation clearly is positive and significant with a correlation coefficient of 0.473298703.

Figure 3.
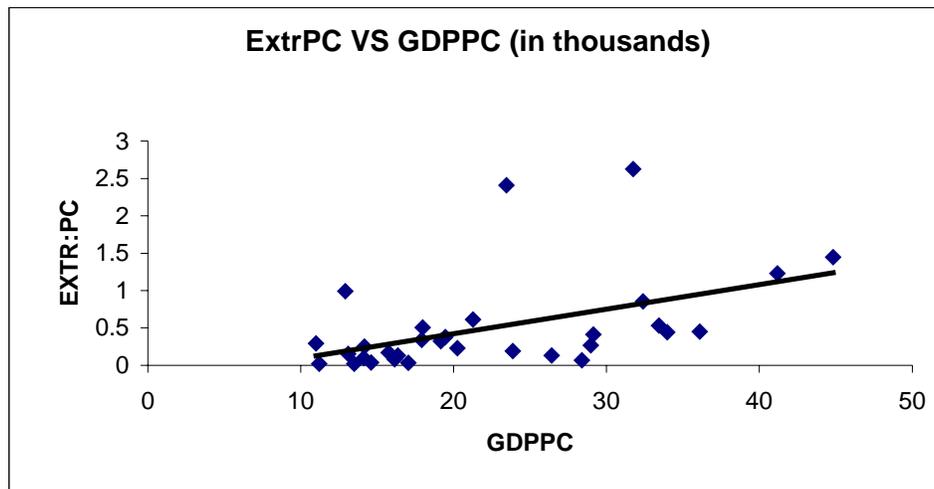
It is difficult to evaluate *ex ante* the reasons why the federal government apparently favored some states. The question one would need to answer here is why do poorer states borrow little? Even though the results suggest that the size of the state matters, the answer to this question is beyond the scope of this study. For present purposes it is important to note that

federal measures are to some extent regressive, as most of the benefited states present high GDP per capita.

Further information of inequality and dispersion can be obtained by looking at the Gini and Theil Coefficients. The Gini coefficient of the distribution of federal funds is extremely high at 0.5131, which reveals high dispersion; and a similarly high level of dispersion is found for the GDP weighted Gini coefficient, which takes a value of 0.4665. Similar results are obtained for subsequent years. In 1996 and 1997 the allocation of extraordinary transfers became even more dispersed, exhibiting population-weighted Gini coefficients of 0.5581 and 0.6523, respectively (see Table 8). The Theil Entropy index[17] better suggests the unequal distribution of extraordinary resources. As can be observed there is some evidence that such inequality exists.

Table 8. Distributional Effects of Bailout

Bailout Definitions	Gini	Theil
(1): Extraordinary Transfers	0.5131	0.3428
(2): Reduction in Debt w/ deficit	0.7546	1.2779
(3): Reduction in Debt w/ half surplus	0.7991	1.5323

Source: Authors' estimates from SHCP data.

3.4 The Aftermath of the Generalized Bailout

After the bailout, some actions were taken by the federal government to correct some of the distortions. The federal government faced a strong pressure to decentralize its fiscal system.[18] The percentage of federal revenues returned to the states via the revenue-sharing formula was increased from 18.7 to 20.5 percent, which in principle should help states to face their responsibilities. At the same time, earmarked and matching transfers to states and municipalities were increased. In addition, Article 9 of the NFCL was modified to induce market discipline. This section examines and makes a preliminary evaluation of the effect these changes have had on SNG credit markets.

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[16] It may be appreciated that in fact the only poor state which receive substantial extraordinary transfer per capita was Guerrero, a state afflicted with guerrilla activity since 1995. Chiapas, the other state with guerrilla activity, has been favored directly with public investment.

[17] For a formal definition see Foster and Sen (1973).

[18] See Hernández (1998) and Díaz Cayeros and McLure (2000) for a preliminary discussion on this issue.

3.4.1   Corrective Action: The Modification of Article 9 of the FCL

The previous analysis showed that legislative changes were needed to induce market discipline in subnational borrowing. The 1997 reform of Article 9 of the National Fiscal Coordination Law constituted one such step. Under this reform, SNGs remained able to use debt to finance their investment projects, and to use their federal transfers as collateral. However, in case of arrears or threat of default, banks would not be able to ask the federal government to deduct the corresponding amount from the defaulting state's federal transfers. Instead, these loans would come under state debt laws, which call for both parties to agree on a repayment mechanism. In other words, SNGs would be responsible for repayment of their contracted debts, even when federal transfers were used as collateral. In addition, they are obliged to publish their levels of indebtedness to contract more debt.

The modification was intended to have two important consequences. First, states would become more financially disciplined. Second, banks would be forced to analyze project risk when making a loan to an SNG.

More financial responsibility was expected to have the following effects:[19]

1. Levels of state borrowing would respond to changes in interest rates. That is, SNG financial markets were expected to provide signals that would lead SNGs to behave in a manner consistent with their solvency and level of risk.

2. SNGs would define mechanisms under which borrowing is optimum and would be forced by banks to present their financial statements when requesting credit.

3. Overall levels of borrowing would decline and debt would be used for productive projects, thus significantly reducing the possibility of a bailout.

In addition, the federal government initiated the Program to Strengthen the Finances of States (PFFE) which continued until 1998. This Program was the institutional and legal instrument to provide the extraordinary resources to the states, and its funds were supposed to strengthen the finances of the SNGs. This program ended in 1999, supposedly because the states are now financially stronger, and they have written or updated their Debt Laws. This section

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[19] These objectives were discussed with officials of the Secretaría de Hacienda.

evaluates the Program. Our analysis suggests that the states are not financially strong and that the previous bailout created important moral hazard incentives.

3.4.2 Did the Modification of the Law Induce Market Discipline?

One of the reasons for modifying Article 9 of the NFCL was to induce market discipline (a necessary, though not sufficient, condition for avoiding subnational bailouts). However, as shown below, this change did not work because the law has already been circumvented.

After the modification of Article 9 in January 1997, SNGs found it very difficult to obtain credit, especially from commercial banks. For this reason, in 1997 the federal government and the local entities designed an allegedly temporary scheme whereby local entities give the federal government a mandate to apply the previous mechanism.

The federal government is currently studying the possibility of creating a Trust Fund (Fideicomiso de Fuente Alterna de Pago, FFAP) to provide a guarantee. That is, this Trust Fund would be in charge of receiving from the federal government the *participaciones* and would, in turn, pass them on to SNGs. In case of arrears, the fund would pay back the creditor.

The purpose of the trust fund is to remove the federal government from direct involvement in payments to SNGs. However, under this scheme banks do not face any possibility of losses and consequently have no incentives to evaluate credit risk. Thus, it seems that these actions have circumvented the spirit of the modification of the Article 9, which was originally intended to encourage market discipline. This indicates that the modification did not eliminate the moral hazard problem. As long as SNGs can borrow from banks without risk, the possibility of another bailout remains,[20] as shown above. In short, when an SNG cannot repay, it pressures the federal government to obtain extraordinary funds.[21]

3.4.3   Has the Bailout Created a Moral Hazard Problem?

The stock of debt and the degree of indebtedness examined above do not fully illustrate the financial weaknesses of Mexican states. In fact, the outstanding debt of the SNGs in Mexico is rather small compared to what it would be if past fiscal deficits were capitalized. The reason for

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[20] For a formal proof, see Hernández (1997).

[21] The state of Mexico is a notorious example. As recently as December, 2000, it received a credit from the World Bank to reschedule the debt. This credit is completely backed by the federal government. In fact, the state obtained the credit through the Mexican development bank (Banobras).

this discrepancy is that a substantial part of the fiscal deficits of the SNGs has been repeatedly shouldered by the federal government through extraordinary, discretionary transfers (to cover non-anticipated wage increases, investment expansion, etc.) and other forms of bailouts (e.g., the 1995 ad hoc transfers).

Figure 4 shows the evolution of the states' primary balance and its financing. The states' fiscal stance experienced a serious deterioration until 1993 (when the aggregate primary deficit reached 0.4 percent of national GDP). Since 1994 the situation apparently changed, and as of 1995 the statistics even show a primary surplus. However, closer examination of the data reveals that:

(a) The apparent surplus between 1995 and 1997 resulted from the treatment of extraordinary transfers as revenues, when they should have been treated as a financing item (and should have been recorded below the line);

(b) The primary *deficit* continued deteriorating after 1995, because debt restructuring did not lead, in most cases, to any effective adjustment in states' budget *flows*.

The financial deal involved basically a debt stock relief and did not resolve the structural fiscal imbalances. As a consequence, the current fiscal stance of the states is not sustainable, and without serious fiscal adjustment states will soon be calling for another bailout. The difference between the real primary balance and real primary balance excluding extraordinary transfers shows the siz*e* of the 1995-1998 bailout.

The figure also suggests the persistence of the moral hazard problem. Even though states and municipalities have experienced an increase in federal transfers (both block and conditional), they keep incurring deficits because they anticipate that they will be bailed out. For example, the total debt of states (except for the Federal District) decreased from 45 billion pesos to 36 billion pesos, i.e., by 20 percent (which arguably could make it easier to manage the states' finances because the debt service payments become smaller). Figure 4 suggests that the states continued to incur fiscal deficits (i.e., if we do not consider the extraordinary transfers).

Figure 4.

Mexico - Aggregate SNGs Fiscal Deficit, 1989-97
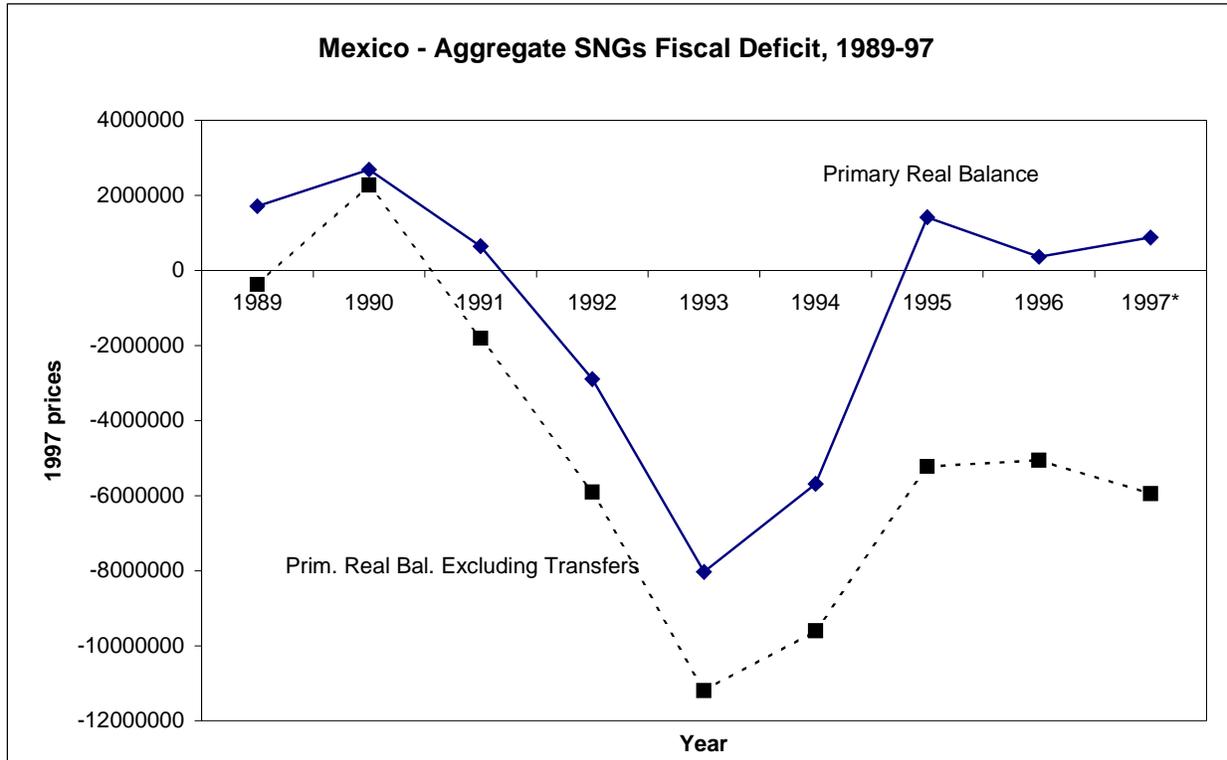
Source: Secretaría de Hacienda y Crédito Público.

3.5 Hidden Bailouts

Other forms of bailouts may exist that are less explicit than extraordinary transfers. To detect possible hidden forms of bailout in this section, we use two alternative approaches. Based on the hypothesis that some federal bailouts took the form of secret transfers, which were not registered as state revenues, we analyze reductions in debt stocks that are unmatched by state government surpluses. That is, when we find that a state government experiences a reduction in its stock of debt, in real terms, and this decrease is not explained by a surplus in its financial balance (measured on an income/expenditure basis), we suspect that a bailout occurred. The interviews carried out with former state finance secretaries and development bank authorities left us with the impression that most hidden bailouts were the result of debt renegotiations with development banks. These renegotiations resulted in softer conditions, including lower interest rates and debt forgiveness, which, given the absence of official information, validates our approach through debt reductions. For this section, the information on debt stocks and public finances comes from different sources (the first one from the banking

system and the second from the state governments[22]). Cross-checking this information thus seems like a good way of finding hidden practices for the period 1995-97.

Two dependent variables are defined, each one representing a possible definition of a hidden bailout. The first (HIDDEN) uses the definition of debt reductions that are unmatched by fiscal state government surpluses. That is, when an SNG presents a fiscal deficit and still reduces the level of outstanding debt, this might be an indication of a hidden bailout. The second uses the variation in interest rates (CARGA), which reflects the differences in interest rates before and after debt renegotiations.[23] As independent variables we included those of the previous analysis for the generalized bailout. Results are presented in Tables 9 and 10, respectively. In the estimation process we use fixed effects by year.

Table 9				
Hidden Bailout (discrepancy between PRIM and level of debt)				
Dep. Var.	HIDDEN			
Fixed effects by year				
		coef.	coef.	coef.
POP		0.069038	0.06903	
		3.086	3.08004	
FORMAL				0.517604
				2.433616
PRIM.		1.22123	1.231078	1.241404
		9.0147	9.0227	8.079054
VERT.		1654.82	-15.029	252254.4
		0.0118	-0.10908	1.10653
GDP PERC.		330372	342729	781017.9
		2.2355	2.3338	2.68075
GOV			51044.4	
			1.2327	
MUN			-18358.6	
			-0.5343	
R2		0.680835	0.682068	0.623586
DW		2.316431	2.2862	2.271641
* t-statistic in italics below the coefficient				

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[22] Source: Banxico. We use an alternative source (with respect to the generalized bailout analysis) to cross information and detect possible hidden bailouts.

[23] This may be important as an indication of a hidden bailout since interest rates negotiated after the crisis varied among states. This may suggest discrimination among states. Our data source for this is Banco de México public finance statistics.

As can be observed in Table 9, the *too-big-to-fail hypothesis* (FORMAL and POP) holds for the first definition of hidden bailout (HIDDEN): the sign of the coefficient is positive and statistically significant. With respect to vertical fiscal imbalance, the coefficient of the ratio of own revenues to total revenue (VERT) is not statistically significant. The coefficient of the primary deficit (PRIM) is positive and statistically significant, suggesting that the higher the deficit, the higher the discrete transfer to cover financial service. The political variable is not important in explaining this type of hidden bailout.

Table 10 presents the results of the alternative definition of hidden bailout, namely, the variation in interest rates (CARGA). In this case, the *too-big-to-fail* hypothesis (FORMAL) still holds. The GDP per capita is also positive and significant, suggesting that this type of bailout is regressive. Finally, in this regression, the political variable is not important in explaining this type of hidden bailout.

Table 10. Hidden Bailout				
Debt Renegotiation with Development Bank				
Dep. Var.	**CARGA**			
Fixed effects by year				
		coef.	**coef.**	**coef.**
POP		2.13 E-04		2.13 E-14
		2.59058		*2.5794*
FORMAL			2.48 E-13	
			3.167	
PRIM.		-5.33 E-05	-3.21 E-15	-1.45 E-14
		-0.187994	*0.1276*	*-0.45411*
VERT.		-3.49 E-07	-2.56 E-07	-3.37 E-07
		-1.842984	*-1.3797*	*-1.762086*
GDP PERC.		4.65 E-06	6.43 E-06	4.74 E-06
		2.336095	*2.9713*	*2.463911*
GOV				-3.75 E-08
				-1.286915
MUN				-4.24 E-09
				-0.121236
R2		0.501812	6.50696	0.518481
DW		2.131461	2.171915	2.138079
* t-statistic in italics below the coefficient				

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3.5.1   A Potential Form of Bailout: Development Bank Debt Used for Current Expenditures

Allowing SNGs to borrow to cover current expenditures contradicts the existing rules and can be interpreted as a formal bailout. This section examines this issue.

As discussed above, to the extent that benefits from local public investment projects accrue over a number of years into the future, future generations should share the cost of financing such projects. Moreover, borrowing may be the only practical way to finance major capital outlays without large, and undesirable, year-to-year variations in local tax rates and charges. The gearing effect of borrowing allows local governments to achieve a higher level of investment than that which could be supported by their current resources, thus helping to accelerate the pace of local development. This hypothesis (that debt should be invested in projects) will be tested for Mexico in this section. This is important for the Mexican case, because it can help to identify channels of hidden bailouts and also because, as previously mentioned, the Mexican NFCL was designed under these basic principles of public finance. That is, according to the NFCL state and local governments can only borrow to finance investment projects. If this were the case one would expect an increase in debt ratios to be associated with increases in local investment.

We ran a cross-section regression for several years.[24] Only the results for 1994 are presented because little change occurs in other years. The dependent variable is the change in investment (INV) with the rate of change of debt contracted with both commercial (DC) and development banks (DD) as independent variables. The results, presented in Table 11, are striking. On the one hand, the coefficient of commercial bank debt is positive and statistically significant related to investment, while the coefficient of development bank debt is negative and statistically significant.

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[24] Estimates of this exercise (not included in the present paper) for each year confirm the main results. For 1995, however in, the estimates show that not even commercial bank lending was productive.

Table 11.				
Regression between Investment and Stock of State Debt				
Pooled LS // Dependent Variable is INV				
Sample: 1992-1996				
Included observations: 5				
Total panel observations: 154				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
DD	-0.164259	0.072336	-2.270773	0.0243
DC	0.129623	0.053009	2.445323	0.0154
R-squared	0.839965			
Durbin-Watson	2.019115			

This result is especially important because it could reflect that the federal government indirectly bails out states through development banks, thus suggesting the possibility of hidden bailouts.

4. Policy Recommendations

Given the previous analysis, it may be concluded that not all SNG debt acquisition has increased the welfare of the state. SNGs have strong incentives to accumulate debt because the federal government has established a reputation for distributing additional, "extraordinary" resources to highly indebted states. That is, indebtedness may have been incurred in order to obtain additional funds. For that reason, it is necessary to discourage such behavior. This section reviews the different alternatives for controlling or regulating SNG debt.

4.1 Management of SNG Debt

Many options of SNG debt management systems are available for the Mexican government.[25] The most general and common systems are: (a) financial market discipline; (b) strict case-by-case control on the part of the federal government, through strict, case-by-case, control; and (c) the establishment of explicit, general rules. Sometimes a combination of these systems is applied, depending on the particular market condition.

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[25] For a survey and a discussion of the relevant international experience see Ter-Minassian and Craig (1997) and Lane (1993).

4.1.1 Reliance on Market Discipline

Market discipline is the most desirable code of behavior and set of benchmarks to follow. However, the conditions under which market discipline works are very specific, and have hardly been fully observed even in countries where financial markets are well developed. This has convinced many governments not to rely solely on market discipline. Similarly, in Mexico market discipline will be insufficient because of the following prevailing market failures:

      a. Restrictions on the financial market,

      b. Lack of transparency,

      c. Moral hazard conduct, and

      d. Lack of sensitivity to market signals

Therefore, adequate preventive formal regulation is necessary in order to avoid excessive SNG indebtedness. In order to minimize distortions, and encourage the development of market practices, regulation should "mimic" desirable market discipline to the greatest extent possible.

4.1.2 Direct Administrative Control

At the opposite extreme from exclusive reliance on market discipline is the enforcement of centralized direct administrative controls to check excessive SNG indebtedness. The direct control approach, however, has been used more frequently by unitary countries, and less so by federations, since local entities in federations generally enjoy some degree of autonomy. From the efficiency point of view, direct administrative control is a poor approach (see Ter-Minassian, 1996).

4.1.3 A Rules-Based Approach

The previous section indicated that the use of direct administrative controls is a poor approach from an efficiency standpoint; in addition, it is difficult to apply in a federation. Conversely, there are strong reasons supporting an adequate rules-based approach to curb SNG access to the capital market. Nonetheless, rules can only be effective if they can be applied in a simple, transparent, and across-the-board way, using legally binding instruments. In general, these rules should consist of quantitative limits and procedural norms, which respect or imitate, as far as

possible, the financial discipline and creditworthiness indicators provided by efficient financial markets. Some of these rules should be established preventively, others should wait and only be implemented according to the needs of particular situations, and all should be reviewed constantly to make sure that they are performing as intended.

The great advantages of a rules-based system are transparent and impartiality, qualities that contribute to minimizing political bargains and discretionality. A possible disadvantage is that some degree of inflexibility tends to be introduced in the system and, as a consequence, local entities will always be trying all possible devises to circumvent the rules. Although these disadvantages may operate in the short-run, in the medium and long run the rules can be changed and adjusted to new circumstances and necessities. Therefore, we suggest for the case of Mexico a rules-based approach, but one which mimics the conditions of market-discipline.

4.2   Fiscal Federalism Reforms

Although we have shown that vertical fiscal imbalance is not important in explaining fiscal intergovernmental relations in Mexico, a change in fiscal intergovernmental relations would help to strengthen financial situation of the states. This point, however, should be taken with care because, as Inman and Rubinfeld (1996) suggest, tax devolution may in fact be inefficient. Based on this discussion, Díaz and McLure (2000) suggest that states be allowed to impose surcharges on the Value Added Tax or on a sales tax.

4.3   Policy Recommendations for the Short Run

Below are several possible short-run policy recommendations for Mexico.

a. Limiting the borrower's maximum debt service ratio. SNGs should not be allowed to take on further debt if their debt service ratio (flow of due interest and amortization over flow of disposable revenue) exceeds a certain limit, say 12 percent. A debt service commitment above this limit will likely jeopardize the delivery of normal public services.

b. Limiting the borrower's maximum level of total indebtedness. SNGs should not be allowed to become further indebted if their total indebtedness indicator (ratio of outstanding debt, including indirect and contingent liabilities, to disposable annual revenue) exceeds a certain limit. This indicator of indebtedness will complement information contained in recommendation (a) to the

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extent that the indicator of indebtedness contained in this first recommendation does not capture the debt burden of loans and credits that are still benefiting from a grace period. Both indicator (a) and indicator (b) are aimed at maintaining SNG solvency.

c. Limiting banks' portfolio exposure to the public sector: As a desirable prudential rule the share of banks' portfolio consisting of loans to the public sector (or SNGs) should be limited to a certain maximum. This limit should be enforced on the total bank asset to the total SNG as well as to each public sector entity individually. Stricter norms and supervision should be applied to official credit institutions or development banks.

d. Enforcing strict bank reserve requirements. Besides the regular reserve requirement on banks imposed by the monetary authority, additional requirements should be imposed on banks' operations with SNGs. A special regulatory and supervisory framework should be in place to preempt problems. Independent rating agencies could be an alternative if they regard the probability of a bailout as zero.

e. Implementing the new rule of using "participaciones" as debt collateral. The current practice of automatic guarantee of SNG debt by the federal government has no place in healthy intergovernmental fiscal relations and should be eliminated. The revised version of Article 9 of the *Ley de Coordinación Fiscal* that was to be effective as of January 1, 1997 should be enforced immediately, and the tactic of allowing SNGs to concede mandates to the federal government should be completely revoked.

f. *Encouraging dissemination of SNGs' financial information.* To improve transparency and encourage the financial system to operate as close as possible to the ideal of market discipline, the practice of credit ratings has been encouraged since early 2000. By now, banks have to lend to SNGs based on ratings. The lower the rating the higher the precautionary reserve requirement a bank has to make. In the US and Canada this practice is very common, and a reasonable number of private credit rating companies play a central role in helping SNGs to tap the private capital market and lenders to gauge risks and limit excessive SNG indebtedness. Because of market failures, these companies are not well established in developing countries. In Mexico such an analysis was carried out for the first time in 1999 by one agency for seven states (Quintana Roo, San Luis Potosi, Coahuila, Puebla, Mexico, Aguascalientes, and Chihuahua).

Unfortunately, the data used may not have been accurate: although the states were given high ratings, some of them are now facing serious financial difficulties. The ratings granted this year by two companies show similar problems, probably because the rating agencies regard bailouts as income to the SNGs. The lack of congruence between the states' ratings and their subsequent financial performance may also be due in part to the fact that these analyses did not include contingent liabilities. Hence, the states' financial vulnerability was fully not reflected.

5. Conclusions

This paper has documented and analyzed bailouts of several states by the Mexican federal government. In particular, we studied the generalized bailout carried out by the federal government as a result of the *tequila* crisis. Our study suggests that this bailout took two forms: an explicit bailout and a hidden one, both of which we analyzed. We then proceeded to test several hypotheses.

First, the *too-big-to-fail* hypothesis turned out to be important in explaining bailouts, regardless of the definition used. Second, vertical fiscal imbalance was not important in explaining this bailout. The other important variable was fiscal indiscipline, that is, when the state government is incapable of adjusting its expenditure, the extraordinary transfer followed. Also, bailouts proceeded after high fiscal deficits; in other words, it pays to misbehave. Political variables were not important in explaining bailouts. These results also hold for hidden bailouts. We also found evidence that development banks have lent for poor projects.

We also show that the generalized bailout created a moral hazard problem. It is clear from the analysis that states overborrow because it is a way to obtain additional extraordinary funds. Another result of the analysis is that the existing institutional-legal framework is not adequate, since it provides incentives for states to borrow and banks to lend without evaluating the risk of the project.

Furthermore, the excessive indebtedness of local entities may have equity implications: bailouts tend to be highly regressive, as poorer and less indebted states receive much less in extraordinary resources.

In regard to how the money borrowed has been spent, the results suggest that, during the period under study, the debt acquired by the local governments with development banks has not been used to finance investment projects.

In terms of policy lessons, we suggest that a rules-based approach is adequate at least in the short to medium term, but additional actions should be taken to try to replicate more closely the conditions of market discipline. The great advantage of using the rules-based system to check excessive SNG indebtedness is that it is transparent and impartial, qualities that help minimize political bargains and discretionality. It is also safer in terms of preventing large-scale bailouts. A possible disadvantage is that the inflexibility inherent in such a system tends to limit productive financing and to encourage local entities to try all possible devices to circumvent the rules. Another disadvantage is that such a system does not automatically adapt to changing circumstances.

Finally, the paper warns of a potential problem in SNG credit markets, namely, contingent liabilities. While total SNG debt does not pose a macroeconomic problem, since it only represents 2 percent of GDP, contingent liabilities could become a problem since they represent more than 6 percent of GDP.

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