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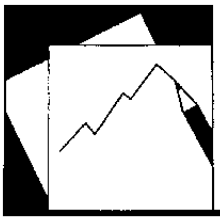

IMF Working Paper

Mexico: Experiences with Pro-Poor Expenditure Policies

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Mexico: Experiences with Pro-Poor Expenditure Policies

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Abstract

Against the background of Mexico's persistently high degree of inequality, this paper analyzes the country's experience with pro-poor policies over the last decade. A number of important government initiatives, implemented since the mid-1990s, have aimed at improving distributional equity through pro-poor expenditure programs, while at the same time seeking to increase the efficiency of public spending. This paper reviews these initiatives and outlines some additional policy options.

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I. INTRODUCTION

Latin America remains the most unequal region of the world; Mexico is no exception. Economic inequality is as high today as it was two decades ago and poverty has been pronounced relative to regional income levels. However, changes in inequality appear to have been significantly influenced by cycles in economic growth and per-capita income (Iglesias, 1998).

In general, a serious shortcoming of the adjustment programs undertaken over the last decades in Latin America is that they have failed to improve the income distribution (Camdessus, 1997). Income inequality affects the sustainability of economic adjustment and the level and quality of economic growth. It is not always clear what policymakers can do to reduce income inequality. Traditional economic theory, for instance, along the lines of Kuznets' (1955) well-known inverted U-curve hypothesis, studied distributional aspects of economic policies largely through their impact on economic growth. A key message of this analysis was that governments should foster rapid economic growth to get beyond the stage of economic development where income disparities widen.

It is commonly accepted now that qualitative aspects of economic growth are at least as important as economic growth itself. In general, countries that have been most successful in attacking poverty and reducing income inequality are not necessarily those with the highest growth rates but those that have promoted the efficient use of labor and invested in developing the human capital of the poor (World Bank, 1990). In this context, the distributional effects of public expenditure and its composition have received considerable attention. In contrast to traditional economic analysis, this more recent research has shown that there is not necessarily a trade-off between redistributive and efficiency goals in public expenditure policies: by improving the quality and efficiency of public expenditure, income inequality can be significantly reduced without adversely effecting economic growth. Hence, good expenditure policies can help mitigate or avert a typical Kuznets process, so that, in the process of economic development, the income distribution does not need to get worse before it can get better. Furthermore they can do so without adversely impacting future economic growth.[2]

As a result, research attention has shifted from the distributional implications of economic growth to the growth implications of a given income distribution, including whether and to what extent a high degree of inequality limits a country's future economic growth potential and performance.[3] It is generally accepted now that a high degree of inequality can have detrimental effects on a country's future economic development. For example, inadequate nutrition, health, and education might easily become binding constraints to the work efforts of the poor, and

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[2] For overviews on distributional effects of public expenditures, see, for example, Schwartz and Ter-Minassian (2000) or Tanzi (1974, 1996).

[3] For a survey of this literature see, for example, Alesina and Perotti (1994).

improvements in these areas would contribute to raising labor productivity and enhancing the economic growth potential (Tanzi and Chu, 1992). These results are of particular importance for Latin American economies which, in general, are characterized by a high or even a growing degree of income inequality and large population segments that live in poverty.

Against this general background, this paper focuses on one specific Latin American economy: Mexico. The paper is structured as follows. First, it provides an overview of trends in Mexico's income distribution and their broad determinants throughout the 1990s. Second, it analyzes the impact of various pro-poor and other social expenditure programs on Mexico's income distribution, including the government's recent efforts to improve equity. The paper concludes by offering some tentative thoughts on the links between pro-poor policies (and more generally expenditure policies) and distributional outcomes, and suggesting policy options for improving these outcomes.

II. Trends in Income Distribution and Their Broad Determinants

A. Overview

Mexico's income distribution continues to be characterized by a high degree of inequality. Mexico's income inequality is significantly more pronounced than the Latin American average, which is the region with the highest degree of inequality in the world (Figure 1). In 1992, Mexico's Gini coefficient[4] was 0.57, according to data from Deininger and Squire (1996). In comparison, the Gini coefficient during the 1990s in OECD and high-income countries averaged 0.34 and in Latin America 0.49 (Figure 2). Also, whereas some countries and regions have experienced recent reductions in the degree of income inequality, Mexico's income inequality has worsened.[5] Although reliance on a single data source may easily give a misleading picture, all available inequality indicators for Mexico, including the various Gini coefficients reported in Table 1, show a consistent picture of a considerable degree of inequality.[6] In 1994, for example, the Gini coefficient based on a broad measure of household income was 0.54 (Table 2). Similarly, the total income of Mexico's top 20 percent of income earners was 16.4 times that of the bottom 20 percent, which compares to an average of 6.3 in OECD and other high-income countries during the 1960s-1990s.

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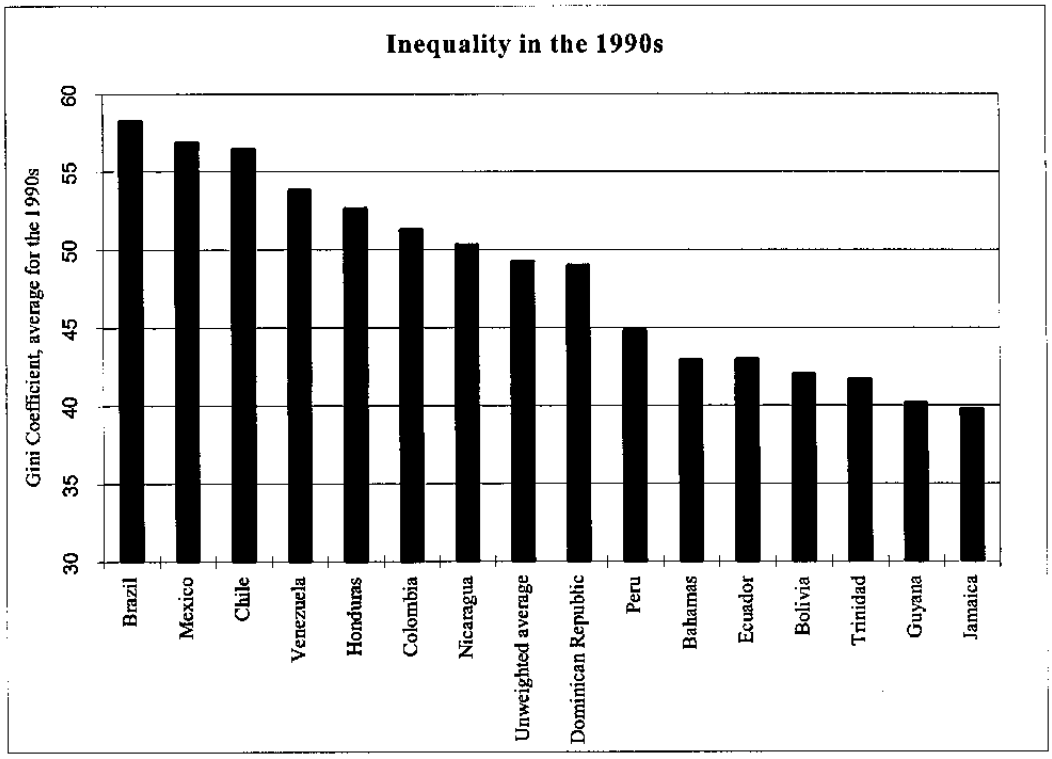
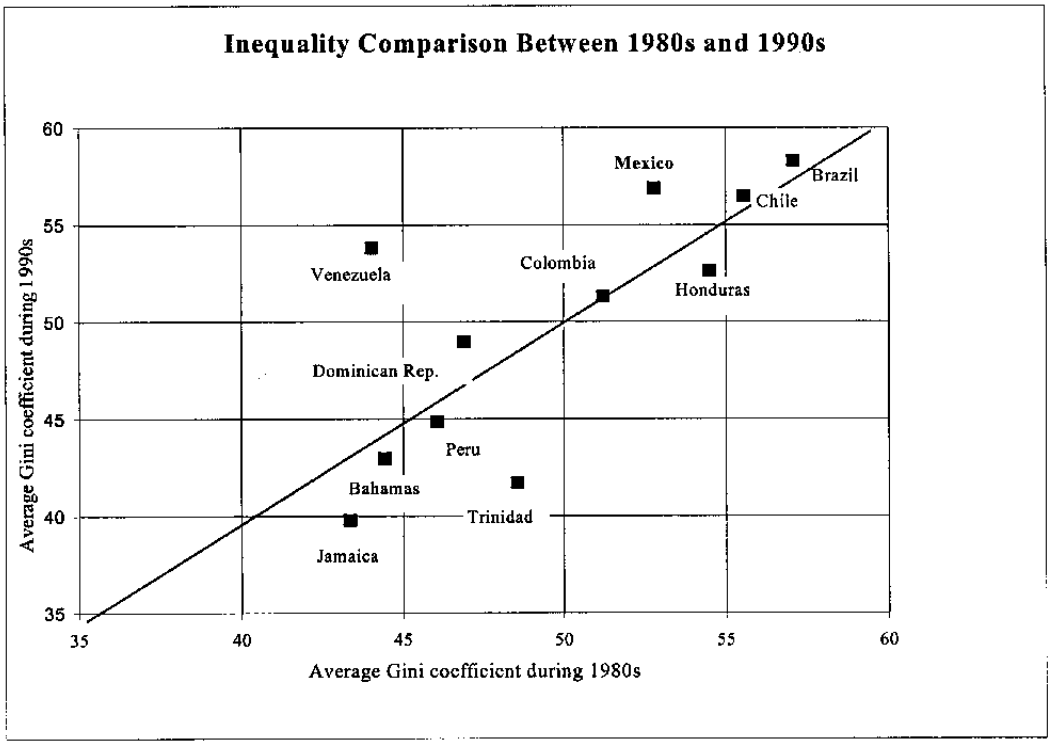
[4] The Gini coefficient is a measure of inequality derived from the Lorenz curve and has values between zero and one. The closer the Gini coefficient is to zero, the more equally distributed is income (or consumption/expenditure or wealth); the closer it is to one, the more unequally it is distributed.

[5] In its 1997 annual report, the United Nations Conference on Trade and Development (UNCTAD, 1997) argued that inequality has grown both between industrialized and developing countries and between rich and poor countries. On the basis of the data used in this paper (e.g., Figure 2), it is difficult to support such a sweeping conclusion. Instead, it would seem that there has been little progress in reducing income inequality.

[6] Box 1 describes data issues regarding estimates of inequality using Mexican data.

Figure 1. Inequality in Latin America 1/

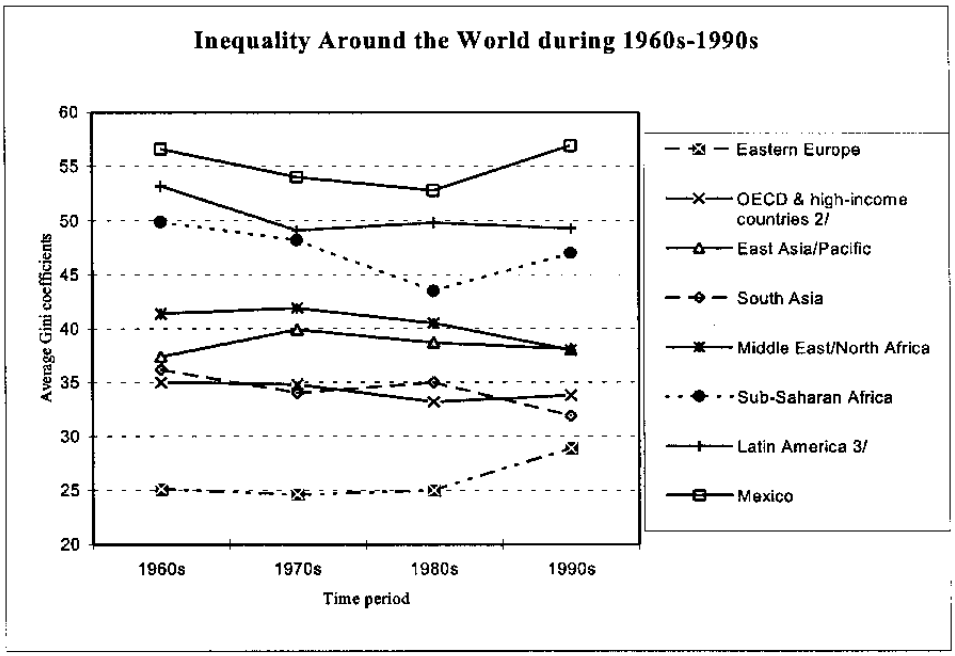


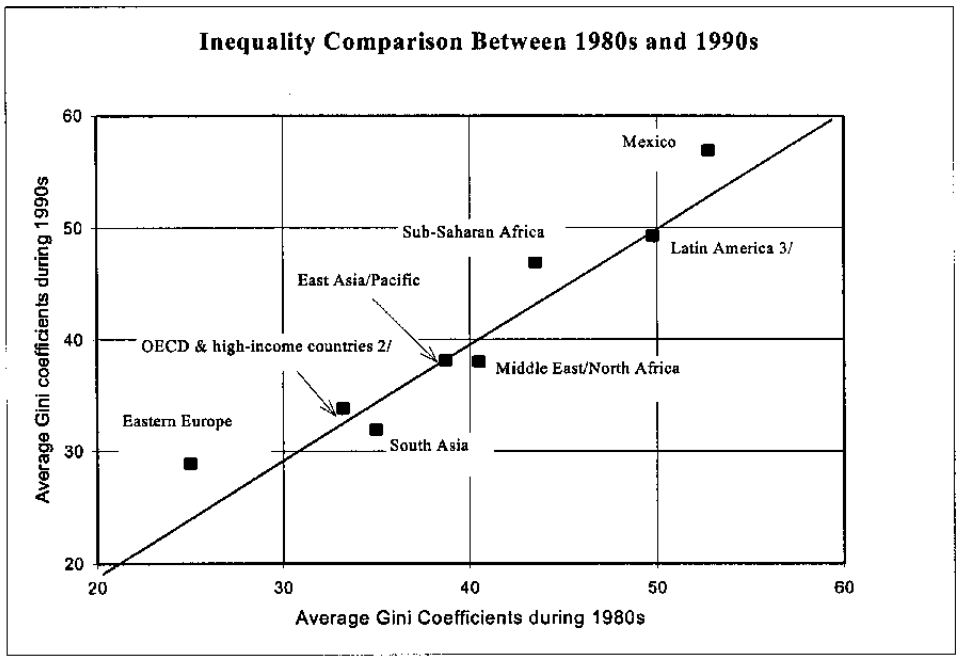


Source: Based on data from Deininger and Squire (1996), and, for Brazil in the 1990s, Clements (1997).

1/ Inequality as measured by the Gini coefficient (multiplied by 100).

Figure 2. Mexico's Inequality in Global Comparison 1/





Source: Based on data from Deininger and Squire (1996).

1/ Inequality as measured by the Gini coefficient (multiplied by 100). Data reported refer to unweigthed average Gini coefficients of economies in each region. The sample includes 108 economies. Changes within regions may be caused by the fact that not all economies have observations for all decades.

2/ Excludes Mexico.

3/ Includes Mexico.

Table 1. Mexico: Gini Coefficients According to Different Data Sources, 1950-2000 1/

	1950	1956	1957	1958	1963	1968	1970	1975	1984	1989	1992	1994	1996	1998	2000	Data Basis
Altimir (1982)	51.2	...	48.1	45.1	53.0	52.1	...	55.6	...	...	...	...	...	...	...	Household survey; income adjusted
Aspe and Beristain (1984a)																
I	...	...	...	...	53.0	49.8	...	...	...	...	...	...	...	...	...	Household survey; reported income
II	...	...	...	...	50.0	48.0	...	...	...	...	...	...	...	...	...	Household survey; per capita income
Authors' estimates																
I	...	...	...	...	...	...	...	...	43.0	46.9	47.5	47.7	45.6	47.6	48.1	Household survey; current income
II	...	...	...	...	...	...	...	...	45.6	48.9	50.9	51.4	48.9	50.9	50.3	Household survey; current money income
III	...	...	...	...	...	...	...	...	55.1	59.2	54.0	53.4	52.8	54.3	57.1	Household survey; current non-money income
IV	...	...	...	...	...	...	...	...	38.5	39.8	41.3	41.9	39.0	40.4	43.4	Household survey; current consumption
V	...	...	...	...	...	...	...	...	38.3	37.8	40.6	42.0	38.3	40.4	43.0	Household survey; current money consumption
VI	...	...	...	...	...	...	...	...	39.0	45.5	42.9	41.7	40.7	40.2	44.5	Household survey; current non-money consumption
Baldacci, de Mello & Inchauste (2002)																
I	...	...	...	...	...	...	...	...	...	...	52.3	...	49.7	...	...	Household survey; adjusted income
II	...	...	...	...	...	...	...	...	...	...	54.8	...	52.1	...	...	Household survey; adjusted consumption
Bergsman (1980)																
I	...	...	...	...	52.7	52.2	...	55.7	...	...	...	...	...	...	...	Household survey; income unadjusted
II	...	...	...	...	50.5	50.0	...	53.7	...	...	...	...	...	...	...	Household survey; income adjusted for underreporting
III	...	...	...	...	58.4	58.4	...	62.8	...	...	...	...	...	...	...	Household survey; income adjusted for underreporting
Deininger and Squire (1996)	52.6	...	55.1	...	55.5	57.7	...	57.9	50.6	55.0	56.9	...	...	...	...	Household survey; per capita income
ECLAC (1997a, 1997b)																
Urban	...	...	...	...	...	...	...	...	32.1	42.4	41.4	40.5	...	...	...	Household survey; per capita income
Rural	...	...	...	...	...	...	...	...	32.2	34.4	34.1	33.0	...	...	...	Household survey; per capita income
Fields (1980, 1990)	52.6	...	55.1	...	54.3	58.0	...	58.0	...	...	...	...	...	...	...	Unknown
Fujii and Aguilar (1995)	51.5	...	53.3	...	54.6	...	48.9	...	43.6	47.2	49.0	...	...	...	...	Household survey; current money income
Hernández Laos and Córdova (1979)	51.6	...	...	45.0	52.7	52.6	49.6	57.0	...	...	...	...	...	...	...	Household survey; current money income
IDB, Research Department (2001)	...	...	...	...	...	...	...	...	...	53.1	53.4	53.6	52.8	...	...	Household survey
INEGI (different years)	...	...	...	...	...	...	...	...	42.5	46.9	47.5	47.7	45.6	47.6	48.1	Household survey; current income
Lustig and Székely (1997a)																
I	...	...	...	...	...	...	...	...	47.4	53.1	53.1	54.0	...	...	...	Household survey; per capita income
II	...	...	...	...	...	...	...	...	40.4	50.5	50.2	50.9	...	...	...	Household survey; per capita consumption
III	...	...	...	...	...	...	...	...	49.6	56.8	55.6	55.0	...	...	...	National income accounts; partially adjusted
IV	...	...	...	...	...	...	...	...	60.9	62.2	61.6	61.4	...	...	...	National income accounts; fully adjusted
Méjia and Vos (1997)	...	...	...	...	...	...	...	...	...	51.9	57.0	56.9	...	...	...	Household survey; per capita income
Székely (1995)	...	...	...	...	...	...	...	...	46.2	51.3	51.6	...				Household survey
Székely (1996)	52.0	52.0	...	53.0	57.0	54.0	...	...	44.0	48.0	49.0	...	...	...	...	Household survey; to improve compatibility with the 1977-92 data, the data for 1950-68 were adjusted.
World Bank (1997)	...	...	...	...	...	...	...	...	...	...	50.3	...	...	...	...	Household survey; per capita consumption

Sources: As indicated.

1/ Gini coefficient multiplied by 100.

Table 2. Mexico: Distribution of Household Income, 1984-2000

	Lustig and Székely (1997a)				Authors' estimates			
Year	Gini Coefficient 1/	10+/40- 2/	10+/10- 3/	20+/20- 4/	Gini Coefficient 1/	10+/40- 2/	10+/10- 3/	20+/20- 4/
1984	47.40	2.78	22.58	11.73	43.0	2.29	19.18	10.28
1989	53.12	3.79	32.95	15.68	46.9	2.95	23.96	12.19
1992	53.13	3.82	32.35	15.93	47.5	3.01	24.61	12.64
1994	54.04	4.00	33.06	16.38	47.7	3.04	24.14	12.53
1996	...	...	...	...	45.6	2.68	20.49	10.99
1998	...	...	...	...	47.6	3.05	25.44	13.00
2000	...	...	...	...	48.1	3.13	25.51	13.18
1950s-1990s 5/	53.85	...	...	17.12				

Source: Lustig and Székely (1997a) based on adjusted income and authors' estimates based on current income.

1/ Gini coefficient multiplied by 100.
2/ Share of top 10 percent divided by share of bottom 40 percent.
3/ Share of top 10 percent divided by share of bottom 10 percent.
4/ Share of top 20 percent divided by share of bottom 20 percent.
5/ Based on Deininger and Squire (1996).

As in other Latin American economies, Mexico's income inequality can largely be attributed to inequality in factor endowments and human capital formation, where the former includes factors such as land, natural resources, and physical capital, and the latter access to education and health care. Evidence suggests that low average levels and a high degree of inequality in physical and human capital formation explain a major part of Latin America's relatively high degree of income inequality as well as the region's "excess inequality" compared to the rest of the world (Londoño and Székely, 1997, and Inter-American Development Bank (IDB), 1997 and 1999).

Income inequality in Mexico has an important urban/rural and regional dimension: average incomes in urban areas and in the richest states remain much higher than those of the poorest states and rural areas. Separate Gini coefficients for urban and rural areas show that income inequality within urban and rural areas was less pronounced than for the country as a whole, reflecting the relatively higher degree of homogeneity. For example, calculations for 1994 by the Economic Commission for Latin America and the Caribbean (ECLAC) (1997a, 1997b) show that Mexico had urban and rural Gini coefficients of 0.41 and 0.33, respectively (Table 1), which is substantially less unequal than the Gini coefficients for the entire country. Still, calculations by Pánuco-Laguette and Székely (1996) show that inequality *within* urban and rural areas still account for most of the inequality in Mexico. In 1992, the "*within* inequality" amounted to 84 percent of total inequality and the "*between* inequality" to 16 percent. However, the same data also show that the importance of *between* inequality (that is, the urban/rural gap) significantly increased during 1984-92.

Households in urban areas are, on average, much better off than households in rural areas. This urban/rural income gap is reflected in the poverty data shown in Table 3. Accordingly, in 1994, 81 percent of Mexico's extremely poor lived in rural areas, although the rural population share amounted only to 42 percent of the total population. Similarly, in 1994,

79 percent of Mexico's extremely poor lived in four regions: the Center, the Center-West, the South, and the Southeast;[7] in contrast, only 17 percent of Mexico's poor lived in the northern part of Mexico (which comprises the regions North, Northeast and Northwest). Poverty rates were most pronounced in the Southeastern region that, in 1994, contained 9 percent of Mexico's population but 19 percent of the country's poor.

Income inequality also has important socio-economic characteristics. Almost the entire increase in poverty rates during 1989-94, a period when Mexico continued to implement structural reforms such as privatization and trade liberalization, reflected sharp increases in poverty in households with three socioeconomic characteristics of the household head: no education beyond primary school, employment in the agricultural sector, and residing in the

Table 3. Mexico: Poverty Profile, 1984-1994

	Distribution of Population				Distribution of Population in Extreme Poverty				Distribution of Population in Moderate Poverty		
	1984	1989	1992	1994	1984	1989	1992	1994	1984	1992	1994
Residence (urban/rural)											
Rural	37.0	38.0	41.0	42.0	62.0	68.5	76.3	81.0	50.5	59.5	62.3
Urban	63.0	62.0	59.0	58.0	38.0	31.5	23.7	19.0	49.5	40.5	37.7
Education of household head											
Without formal education	21.0	22.0	19.0	20.0	35.5	36.3	33.7	36.6	29.0	26.2	30.1
Primary school not completed	40.0	31.0	32.0	29.0	50.3	41.3	44.6	41.4	48.7	40.2	37.8
Primary school completed	20.0	20.0	21.0	20.0	10.8	14.8	16.7	15.2	15.4	21.3	19.5
Some post primary education	10.0	13.0	14.0	15.0	3.2	6.2	4.1	5.0	5.1	9.5	9.6
Some high school education	3.0	6.0	6.0	6.0	0.1	0.7	0.8	1.0	1.1	2.2	1.8
Some tertiary education	6.0	9.0	9.0	9.0	0.1	0.7	0.0	0.7	0.7	0.7	1.2
Occupation of household head											
Professional or technical	8.0	12.0	9.0	9.0	1.9	4.4	1.2	1.1	2.5	2.3	1.8
Rural workers	32.0	25.0	23.0	22.0	56.3	53.9	51.5	49.9	44.5	36.1	35.0
Industrial workers	22.0	22.0	26.0	24.0	18.0	17.6	23.5	20.4	21.4	27.8	25.8
Intermediate-level workers	22.0	24.0	25.0	24.0	9.0	10.8	11.1	9.9	16.4	19.2	17.3
Household employees	3.0	3.0	4.0	5.0	3.3	2.7	3.2	4.5	3.2	3.7	5.2
Not classified	14.0	14.0	14.0	15.0	11.6	10.6	9.5	14.2	12.0	10.9	14.9
Region of residence											
Northwest	8.0	9.0	8.0	9.0	4.6	3.7	3.5	4.5	6.2	5.1	5.8
Northeast	7.0	6.0	7.0	6.0	3.6	2.7	2.3	1.9	5.2	4.3	3.6
North	14.0	11.0	10.0	11.0	14.6	12.1	9.4	11.0	13.5	10.2	11.6
Center West	17.0	19.0	17.0	19.0	20.0	22.0	15.6	18.7	19.9	17.4	20.6
Center	25.0	20.0	24.0	23.0	33.6	21.5	26.5	24.3	29.9	25.8	25.3
South	6.0	9.0	10.0	10.0	6.2	11.6	13.1	17.0	7.0	11.5	13.1
Southeast	6.0	12.0	11.0	9.0	8.2	20.3	24.5	18.8	7.6	17.2	13.1
Southwest	4.0	2.0	3.0	3.0	4.1	2.0	3.2	2.6	4.1	3.4	3.2
Federal District	13.0	13.0	10.0	9.0	5.1	4.1	1.8	1.2	6.6	5.0	3.7
Household size											
1-2 people	6.0	5.0	6.0	6.0	1.8	1.3	1.3	1.9	2.6	2.2	2.6
3-4 people	21.0	24.0	26.0	28.0	8.6	9.6	10.4	10.9	12.6	16.0	17.4
5 people and more	73.0	71.0	68.0	66.0	89.7	89.1	88.3	87.2	84.8	81.8	80.0

Source: Lustig and Székely (1997a).

[7] These regions comprise the following states: the Center comprises Hidalgo, Querétaro, Tlaxcala, México, Morelos, and Puebla; the Center-West comprises Aguascalientes, Colima, Guanajuato, Jalisco, and Michoacán; the South comprises Tabasco and Veracruz; the Southeast comprises Chiapas, Guerrero, and Oaxaca.

South or Southeastern part of the country (Table 3). Although in the more prosperous (urban) regions poverty rates declined during 1989-94, they increased in rural and marginalized[8] areas, particularly in those areas with a high share of indigenous population groups. Importantly, poverty rates increased, particularly for those population groups with little formal education.

Lagging rural development and a strong pro-urban expenditure bias have frequently been indicated as being at the root of Mexican poverty and inequality;[9] in addition, a fairly unstable macroeconomic environment during much of the last three decades may have had important adverse distributional consequences. Mexican poverty profiles consistently show that the extremely poor, aside from being located mostly in the rural areas and having the lowest level of educational attainment (Table 3), derive most of their earnings from self-employment and wage labor—most in agriculture and related activities. The returns to unskilled labor and land (the main asset owned by the poor) depend critically on two factors: government policies, broadly defined to include pricing and resource allocation decisions, particularly through expenditure policies; and the institutional and macroeconomic environment in which people make their decisions. Historically, the government's policies in agriculture—which focused on providing subsidies to fertilizers, agricultural credit, and electricity, providing crop insurance, and maintaining price support schemes—probably provided large rents to higher-income producers without producing significant increases in agricultural output, higher returns to land, or higher wages for unskilled rural labor. These policies doubly discriminated against the rural poor: agriculture and rural areas received an inequitably small share of the total resources for social and infrastructure investment which were mainly geared toward urban areas; and resources channeled to the rural areas were mostly untargeted, benefiting better-off producers (Levy, 1992).

Policies that affect risk and uncertainty are key elements in the decisions people make. The poor are less able to bear risk and face uncertainty, and changes in risks and uncertainty may affect decisions to migrate, on- and off-farm labor supply, crop choice, etc. Although some uncertainties are exogenous (like the weather), others are induced by macroeconomic policies. For example, the poor, particularly the moderately poor, may hold financial assets, particularly cash balances, between the sale of a crop and the purchase of goods or inputs; inflation erodes the value of these assets, thereby limiting the ability of the poor to accumulate assets over the medium term (Levy, 1992).

B. Recent Trends

Following several decades in which the country moved toward a more even distribution of income, Mexico's income disparities have generally widened since the 1980s. Much of the increase in income disparities happened in the 1980s. During the early 1990s, there was neither a further increase nor a significant reduction in Mexico's income disparities, similar to what has been observed for much of the region (IDB, 1997). Since the mid 1980s, inequality has risen

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[8] Marginalized areas are those that lack basic infrastructure.

[9] See, for example, Levy (1992).

again.[10] As the Gini coefficient shows, income inequality in Mexico increased during 1950-75 from already fairly high initial levels, and then declined during 1975-84 (Table 1).[11] Although levels of inequality differ in the various studies, they all show a significant increase in income inequality from 1984 until 1994,[12] a small reduction in 1996, and a further increase during 1996-2000. Income inequality in 2000 was the highest since the mid 1980s. In general, the Gini coefficient in both consumption and income increased by around 5 percentage points since 1984 (Figure 3). As indicated by the Lorenz Curve, the distribution of both income and consumption in 2000 was clearly more unequal than in 1984 (Figure 4).[13] In 2000, the wealthiest 10 percent of all Mexicans received nearly 39 percent of the total income in the country, and the poorest 40 percent around 12 percent of total income (Table 4).

The marked increase in income inequality in the 1980s reflected largely an increase in the income gap between the very rich and the rest. This pattern is similar to what has been observed elsewhere in Latin America, where the richest 10 percent of all households have generally been able to hold on or increase their income share, while the poorest 40 percent just managed to maintain theirs or suffered a decline (ECLAC, 1997b). There are few differences between the lower tail and middle of the income distribution in Mexico and in other countries, although Mexico has larger differences between the richest 10 percent of the population and the rest: when excluding the top 10 percent of the income distribution, Mexico only ranks 13th rather than 5th in terms of inequality in Latin America. Moreover, inequality among the first 90 percent of the population is even lower than inequality among the same group in the United States (Székely, 1999).

It has been argued that government expenditure played an important role in increasing income inequality during the period of economic adjustment that followed the Mexican debt crisis of 1982, particularly through transfers that largely benefited better-off population groups (Székely, 1994; and Pánuco-Laguette and Székely, 1996). This is also supported by evidence presented by Carral Cuevas and Chávez Presa (1982), who show that subsidized agricultural credit has, traditionally, been more unequally distributed than income or land holdings: rich households received an even larger share of total credit subsidies than they

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[10] Intertemporal comparisons should be treated with care, however, due to the data issues pointed out in Box 1.

[11] The Mexican household surveys have been based on the same methodology only since 1984; data for previous periods are based on various sampling techniques and instruments used for obtaining information. The quality of the earlier surveys varies; pre-1984 survey data and post-1984 survey data are not fully compatible (Székely, 1996).

[12] Bouillon, Legovini, and Lustig (1998 and 1999) also reach the same conclusion for the years 1984 and 1994. They report several inequality measures calculated using both adjusted and unadjusted income data showing a sharp increase in household income inequality.

[13] The distribution in 1984 was dominated by the distribution in 2000 in the Lorenz sense (i.e. it was closer to the equality line than the distribution in 2000). This implies that any inequality measure, besides the Gini coefficient, would reflect a deterioration in the distribution.

received of total income or had in total land holdings. In general, the main losers during the adjustment period were industrial workers and the rural poor who bore the brunt of economic adjustment and saw their income share diminish. The positive effects of economic growth in the late 1980s were largely absorbed by the very rich who experienced a further increase in their income share as they captured much of the increase in enterprise profits. Other population segments failed to recover their positions.

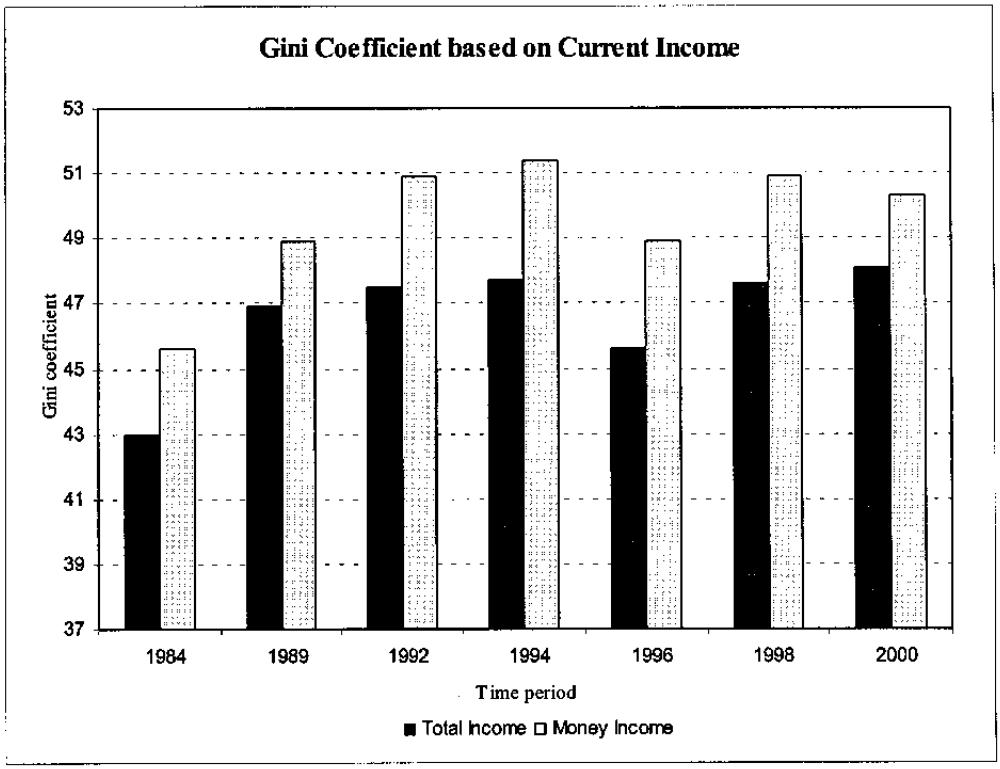
In the past, adverse economic shocks, like the recession during 1984-89, have affected the income distribution in high-density urban areas more than in rural areas. As a result, during 1984-92, income inequality in urban areas became more pronounced relative to rural areas, notwithstanding the fact that rural poverty remained pervasive. Given the relatively higher income level in urban areas, adverse shocks may create much larger income disparities there than in rural areas, where the income level is lower to begin with. Hence, during 1984-92, income inequality *between* urban and rural areas rose as inequality *within* urban areas became considerably more pronounced in comparison to inequality in rural areas (Pánuco-Laguette and Székely, 1996).[14]

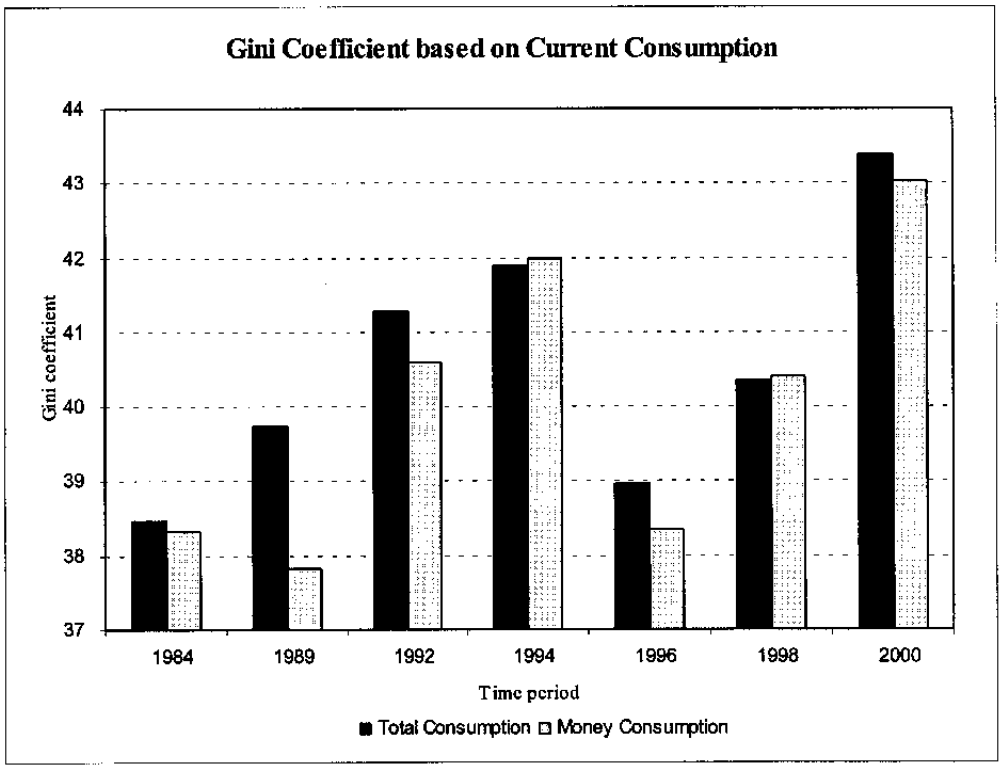
The December 1994 crisis seems to have reduced income disparities but increased poverty in its immediate aftermath. The share of income of the top quintile fell in the aftermath of the crisis, resulting in reduced income disparities in 1996. Estimates suggest that extreme poverty increased from 16 percent of the population in 1994 to 19 percent in 1995, and dropped to 18 percent in 1997; similarly, moderate poverty increased from 32 percent of the population in 1994 to 36 percent in 1995, and dropped to 34 percent in 1997 (Lustig and Székely, 1997b).

The increase in poverty following the 1994 crisis can be accounted for by several factors. Real minimum wages dropped significantly in 1995: in the fourth quarter of 1995, the real minimum wage had dropped to 81 percent of its average 1994 level and then remained fairly stable at around 80 percent (Table 5). Also, during 1995-96, the percentage share of salaried workers who received an income below the minimum wage rose lightly. Many sectors experienced dramatic drops in real wages. There was a steep drop in incomes in the agricultural sector, which probably led to a significant increase in the incidence of poverty in rural areas (Lustig and Székely, 1997a). In the manufacturing and construction sectors, real earnings per worker declined even after the crisis until 1997, when they were about 78 percent and less than 70 percent of their average 1994 level, respectively (Table 5). The 1994 crisis also had a big impact on the unemployment rate, which increased from 3.6 percent in the fourth quarter of 1994 to 7.4 percent in the third quarter of 1995 (Table 5). By the end of 1995, the unemployment rate had started to decline, reaching a low 2.2 percent in 2000. In urban areas, manufacturing and construction sector workers probably bore much of the adverse employment effects of the financial crisis. While employment in the manufacturing

[14] Bouillon, Legovini, and Lustig (1998 and 1999) highlight the effect of the widening gap in the returns to skill between the more educated and the poorly educated as a key factor explaining the sharp deterioration in the income distribution between 1984-1994, in addition to the worsening of the conditions in the southern part of Mexico.

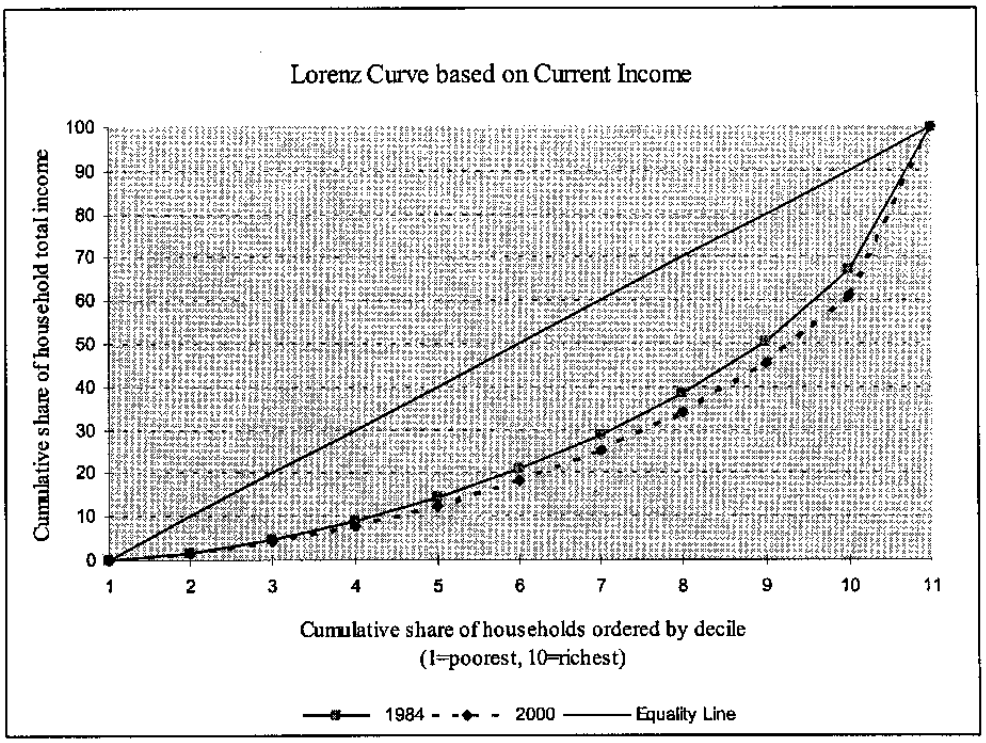
Figure 3. Mexico: Gini Coefficient, 1984-2000

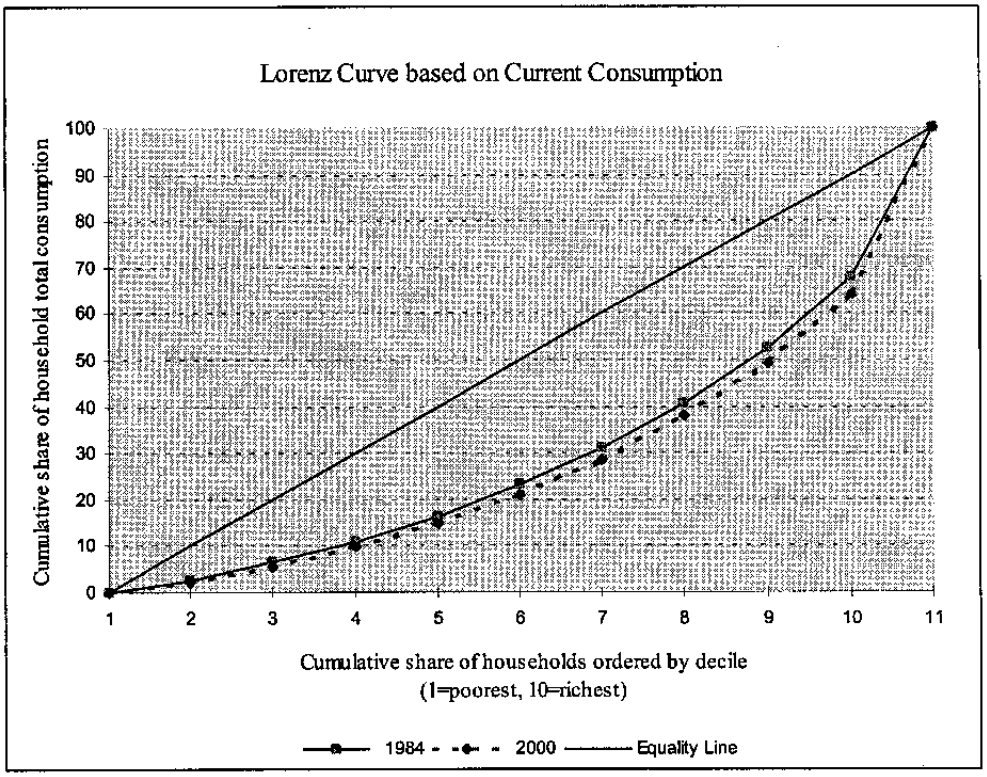




Source: Authors' estimates based on household surveys, several years. Consumption and income measures are unadjusted.

Figure 4. Mexico: Lorenz Distribution in Income and Consumption, 1984 and 2000





Source: Authors' calculations based on the 1994 and 2000 household surveys (INEGI, 1995 and 2001a).

Table 4. Mexico: Distribution of Household Income by Income Decile, 1950-2000

	Székely (1996)				Lustig and Székely (1997) 1/				Authors' estimates					
	1950	1963	1977	1984	1984	1989	1992	1994	1984	1992	1994	1996	1998	2000
I (lowest)	2.7	1.5	1.2	1.7	1.6	1.3	1.3	1.3	1.7	1.6	1.6	1.8	1.5	1.5
II	3.3	2.8	2.3	3.1	2.9	2.4	2.4	2.3	3.1	2.7	2.8	3.0	2.7	2.6
III	4.0	3.0	3.4	4.2	3.8	3.3	3.2	3.2	4.2	3.7	3.7	3.9	3.6	3.6
IV	4.5	3.7	4.6	5.3	4.7	4.2	4.2	4.0	5.3	4.7	4.6	4.9	4.7	4.6
V	4.6	4.7	5.9	6.4	5.9	5.3	5.1	5.1	6.4	5.7	5.7	6.0	5.8	5.7
VI	5.6	5.2	7.3	7.9	7.3	6.6	6.4	6.5	7.8	7.1	7.1	7.3	7.2	7.1
VII	6.8	6.4	9.3	9.7	9.2	8.3	8.3	8.2	9.7	8.9	8.7	9.0	8.9	8.8
VIII	8.9	9.9	12.3	12.2	11.9	10.7	10.9	10.8	12.2	11.4	11.3	11.5	11.5	11.2
IX	14.5	18.7	17.4	16.7	16.5	15.5	16.1	15.7	16.7	16.0	16.1	16.0	16.0	16.1
X (highest)	45.1	44.2	36.3	32.8	36.1	42.5	42.1	43.0	32.8	38.2	38.4	36.6	38.1	38.7

Sources: Székely (1996), Lustig and Székely (1997) and authors' estimates.

1/ Data from Lustig and Székely (1997) are corrected for estimated capital income received.

sector recovered considerably after 1996, employment in the construction sector remained low compared to pre-crisis levels.

Government expenditure programs did not help to reduce the effect of the crisis on the poor. To a large extent, this reflects the impact of crisis-related expenditures: for example, government programs geared toward providing support to the banking system directly benefited those population groups with outstanding consumer and mortgage credits, who tend to be middle- and upper-income groups. From September 1995 to February 1997, the government's support scheme for small debtors (ADE) transferred about 0.1 percent of GDP, and the support scheme for mortgage debtors transferred another 0.1 percent of GDP in 1996. Other government programs that restructured loans or provided support for specific interest groups, such as highway concessionaires, also benefited better-off income groups. In addition to these direct transfers, public finances also had to absorb the cost of banking system restructuring operations, which may have crowded out other potential pro-poor social expenditures.[15]

III. Social Expenditure and Income Distribution

A. Overview of Social Expenditure

Government policies can be important tools for shaping a country's income distribution. Generally, as pointed out by Tanzi (1998), "there is much room, especially in fiscal policy, for reforms that are both pro-growth and pro-poor. Often, many of the policies that benefit the lowest-income groups are also those with the highest social rate of return."

The expenditure side of the budget offers greater scope for income redistribution than the tax side. Even a moderately progressive tax system is unlikely to be a major determinant of the post tax income distribution. Major taxes, like the VAT, are often not progressive, and, while some progression can be built into them, this usually comes at a high cost in terms of greater administrative effort needed or evasion itself. In contrast, expenditure policies can potentially

[15] Roughly, the cost of debtor support and bank restructuring operations has amounted to about 15 percent of GDP.

Table 5. Mexico: Labor Market Indicators in 43 Urban Areas, 1994-2000

	Economically Active Population 1/	Open Unemployment Rate 2/	Openly Unemployed or Working Less than 15 Hours per Week 3/	Manufacturing Sector Employment (Average for 1994=100)	Construction Sector Employment (Average for 1994=100)	Real Minimum Wage (Average for 1994=100) 4/	Manufacturing Sector Real Average Earnings Per Worker (Average for 1994=100)	Construction Sector Real Average Earnings Per Worker (Average for 1994=100)
1994	**54.7**	**3.7**	**7.8**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
I	54.5	3.7	8.1	100.9	102.0	102.3	95.1	96.7
II	54.6	3.6	8.0	101.0	99.8	100.8	96.6	97.9
III	54.9	3.9	7.7	99.2	102.0	99.3	97.0	100.6
IV	54.8	3.6	7.4	98.9	96.2	97.6	111.3	104.9
1995	**55.4**	**6.2**	**10.8**	**90.9**	**60.3**	**87.7**	**87.4**	**89.1**
I	54.6	5.1	9.3	94.3	67.4	95.4	92.6	99.5
II	55.2	6.3	11.0	91.0	55.4	90.4	85.4	90.9
III	56.0	7.4	12.0	88.5	55.5	84.0	82.8	83.6
IV	55.6	6.1	10.7	89.7	62.7	81.0	88.9	82.2
1996	**55.4**	**5.5**	**10.0**	**92.9**	**62.4**	**80.4**	**78.8**	**71.3**
I	55.2	6.2	11.0	91.7	61.8	79.3	77.6	74.0
II	55.1	5.6	10.3	92.8	59.3	83.1	77.0	74.1
III	55.7	5.5	9.6	92.6	61.8	79.4	76.1	68.3
IV	55.7	4.7	9.2	94.5	66.5	79.8	84.4	68.7
1997	**55.9**	**3.7**	**8.4**	**97.7**	**64.0**	**79.6**	**78.3**	**68.6**
I	55.4	4.3	9.1	96.1	64.7	83.3	74.7	65.7
II	55.9	3.9	8.8	97.8	61.6	80.6	77.2	68.8
III	56.3	3.7	8.1	97.7	63.1	78.4	75.8	69.3
IV	56.4	3.1	7.4	99.3	66.5	76.0	85.5	70.8
1998	**56.5**	**3.2**	**7.3**	**101.6**	**65.3**	**79.9**	**80.5**	**70.0**
I	56.3	3.5	7.9	100.8	63.7	83.2	77.3	69.4
II	56.6	3.2	7.6	102.1	63.4	80.6	79.0	70.2
III	56.9	3.2	6.9	101.6	66.1	78.1	78.9	68.7
IV	56.3	2.8	6.8	101.9	67.8	77.6	87.0	71.6
1999	**55.8**	**2.5**	**6.0**	**102.5**	**62.5**	**77.3**	**81.8**	**70.6**
I	55.6	2.9	6.5	101.9	63.5	80.0	77.7	69.8
II	55.6	2.6	6.3	102.2	61.9	78.0	79.9	70.2
III	55.7	2.3	5.5	102.4	63.2	76.4	79.5	70.4
IV	56.2	2.2	5.7	103.4	61.3	74.6	89.9	71.8
2000 5/	**56.3**	**2.2**	**5.6**	**104.1**	**54.2**	**77.6**	**86.5**	**70.2**
I	56.3	2.3	5.7	104.0	54.5	79.7	81.2	67.1
II	56.2	2.2	5.8	104.4	54.2	78.3	85.0	66.3
III	56.8	2.4	5.7	103.9	56.4	77.2	84.9	72.1
IV	56.0	2.0	5.2	103.6	51.6	75.4	94.9	75.1

Source: Instituto Nacional de Estadística, Geografía e Informática (INEGI), and authors' estimates.

1/ As percentage of all persons aged 12 and over.
2/ Persons aged 12 and over who in reference period: a) did not work; b) were available for employment, and c) unsuccessfully sought employment in the 2 months prior to reference period. As percent of economically active population; data refer to quarterly averages.
3/ Openly unemployed (as defined in 2/) plus those working less than 15 hours/week. As percent of economically active population; data refer to quarterly averages.
4/ Nominal minimum wage deflated by the consumer price index.
5/ Preliminary estimates.

have a much stronger differential impact on various income groups.[16] This is especially true for social expenditure, because of its direct impact on income via transfer payments to households, and by affecting key elements that determine the income distribution over time, like human capital accumulation or the acquisition of physical assets.

During 1990-2000, social expenditures increased sharply, although more so in the first half of the 1990s. Social expenditure in Mexico includes spending on health, nutrition, sanitation, housing, social assistance, and pensions. Total social expenditure amounted to about 9.5 percent of GDP in 2000, compared to 6.1 percent of GDP in 1990, which implies an increase of 83 percent in real terms over the decade. Overall, and as shown in Figure 5, social expenditure increased in real terms and relative to GDP during 1990-94, but following the December 1994 crisis, contracted sharply in 1995-1996. During 1997-2000 social expenditures relative to GDP increased again. In 2000, 89 percent of all social expenditures were for health, education, and social security (mainly pensions), a proportion that has been roughly stable throughout the 1990s. Although government spending on social welfare and social assistance is fairly small, it was the only social expenditure item that was not reduced relative to GDP in the years immediately following the December 1994 crisis, mainly to maintain a social safety net for the most vulnerable segments of society.[17] Given the large share of wages in social spending, the contraction of social expenditure in the crisis year of 1995 is in part attributable to restrictive wage policies. Notwithstanding the crisis, the government safeguarded social expenditures, and even expanded the maximum duration of health benefits for the unemployed from 3 months to 6 months and to broaden some education scholarship programs for the needy.

Indicators of social well-being—which, to some extent, measure the effectiveness of social expenditure—have shown significant improvement over the last few decades (Table 6). However, the distribution of social indicators shows a pattern of continued significant inequality (Table 7). The population in the wealthiest quintile has on average 7 more years of education than the population in the poorest quintile, nearly 70 percentage points more social security coverage, nearly 60 percentage points more health insurance coverage and is exposed to a lower unemployment rate. The following sections provide overviews of the main social expenditure items, examine distributive effects, review recent government initiatives and suggest policy options for improving equity.

B. Education

Overview

Standard education system output indicators generally improved over the last decade, particularly for the primary level (Tables 6 and 8). For example, in 2000, the average in years

[16] See, for example, Harberger (1998), particularly the hypothetical examples of the impact of revenue and expenditure policies on income distribution.

[17] Still, they decreased in real terms after 1996, as other social expenditure items increased.

Table 6. Mexico: Indicators of Social Well-Being, 1940-2000

	1940	1950	1960	1970	1980	1990	1994	1996	1997	1998	1999	2000
Education 1/												
Illiteracy rate (in percent)	53.9	43.4	34.6	25.1	17.8	12.2	10.6	9.9	9.6	9.2	8.9	...
Average years of formal education (in years)	1.7	2.1	2.8	3.7	5.4	6.3	6.6	...	7.4	...	...	7.6
Health												
Infant mortality rate (per 1,000 births)	159.5	126.6	94.5	79.0	53.0	23.9	17.0	16.9	16.4	15.8	14.5	...
Under-Age 5 mortality rate (per 1,000 children in age cohort)	...	...	...	...	3.4	2.3	1.2	1.2	1.1	1.0	0.9	...
Life expectancy at birth (in years)	38.8	46.9	57.5	60.9	66.8	70.0	72.6	74.0	74.3	74.7	75.0	75.3
Coverage of vaccination in one year olds (in percent)	...	...	...	...	...	...	87.4	91.8	89.6	93.5	93.9	95.2

Sources: Illiteracy rate in 1940-60: Lustig and Székely (1997b); in 1970-2000: World Development Indicators, World Bank (2001). Average years of formal education in 1940-94: Lustig and Székely (1997b); for 1996-2000: INEGI (2001b). Infant mortality rate in 1940-80: Lustig and Székely (1997b); for 1990-2000: World Development Indicators, World Bank (2001). Under-Age 5 mortality rate: INEGI (2001b). Coverage of vaccination: INEGI (2001b

1/ For population over 15 years of age.

of formal education was 7.6 years, compared to 6.3 years in 1990.[18] Despite the improvements in recent years, educational attainment levels remain low: for example, in 1994, 54 percent of the overall population had not completed primary school or was without formal education; in rural areas, this amounted to 74 percent of the population. Also, the distribution of educational attainment is very unequal (Table 7).

Educational attainment levels remain particularly low in communities with a high share of indigenous population groups:[19] whereas in 1989, the average years of formal education amounted to 4.9 years in communities where less than 30 percent of the population belonged to the indigenous population; it was only 2 years in communities where over 70 percent of the population belonged to the indigenous population (Panagides, 1994). The states with the highest concentration of indigenous population groups (Yucatan, Quintana Roo, Oaxaca, Chiapas, and Campeche) are all in Southern Mexico, and are commonly recognized as being generally poor or having large regions with a high incidence of poverty. Some of these states also have had traditionally poor educational attainment levels: in 1970, for example, the illiteracy rate in Oaxaca and Chiapas was more than 45 percent of the population over 15 years of age, while in the wealthier state of Nuevo León and in the Federal District it was below 15 percent (Lustig and Székely, 1997a). Even in 1990, the illiteracy rate in the 8 poorest states (all in the South) averaged 22 percent, while the national average was 12.5 percent. Differences in educational attainment have remained considerable in recent years. In 1999, the illiteracy rate in Oaxaca and Chiapas was over 23 percent, compared to the national average of 10 percent. In the wealthier areas of Nuevo León and the Federal District illiteracy rates were below 3.6 percent (Mexico, Secretariat of Health, 2001).

[18] The comparable data on average years of formal education are 8.7 years, 3.9 years, and 7.5 years for Argentina, Brazil, and Chile, respectively.

[19] According to the 1990 census, 5.3 million Mexicans (7.5 percent of the total population) speak an indigenous language.

Public education remains largely financed by the federal level of government. Up to 1992, the provision and financing of public education were largely federal responsibilities. In 1992, all operational aspects of the school system were decentralized to the states; still, the federal government remained in charge of financing the system and operating the public school system in Mexico City (the Federal District). With public education financed by the federal government, regional differences in per-student expenditure and in other indicators (such as student/teacher ratios) are relatively small compared to some other Latin American countries where financing responsibilities lie with sub-national levels of government. Data from the Secretariat of Public Education (SEP) show total education expenditure amounted to 6.1 percent of GDP in 2000 (Table 8). Of the total, 4.1 percent of GDP was spent by the federal system, while the rest corresponds to states, municipalities and the private sector. After a sharp reduction in education spending in the mid 1980s, federal spending rapidly increased during 1990-94 from 3.0 percent of GDP to 4.6 percent of GDP, reflecting the government's emphasis on the education sector as a core element of future economic growth. Following the December 1994 crisis, federal education spending was reduced to 4 percent of GDP in 1996 and rose again slightly by the end of the decade.

Table 7. Mexico: Distribution of Social Indicators by Income Quintiles, 1996

	National					Urban					Rural				
	I	II	IV	V	Total	I	II	IV	V	Total	I	II	IV	V	Total
Years of Schooling	**3.9**	**5.5**	**7.8**	**10.7**	**7.2**	**5.8**	**7.1**	**9.0**	**12.0**	**8.6**	**3.2**	**3.9**	**5.5**	**6.7**	**5.0**
Male	4.1	5.7	8.0	11.1	7.5	6.1	7.5	9.3	12.4	8.9	3.4	4.1	5.6	6.9	5.1
Female	3.7	5.3	7.6	10.4	7.0	5.5	6.8	8.8	11.5	8.3	3.0	3.7	5.4	6.6	4.8
Access to Social Security	**13.2**	**33.4**	**68.0**	**81.4**	**56.4**	**27.6**	**49.5**	**73.5**	**83.0**	**63.6**	**3.3**	**7.6**	**28.0**	**50.3**	**26.0**
Male	13.9	34.2	67.5	80.2	54.3	28.0	51.5	72.1	81.8	62.5	3.5	8.3	29.4	47.9	25.3
Female	10.5	31.0	69.0	83.1	60.8	26.7	44.5	75.9	84.7	65.7	1.9	4.6	23.0	56.4	28.6
Unemployment Rates	**5.2**	**6.4**	**4.2**	**2.0**	**4.3**	**11.2**	**6.1**	**3.2**	**2.0**	**5.1**	**2.9**	**4.2**	**3.3**	**2.3**	**3.1**
Male	5.7	7.3	4.5	2.2	4.7	12.3	6.4	3.5	2.2	5.7	2.6	4.6	3.1	2.2	3.2
Female	4.2	4.5	3.7	1.7	3.5	8.4	5.5	2.7	1.6	3.9	3.4	3.2	3.8	2.4	2.9
Type of Health Service															
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Uninsured	88.9	70.6	38.5	29.0	50.1	75.6	55.1	33.3	28.7	43.3	97.4	94.5	77.9	58.0	79.2
IMSS	10.1	26.7	50.1	50.8	39.7	22.3	40.2	52.3	51.2	45.2	2.6	4.8	19.4	29.1	16.5
ISSTE	0.8	2.7	10.7	19.1	9.6	1.9	4.7	13.8	19.0	10.9	0.0	0.7	2.7	12.5	4.2
PEMEX/SEDENA/SEMAR	0.1	0.0	0.3	1.0	0.4	0.2	0.0	0.5	1.0	0.5	0.0	0.0	0.1	0.3	0.1
Private	0.0	0.0	0.3	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.2	0.0
Male	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Uninsured	88.1	69.3	38.6	31.7	52.2	74.9	52.5	34.0	32.0	44.4	97.3	93.8	76.7	61.0	80.0
IMSS	10.8	27.6	51.5	51.8	39.6	22.6	42.8	53.8	51.8	46.0	2.7	5.5	20.6	29.7	16.8
ISSTE	1.0	3.0	9.0	14.9	7.5	2.2	4.6	11.2	14.5	8.8	0.0	0.7	2.6	8.7	3.0
PEMEX/SEDENA/SEMAR	0.1	0.0	0.5	1.4	0.6	0.2	0.0	0.8	1.4	0.7	0.0	0.0	0.1	0.4	0.1
Private	0.0	0.0	0.4	0.1	0.1	0.0	0.1	0.2	0.2	0.2	0.0	0.0	0.0	0.2	0.1
Female	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Uninsured	92.0	74.1	38.4	25.0	45.8	77.6	61.5	32.0	24.1	41.3	98.1	97.4	82.2	50.7	76.1
IMSS	7.7	24.1	47.4	49.4	40.0	21.4	33.5	49.6	50.3	43.7	1.9	2.0	14.9	27.4	15.4
ISSTE	0.3	1.9	14.2	25.2	14.0	1.0	5.1	18.3	25.1	14.9	0.0	0.6	2.9	21.9	8.5
PEMEX/SEDENA/SEMAR	0.0	0.0	0.0	0.4	0.2	0.0	0.0	0.1	0.5	0.2	0.0	0.0	0.0	0.0	0.0
Private	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

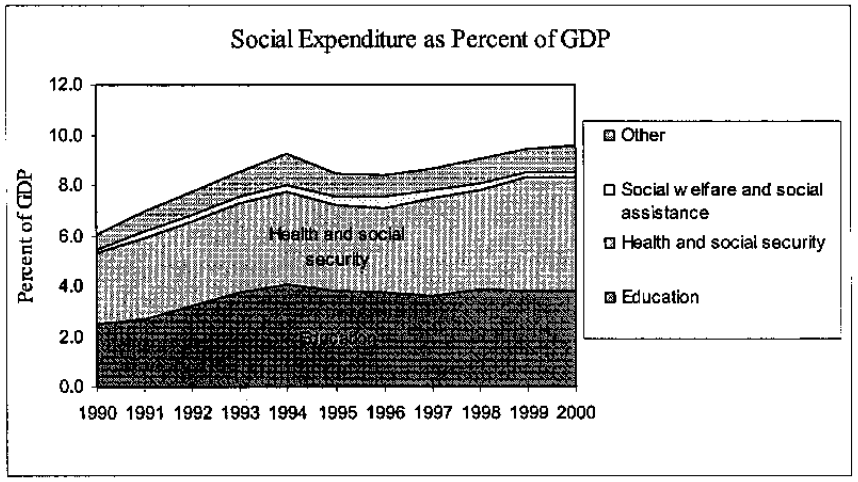
Source: Inter-American Development Bank (2001).

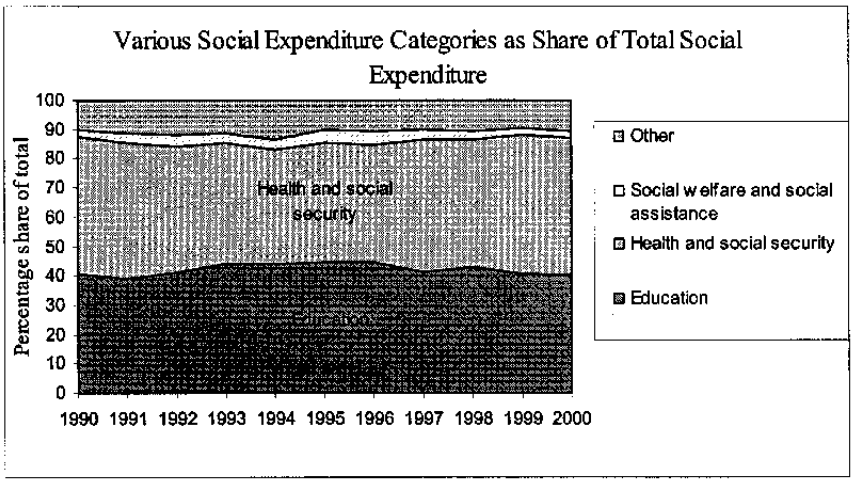
Table 8. Mexico: Education Expenditure, 1980-2000

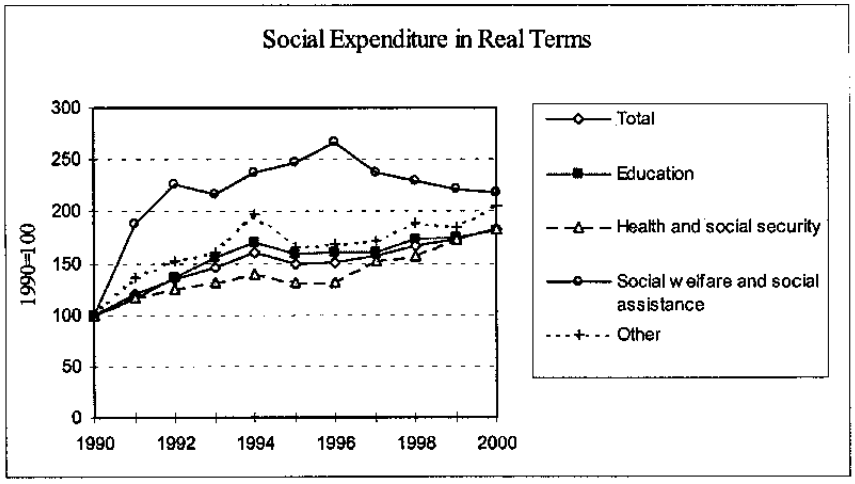
	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
			(As percent of GDP)										
Total education expenditure	**4.6**	**3.9**	**4.0**	**4.3**	**4.7**	**5.3**	**5.4**	**4.9**	**5.8**	**5.8**	**6.0**	**6.1**	**6.1**
Federal education expenditure	**3.5**	**3.0**	**3.0**	**3.4**	**3.8**	**4.3**	**4.6**	**4.2**	**4.0**	**4.0**	**4.1**	**4.1**	**4.1**
School system	2.3	1.8	2.1	2.2	2.6	3.1	3.6	3.5	3.4	3.4	3.8	3.8	3.8
Basic	1.3	1.0	1.3	1.4	1.7	2.0	2.4	2.2	2.2	2.3	2.6	2.6	2.7
Senior High School	0.3	0.3	0.3	0.3	0.3	0.4	0.5	0.5	0.5	0.5	0.4	0.4	0.4
Tertiary and postgraduate	0.6	0.5	0.5	0.6	0.6	0.7	0.8	0.8	0.7	0.7	0.8	0.7	0.7
Other	1.2	1.2	1.0	1.2	1.2	1.2	1.0	0.7	0.6	0.6	0.3	0.3	0.3
State education expenditure	**0.7**	**0.6**	**0.7**	**0.6**	**0.6**	**0.6**	**0.6**	**0.5**	**0.8**	**0.8**	**0.7**	**0.8**	**0.8**
Municipal education expenditure	**0.1**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Private sector education expenditure	**0.3**	**0.3**	**0.3**	**0.2**	**0.3**	**0.3**	**0.3**	**0.2**	**1.0**	**1.0**	**1.1**	**1.2**	**1.2**
			(In real terms, 1990=100)										
Total education expenditure			**100.0**	**111.4**	**124.8**	**138.2**	**147.2**	**133.9**	**188.4**	**201.9**	**209.6**	**214.5**	**221.8**
Federal education expenditure			100.0	117.7	132.2	148.7	160.0	148.4	175.3	183.9	191.0	192.9	201.8
School system			100.0	113.3	133.5	155.4	176.5	169.8	200.2	208.1	226.1	226.7	236.2
Basic			100.0	114.5	139.2	164.1	186.6	175.5	206.4	222.6	244.2	245.4	256.0
Senior High School			100.0	105.7	113.4	133.5	158.6	173.1	206.8	194.4	190.8	189.5	194.1
Tertiary and postgraduate			100.0	114.9	130.9	145.7	160.5	155.1	181.9	179.6	200.5	200.0	208.6
Other			100.0	127.3	130.7	135.2	121.1	91.6	105.7	113.9	61.2	80.7	82.5
State education expenditure			**100.0**	**102.4**	**101.5**	**101.0**	**99.1**	**77.0**	**183.5**	**212.3**	**214.2**	**229.6**	**231.1**
Municipal education expenditure			**100.0**	**94.1**	**114.8**	**114.2**	**112.4**	**90.3**	**104.8**	**105.8**	**107.7**	**110.6**	**120.2**
Private sector education expenditure			**100.0**	**72.3**	**110.8**	**113.7**	**111.8**	**89.7**	**485.1**	**618.4**	**632.7**	**641.9**	**647.5**
			(As percentage share of total)										
Total public education expenditure	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Federal education expenditure	**81**	**84**	**82**	**84**	**86**	**87**	**89**	**90**	**83**	**84**	**85**	**83**	**84**
School system	53	51	56	55	59	63	70	75	70	71	79	76	78
Basic	31	29	34	34	38	41	46	47	45	47	54	53	54
Senior High School	8	10	8	8	7	8	9	12	11	10	9	8	8
Tertiary and postgraduate	15	13	14	14	14	14	15	16	15	14	16	15	15
Other	15	13	14	14	14	14	15	16	15	14	16	15	15
State education expenditure	**17**	**15**	**18**	**16**	**14**	**12**	**11**	**10**	**17**	**16**	**15**	**17**	**16**
Municipal education expenditure	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
			(In US$ per student)										
Education expenditure per student													
Total expenditure	**445**	**298**	**421**	**534**	**678**	**824**	**870**	**524**	**699**	**825**	**876**	**1,003**	**1,173**
Federal expenditure													
Basic	147	91	154	202	282	379	451	280	315	396	479	535	649
Senior High School	483	338	383	455	541	688	815	636	648	679	636	678	768
Tertiary and postgraduate	1,406	732	1,055	1,319	1,736	2,077	2,270	1,413	1,448	1,526	1,742	1,808	2,083
			(In real terms, 1990=100)										
Education expenditure per student													
Total expenditure			**100.0**	**110.9**	**123.6**	**135.1**	**141.8**	**126.7**	**176.5**	**187.7**	**193.4**	**196.1**	**201.8**
Federal expenditure													
Basic			100.0	114.3	138.3	161.4	181.9	169.5	198.9	214.0	234.4	234.5	244.2
Senior High School			100.0	103.9	109.6	126.1	145.9	155.9	179.2	165.0	158.2	153.9	156.3
Tertiary and postgraduate			100.0	109.3	126.1	135.8	146.4	134.1	153.3	144.5	158.1	151.3	155.3
			(As ratio)										
Federal education expenditure per student by category as multiples of federal education expenditure per student in basic education													
Basic	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Senior High School	3.3	3.7	2.5	2.3	1.9	1.8	1.8	2.3	2.1	1.7	1.3	1.3	1.2
Tertiary and postgraduate	9.6	8.0	6.8	6.5	6.2	5.5	5.0	5.0	4.6	3.8	3.6	3.4	3.2

Source: Mexico, Federal Executive (1996a and 2001); Mexico, Secretariat of Public Education (1996b), and authors' estimates.

Figure 5. Mexico: Social Expenditure, 1990-2000







Source: Mexico, Federal Executive (2001), and authors' estimates.

While operational aspects were decentralized, financial responsibilities for the education system became more concentrated at the federal level in the mid 1990s. As shown in Table 8, federal education spending increased its share in total education spending from 81 percent in 1980 to 90 percent in 1995; this share declined to 84 percent in the year 2000. Following the 1992 decentralization, large parts of federal spending have taken the form of transfers to the states. The states' own financial resources devoted to education declined from 0.7 percent of GDP in 1990 to 0.5 percent of GDP in 1995. However, their share increased after the mid 1990s to 0.8 percent of GDP in 2000. Private sector and municipal education spending have remained insignificant.

As elsewhere, education spending in Mexico is concentrated at the tertiary and postgraduate education level. In 2000, 54 percent of total public-sector education spending went to primary education and only 15 percent to tertiary and graduate education. However, on a per-student basis, public expenditure for tertiary and postgraduate education was 3 times as high as expenditure for primary education (Table 8).[20] Despite the concentration of expenditures at the higher level of education, there has been an important reallocation of resources in favor of primary education since the 1980s. For instance, in 1980, Mexico's public spending per student in higher education was almost 10 times higher than spending on basic education.

Recent estimates indicate that higher education has a large private return in Mexico. In fact, while estimates for the mid-1980s showed that elementary education had as high a return as post-secondary education, estimates for the mid 1990s showed a pattern of increasing returns to education, with the return to higher education being larger than the return to secondary education, which in turn is larger than the return to primary education (Table 9).[21] The increase in the return to higher education poses a challenge in terms of determining reallocation policies in educational expenditures that are both growth enhancing and inequality reducing. Corbacho (2001) suggests that while reallocating education expenditures toward the basic level would tend to reduce income disparities in Mexico, it could result in a lower rate of adoption of new technologies and a lower level of overall income in steady state.[22]

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[20] Note, though, that any given pattern of per-capita student expenditures may be progressive or regressive depending whether it mostly benefits the rich or the poor.

[21] The IDB (1999) also reports a pattern of convex returns to education in Latin America as a whole for the mid 1990s. Bouillon et al. (1999) conclude that education has played a pivotal role in explaining the rise in inequality in Mexico between 1994 and 1996.

[22] This derives from a theoretical model where allocations for public education shape private incentives to invest in human capital and affect the distribution of skills. This in turn determines the degree of inequality, the aggregate level of income, and the rate of adoption of new technologies. The model evaluates whether the current allocation of public education spending would imply welfare trade-offs, in terms of inequality, income, and growth. As the government allocates more resources to basic education and less to higher education, more people have an incentive to invest in basic education but less people will invest in higher education. As workers with higher education contribute marginally more to technological progress and overall income

(continued...)

Table 9. Mexico: Private Returns per year of Education, 1980s and 1990s

	Mexico		Latin America	
	1980s	1996	1980s	1990s
Primary Education	22	8	26	10
Secondary Education	15	9	18	11
Higher Education	22	12	16	18

Sources: 1980s Mexico and Latin America: Psacharopoulos and Ng (1994); 1990s Latin America: IDB (1999). 1996 Mexico: Authors' regression estimates based on ENIGH 1996 (INEGI, 1997). Regressions for 1996 control for experience, experience squared, female, married, industry and size of the firm effects. The dependent variable is the log of real hourly wages.

Distributive effects of education expenditure

Traditionally, education spending in Mexico has shown a high concentration in urban areas and has predominantly benefited the better off. Based on data from the 1970s, for example, Aspe and Beristain (1984b) conclude that "the educational....policies have not been corrective and have not diminished the disparity in income, but have, on the contrary, confirmed and reaffirmed these conditions." In particular, Aspe and Beristain (1984b) find that higher education—accessible mainly to an already privileged minority—received an increasingly disproportionate share of government fiscal support, whereas services of many elementary schools remained incomplete and contributed to high drop-out rates.[23]

More recent evidence would indicate that the overall incidence of public education expenditure in Mexico is getting better. Castro-Leal and Dayton (1994), on the basis of data from the 1992 household survey, find that: (1) the incidence of public primary education spending is progressive (with the poorest 40 percent of all households capturing about 51 percent of the benefits); (2) spending on lower-secondary education strongly benefits the middle classes (with income deciles 4 to 8 capturing about 61 percent of the benefits); (3) spending on upper-secondary education is regressive (with the richest 40 percent of all households capturing 62 percent of all benefits); and (4) university education spending is highly

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than workers with basic education, the reallocation promotes a more equal income distribution at the expense of lower growth and overall income.

[23] A more complete assessment of the distributional impact of education spending would require assigning government expenditure to students at each household income level and then measuring the educational attainment of these students. Such an analysis is virtually impossible, although the results would probably sustain the general assertion that public education spending has been regressive.

regressive (with the richest 20 percent of all households capturing 59 percent of all benefits) (Figure 6).

Some researchers have suggested that public expenditure on education became more regressive during 1984-92 (Pánuco-Laguette and Székely, 1996). However, the general arguments of Pánuco-Laguette and Székely (1996) are difficult to corroborate. For instance, Table 8, which shows data from 1985 onward, suggests that, during 1990-92, real expenditure per student increased by almost 40 percent at the basic level and by 26 percent at the tertiary and postgraduate level. By the year 2000, real expenditure per student at the basic level had more than doubled compared to the beginning of the 1990s, while the increase at higher levels was only 55 percent. These data would not lead to the conclusion that the composition of education expenditure has become more regressive.

The fact that private spending on education is highly correlated with income adds further to inequality in human capital formation. Data from the 1994 household survey show that education outlays were incurred by only about 16 percent of households in the poorest two income deciles, but by 53 percent of households in the richest income decile. Households in the poorest two income deciles accounted for just over 1 percent of total household spending on education, whereas households in the richest income decile accounted for 62 percent.[24]

However, estimates from the most recent household survey indicate that inequality in private educational expenditures has decreased between 1994 and 2000, with households in the poorest two income deciles accounting for 1.5 percent of total household spending on education and households in the richest income decile accounting for 56 percent (Table 10). In fact, the distribution for private expenditure on education in 2000 was closer to the equality line than that of 1994 (i.e., it was dominant in the Lorenz sense), indicating an unambiguous decline in the degree of inequality (Figure 7).

In absolute terms, primary education indicators continued to show improvements (Table 11). For example, the transition rate from first to second grade continued to increase following the 1982 crisis, reaching 93 percent in 1996. The absorption rate into secondary education (as defined in Table 11) declined during the 1980s but recovered in recent years, reaching 90 percent in 2000. The primary school completion rate also dropped following the crisis, but recovered fairly quickly. The same conclusion applies to the drop-out rate.

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[24] Households in the richest income decile spent about 4 times more on university and postgraduate education than all other households combined, and about the same amount on primary education. As a full range of free education services is offered by the public sector, household education expenditures reflect, to a significant extent, the additional demand for education services by higher-income groups.

Table 10. Mexico: Household Own Expenditure on Education, 1994 and 2000

Year 1994

Income Deciles	Households in Each Income Decile With Education Expenditure as Percent of: Households in Each Decile	Households With Education Expenditure	Percentage Share of Education Expenditure in Each Income Decile As Percent of: Total Expenditure of Each Decile	Total Education Expenditure of All Households	Total Education Expenditure of All Households (cumulative)
Poorest	13.2	4.2	0.8	0.4	0.4
	18.4	5.9	1.0	0.8	1.3
	25.4	8.1	1.5	1.6	2.9
	25.6	8.2	1.7	2.2	5.0
	30.4	9.7	1.7	2.7	7.7
	28.6	9.2	1.9	3.6	11.4
	34.0	10.9	2.4	5.5	16.9
	38.1	12.2	3.1	8.7	25.6
	45.0	14.4	3.2	12.6	38.2
Richest	53.3	17.1	7.5	61.8	100.0
Total	31.2	100.0	4.1	100.0	...

Year 2000

Income Deciles	Households in Each Income Decile With Education Expenditure as Percent of: Households in Each Decile	Households With Education Expenditure	Percentage Share of Education Expenditure in Each Income Decile As Percent of: Total Expenditure of Each Decile	Total Education Expenditure of All Households	Total Education Expenditure of All Households (cumulative)
Poorest	15.0	3.6	1.8	0.4	0.4
	28.1	6.7	3.0	1.1	1.6
	29.9	7.1	3.8	1.8	3.3
	37.1	8.8	4.3	2.4	5.8
	41.1	9.8	4.9	3.4	9.1
	46.9	11.2	6.1	5.0	14.1
	42.2	10.0	6.5	6.1	20.2
	51.5	12.3	7.1	8.5	28.6
	59.5	14.2	9.8	15.0	43.7
Richest	68.6	16.3	18.2	56.3	100.0
Total	42.0	100.0	10.1	100.0	...

Source: Authors' estimates based on the 1994 and 2000 household surveys (INEGI, 1995 and 2001a)

Table 11. Mexico: Primary Education Indicators, 1982-1998

	1982	1984	1986	1988	1990	1992	1994	1996	1998
					(In percent)				
Coverage deficit (in percent of relevant age cohort without access to primary education)	...	...	2.0	2.0	2.0	2.0	2.0	2.0	
Completion rate (in percent of relevant age cohort)	52.1	51.4	53.9	55.0	56.4	59.9	63.8	69.1	
Completion rate (in percent of all students who start primary education)	...	...	...	91.7	90.7	91.4	89.6	93.2	
Transition rate from first to second grade (in percent of all students in first grade)	79.9	80.3	82.5	84.2	83.8	86.4	93.2	93.1	
Drop-out rate (in percent of enrolled students)	6.0	6.4	5.3	5.3	5.3	4.1	3.4	2.9	
Repeater rate (in percent of enrolled students)	20.4	19.9	18.9	17.6	17.6	16.5	10.9	10.0	
Absorption rate (as percent of students who complete primary education and continue to secondary education)	86.2	82.9	83.7	83.2	82.3	83.8	87.7	88.0	90.0

Source: Mexico, Secretariat of Public Education (1996b) and Mexico, Federal Executive (2001).

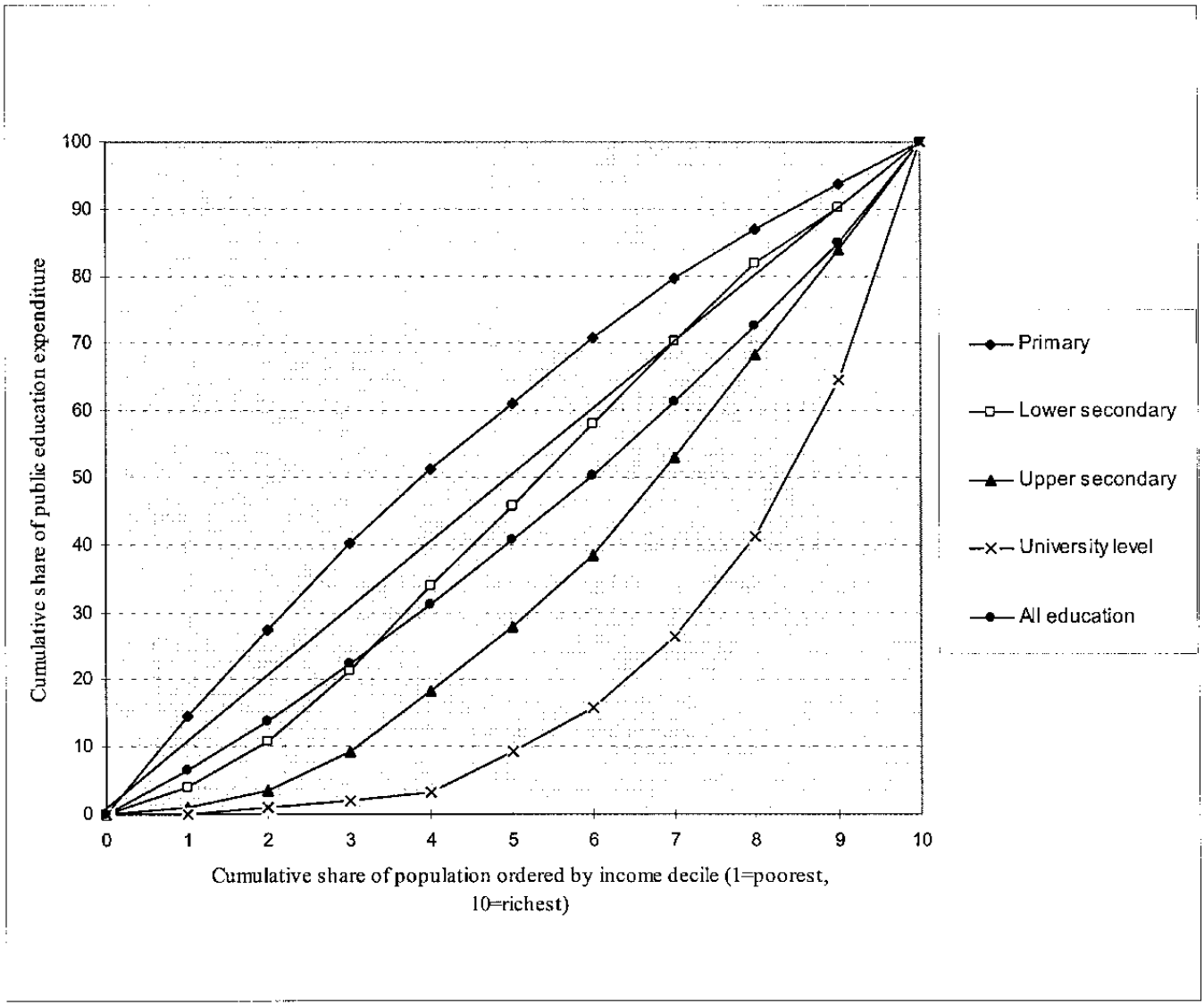
Recent initiatives to improve equity

Improvements in the quality of education are still lagging, particularly in primary education and in rural areas. For example, although the coverage deficit in primary education is only about 2 percent (i.e., 2 percent of all primary school age children do not have access to primary education), many of the schools lack the educational materials and resources essential for improving quality, and the schooling infrastructure often has to be complemented with resources provided by the community (Mexico, Secretariat of Finance and Public Credit, 1996d). The remaining coverage deficit in primary education is difficult to close, as it largely relates to the children of migrant workers who are not yet fully in the school net.[25]

The government has started to make important changes in its education sector strategy that should help improve resource allocation. The decentralization to the states of operational responsibilities was a key element in the government's strategy. There are some indicators that schools are functioning significantly better since the transfer to the states took place in 1992, but causalities are not clear. For example, repeater and drop-out rates in primary school have been significantly reduced. More children now go from first grade to second grade (the critical drop-out period) (Table 10), partly because new programs give special attention to students who pass to second grade without fulfilling all first grade requirements. Moreover, the government is

[25] However, there remains a significant potential coverage deficit in secondary education in light of the demographic changes that are expected. Although, in principle, all who finish primary school can attend secondary school, the government expects that the demand for secondary education will increase rapidly and additional facilities will be needed.

Figure 6. Mexico: The Incidence of Public Education Expenditure (Lorenz Distribution), 1999



Source: Based on data by Castro-Leal and Dayton (1994).

seeking to link transfers to households to continued school enrollment of school-age children, which is likely to strengthen the demand for education services.

In addition, quality standards and controls are being strengthened. The federal government continues to set quality standards through minimum curriculum requirements, and some states have developed extended curricula that exceed the federal minimum requirements. Still, to improve the quality of education, output control is more important than curriculum standards, and with assistance from the World Bank, the central administration has been devising a new output evaluation system with new output indicators.[26] Some states already have their own output evaluation systems.

To improve equity of education spending, further expenditure reallocations toward the basic level may be necessary. However, as pointed out already, the government may face some costs associated with this policy, given the increase in the return to higher education in the mid 1990s (Corbacho, 2001). In the past, the government has tried to supply all resources to meet the demand for post-secondary education, but failed to ensure output quality. In 1996, government transfers to the National Autonomous University of Mexico (UNAM) alone amounted to 0.2 percent of GDP. Although a few public universities have entrance exams, there are generally no time restrictions for students to complete their studies. As a result, many students linger on in public universities for years. This has increased university resource needs and clogged up the system. In June 1997, UNAM became the first university to announce steps to push out nonperforming students.

The government has to look for ways to improve the quality of higher education in general. Also, a different financing scheme may be necessary. Tuition fees for higher education, accompanied by scholarships to fund poor students, would be a key element for improving both equity and quality.[27] Steps to reduce the financial burden of human capital accumulation, particularly for low income households, would further help to improve equity (Castro-Leal and Dayton, 1994). Steps to increase quality would allow the government to overcome welfare trade-offs associated with a reduction in public resources for higher education. In this respect, it is noticeable that in 2000, about 62,000 students received financial support for studies in technical high schools and about 5,000 for studies in vocational high schools. Also, scholarships for postgraduate studies increased by 4 percent compared to 1999. It is estimated that 100,000 students who lack financial resources received a scholarship for post-secondary education in 2001, the first year this national program was operational (Mexico, Federal Executive, 2001).

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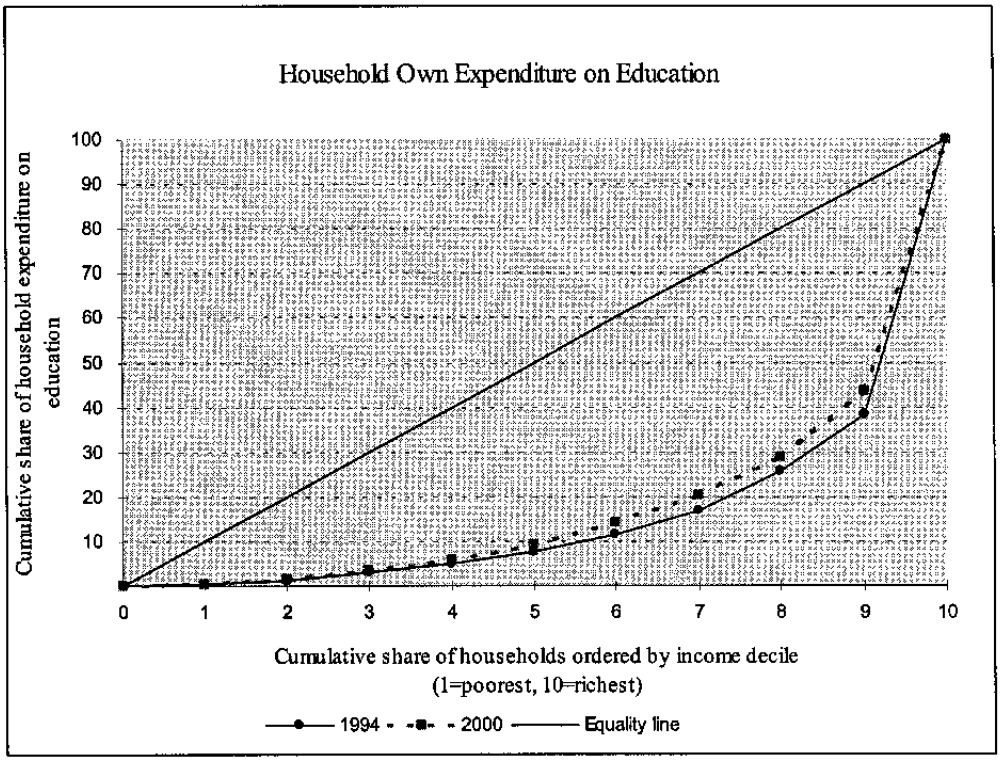
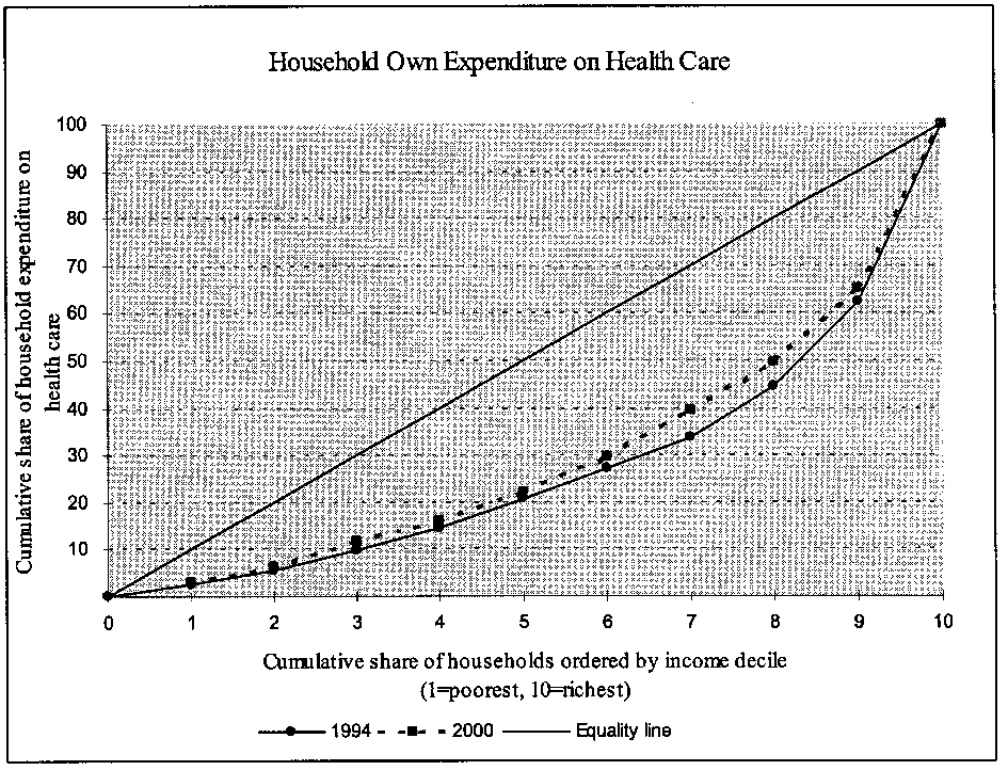
[26] See Mexico, Secretariat of Finance and Public Credit (1996c, 1996d).

[27] In 1992, only about 5 percent of students enrolled in university education were from the four poorest income deciles.

Figure 7. Mexico: Household Own Expenditure on Health and Education (Lorenz Distribution), 1994 and 2000





Source: Authors' calculations based on the 1994 and 2000 household surveys (INEGI, 1995 and 2001a).

C. Health

Overview

The health status of Mexico's population has improved significantly over the last several decades (Table 6). Life expectancy at birth increased from 39 years in 1940 to 75 years in 2000; infant mortality rates were considerably reduced and a comprehensive vaccination program now covers over 95 percent of the population. In recent years, there have been important accomplishments in the health care system in Mexico. The number of people with no health coverage decreased from 10 million in 1995 (about 10 percent of the population) to 1.5 million in 1999, according to the Pan-American Health Organization.

Basic health care has made particular advances. Mexico's II Basic Health Care Project received the World Bank President's Award for Excellence in 2000. Starting in 11 states in 1996, the project has since been extended to 19 states, 850 municipalities, and 36,995 rural localities. The two main challenges for improving health care access have been the population dispersion in rural areas and the difficult geographic conditions for reaching them. It is estimated that there are more than 150,000 communities with fewer than 100 inhabitants with a combined population of 2.6 million, compared with 62 million living in 1,370 communities with populations of over 5,000 (Viveros, 2001).

Despite the overall improvements, there are still considerable disparities in the quality and quantity of health care resources across different providers and across different regions of the country. Mexico's health care system is characterized by various overlapping payers and providers in both public and private sectors. In 2000, about 60 percent of users were insured under one of the public-sector schemes that exist for different occupational groups.[28] In principle, the uninsured population has access to various public health care facilities, like those operated by the Secretariat of Health or by IMSS-Solidarity. The uninsured population resides mostly in rural areas; and there is a large disparity in the type of health service used depending on income (Table 7).[29]

The fragmented structure of health services has contributed to significant inefficiencies, such as enrollment in multiple insurance programs and use of multiple public and private providers. There is a supply/demand mismatch in a number of areas: for example, in some hospitals, less than half the beds are occupied. Moreover, the allocation of infrastructure (such as hospitals and health posts) and medical personnel is uneven, and internal efficiency indicators are poor (Mexico, Secretariat of Health, 1996e).

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[28] The main ones are the Mexican Social Security Institute (IMSS) for private sector workers, and the Social Security Institute for State Employees (ISSSTE).

[29] A more detailed overview of this system and its recent reform is provided in Box 2.

Private health care is important among high-income population groups (among which many people hold private insurance). The private sector's supply of goods and services in the health care sector is responsible for about half of the total health-sector expenditure; the private sector commands about 30 percent of hospital beds, employs 34 percent of all doctors, and accounts for about 32 percent of all consultations (Mexico, Secretariat of Health, 1996e). Data from the 1994 Household Income and Expenditure Survey (INEGI, 1995) show out-of-pocket health care expenses of about 0.3 percent of GDP or 2.7 percent of total household expenditure, with little variation (relative to household expenditure) across the income deciles (Table 12). Although the richest income decile still accounts for 38 percent of all private health care expenditure, the resulting Lorenz distribution for household health care expenditure is significantly less unequal than that for education (Figure 7). Similarly to the case of education, private expenditure in health care has also become less unequal in 2000 compared to 1994.

No information is available on the exact allocation of health care resources, or even on the split between primary/preventive and secondary/curative care.[30] It seems clear, however, that although the government's emphasis on preventive health care (such as vaccination) has been somewhat successful, there remains a significant over investment in curative facilities—as evidenced by the above-mentioned high hospital vacancy ratios.

Distributive effects of public health care expenditure

Household income and affiliation with a particular insurance scheme or use of certain medical facilities are closely correlated (Figure 8). In general, richer households are insured, and those with the highest income usually carry supplementary private health insurance; poorer households are not insured and rely on free public facilities. The less poor usually have access to facilities operated by the Secretariat of Health (located predominantly in urban areas), and the more poor rely on IMSS-Solidarity facilities (located predominantly in rural areas). The poorest of the poor lack access to health care facilities, largely because they live in isolated communities where medical services are difficult to provide.

The main distinguishing feature of the various public providers is the quality of services they offer, which, in turn, reflects on public-expenditure allocation and incidence in the health sector. Facilities for the insured population are of significantly better quality than free public facilities; private sector facilities, in turn, are usually of higher quality than those for the insured population. To some extent, these quality differences already show up in standard health care system indicators. In general, in facilities for the insured population, there were significantly more doctors, nurses, and hospital beds than in facilities for the uninsured population. It should be noted, however, that disparities in quality between facilities have decreased during the 1990s.

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[30] In general, comprehensive health expenditure data are more difficult to compile than, for example, education data, because of the many different providers.

The maintenance of the quality differences had been thought to provide incentives, at least for part of the informal sector, to integrate into the formal economy, notwithstanding the insurance contribution rates that have to be paid. However, between 1990 and 1994, the growth in the number of IMSS-insured workers was 3 percent, while the growth in the economically active population amounted to 15 percent over the same period (Martínez and others, 1996). Although there was an improvement in IMSS affiliation rates in the run-up to the July 1997 reform, the system still provides few incentives for the informal sector (where most of the poor are employed) to become formal.

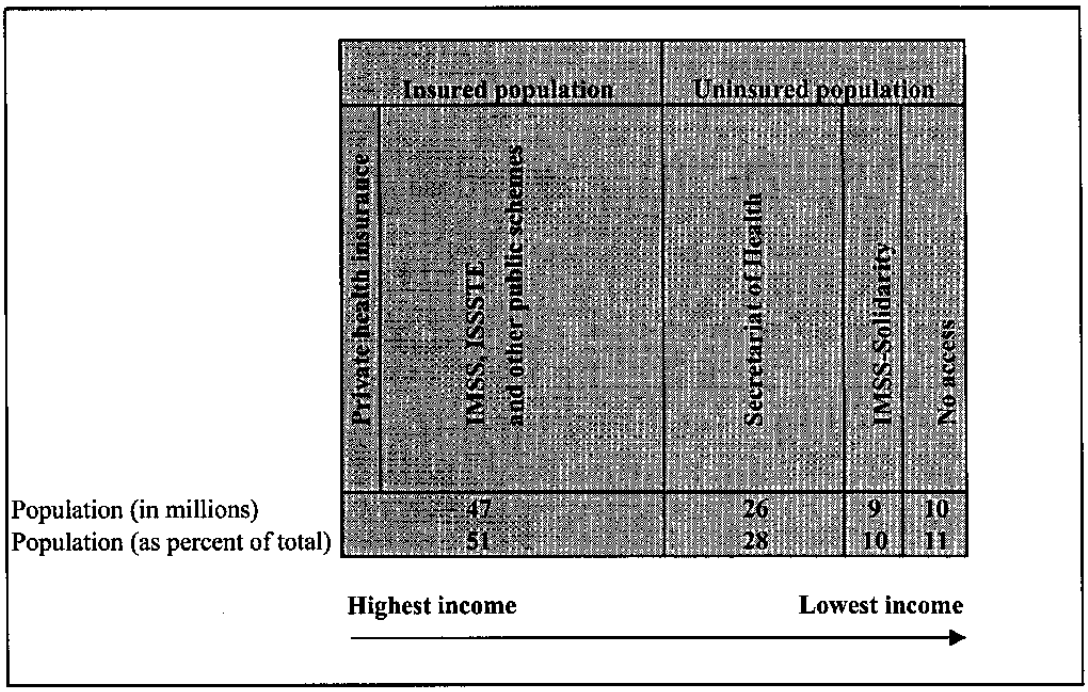
Although data on the incidence of public health care expenditure are not available, federal expenditures have a strong negative correlation with a marginality index for the different Mexican states, according to information by Mexico's Secretariat of Health (1996e). In general, the higher the marginality index (suggesting a high level of poverty) the lower was federal per-capita health care expenditure. Infant mortality rates show the same negative correlation: states with high infant mortality rates were the ones with the lowest federal per-capita expenditure. The distribution of health care expenditure across states is far from perfect: paradoxically, the states with the highest levels of own revenue and relatively better health status receive higher federal allocations on a per-capita basis than states with low own revenue and a relatively poorer health status (Mexico, Secretariat of Health, 1996e). In particular, the poor Southern states have significantly lower federal resource allocations per capita than the richer states in the North. In 1970, for example, in the relatively wealthy state of Nuevo León and the Federal District over 70 percent of all births received medical attention, whereas in the relatively poorer states of Oaxaca and Chiapas, less than 10 percent did (Lustig and Székely, 1997a). The most recent data still point to significant regional disparities between the rich and poor states. As shown in Table 13, Nuevo León and the Federal District have higher life expectancy and lower child mortality rates than the national averages. They also enjoy more financial and material health resources. On the contrary, the poor states of Oaxaca and Chiapas have lower health status indicators and much fewer resources than the national average.

Differences in the public health care services that different population groups have access to or use are, to some extent, reflected in the private out-of-pocket expenditure that different population groups have to incur or choose to incur. The 2000 National Household Income and Expenditure Survey (INEGI, 2001) shows that 77 percent of all households did incur some out-of-pocket health care expenditure.[31] Those who did not incur out-of-pocket expenditure either did not use any health care facilities or used only free public facilities. For

[31] Of those households that reported health-related expenditure, almost 20 percent belonged to the lowest two income deciles; the total health-related expenditure of this group amounted to 6.5 percent of total out-of-pocket health care expenditure. In contrast, 13 percent belonged to the richest income decile and their out-of-pocket health care expenditure amounted to nearly 35 percent of total out-of-pocket health care expenditure.

those who reported out-of-pocket expenditure, the pattern differed significantly among those in the poorest income decile, in deciles 2-3, in deciles 3-4 to 9, and in the richest income decile.

Figure 8. Mexico: Coverage of the Health Care System 1/



Source: Mexico, Secretariat of Health (1996e).

1/ The chart is meant to provide a general description on health institutions in Mexico. Thus, it somewhat simplifies empirical facts.

While this distribution shows considerable inequality, it should be noted that there has been an improvement between 1994 and 2000 (Figure 7).

In general, the health care consumption pattern of different income groups shows strong differences. The *extremely poor* (income decile 1) do not hold medical insurance and usually lack access to public health care facilities; out-of-pocket health care expenditure is for the most urgent needs (such as medical emergencies). The *poor* (income deciles 2-3) do not hold medical insurance, but often have some access to public health care facilities. They may pay for some services that are not available in close by, free public facilities (e.g., dental care). As a result, their health-care related household expenditure may frequently exceed (in relative terms) that of households in richer income deciles. The *marginally poor and middle- and upper-middle income groups* (income deciles 3-4 to 9) usually live in areas where access to various public health care facilities is not a problem, and they generally use these facilities for all their health care needs. Households in income deciles 3 to 4-5 rely largely on free public facilities; in absolute terms, their out-of-pocket expenditure for hospital care is often lower (relative to their

Table 12. Mexico: Household Own Expenditure on Health Care, 1994 and 2000

Year 1994

Income Deciles	Households in Each Income Decile With Health Expenditure as Percent of		Percentage Share of Health Expenditure in Each Income Decile As Percent of		
	Households in Each Decile	Households With Health Expenditure	Total Expenditure of Each Decile	Total Health Expenditure of All Households	Total Health Expenditure of All Households (cumulative)
Poorest	49.5	7.7	3.0	2.4	2.4
	54.3	8.5	2.5	3.0	5.4
	63.1	9.9	2.7	4.2	9.6
	63.3	9.9	2.6	4.9	14.6
	66.5	10.4	2.5	6.0	20.6
	62.0	9.7	2.3	6.5	27.0
	64.5	10.1	1.9	6.7	33.8
	69.2	10.8	2.6	10.7	44.5
	70.5	11.0	3.0	17.7	62.2
Richest	77.6	12.1	3.1	37.8	100.0
Total	64.0	100.0	2.7	100.0	...

Year 2000

Income Deciles	Households in Each Income Decile With Health Expenditure as Percent of		Percentage Share of Health Expenditure in Each Income Decile As Percent of		
	Households in Each Decile	Households With Health Expenditure	Total Expenditure of Each Decile	Total Health Expenditure of All Households	Total Health Expenditure of All Households (cumulative)
Poorest	55.8	7.2	7.0	2.8	2.8
	69.4	9.0	5.8	3.4	6.2
	67.7	8.8	7.1	5.2	11.5
	72.2	9.4	5.0	4.5	16.0
	76.2	9.9	5.6	6.1	22.0
	78.4	10.2	5.9	7.6	29.6
	85.9	11.1	6.7	9.9	39.6
	81.7	10.6	5.3	10.0	49.5
	84.9	11.0	6.5	15.8	65.4
Richest	98.4	12.8	7.1	34.6	100.0
Total	77.1	100.0	6.4	100.0	...

Source: Authors' estimates based on the 1994 and 2000 household surveys (INEGI, 1995 and 2001a).

Table 13. Mexico: Health Care System Resources and Output Indicators, 1999

	Life Expectancy					
	Male	Female	Child Mortality	Hospital Beds 1/	Doctors 1/	Health Expen-diture 2/
National	**72.8**	**77.3**	**0.9**	**78.8**	**117.0**	**1,386**
Federal District	74.8	79.1	0.6	189.2	257.0	4,182
Nuevo León	74.4	78.6	0.5	99.5	123.2	1,316
Oaxaca	69.8	74.4	1.6	48.6	86.2	411
Chiapas	69.6	74.4	1.3	43.9	88.2	390

Source: Mexico, Secretariat of Health, 2001.

1/ per 100,000 persons.

2/ US$ per person.

income) than that of poorer households, as they do not face an access problem. Households in income deciles 5-6 to 9 usually hold insurance and use IMSS/ISSSTE facilities; where quality is crucial (e.g., dental care, pregnancy-related care, hospital care,) they may decide to use private over public health care facilities (and, as a result, pay out of their pocket). People in the highest income decile usually hold private insurance and rely on private health care facilities. Their out-of-pocket health care expenditure exceeds that of other households in each expenditure category, but particularly for hospital care. This groups' out-of-pocket expenditure may, to some extent, reflect co-payments to private insurance.

Recent initiatives to improve equity

Since money is spent where people work and where facilities exist, it is difficult to implement dramatic changes over short periods of time, although the Secretariat of Health fully recognizes the need for drastic improvements in the distribution of federal resources. The funds currently spent reflect past decisions (e.g., on hospital construction); a significantly more equitable distribution of expenditure will likely take years to bring about.

However, efforts are underway that could lead to a more equitable distribution of health care expenditure. In 1995, the government expanded to six months the maximum duration of health benefits for the unemployed. Also, a new voluntary health insurance for workers outside the formal sector was implemented in the context of the July 1997 health care reform. Under this program, called family health insurance, workers who do not hold health insurance may pay a monthly premium of 24.2 percent of a minimum salary and receive IMSS medical services for themselves and their families; the federal government will contribute the equivalent fixed premium for these individuals. Estimates by the IMSS show that this new family health insurance could increase the number of insured by only about 2 million people over 10 years or less than 5 percent of the currently uninsured population of 45 million. Also, since the family

health insurance will cost workers almost 25 percent of a minimum salary, it may not attract those who have avoided affiliation with the IMSS.[32]

The government has recently started a new National Health Program that has as one of its goals the complete insurance of the population by 2025, with special attention to the most vulnerable groups. This program includes several initiatives to improve the health status of indigenous populations, women, and access and quality across the board (Mexico, Federal Executive, 2001).

D. Social Security

Overview

Mexico's social security system, which covers nearly 60 percent of the population, comprises the pension system, the housing savings plans, and the above-discussed health care system. In addition, the social security system has administrative responsibility for child care benefits and work-injury benefits. At the beginning of the 1990s, federal expenditures in social security were nearly 1 percent of GDP. By 2000, they had increased to 1.8 percent of GDP. The discussion here will focus on pensions and housing savings benefits.

For pension benefits, there are four major schemes: the new system for private sector workers, which is operated by private-sector pension funds, the ISSSTE for government workers, the PEMEX scheme for employees of the national oil company, and the scheme for the Armed Forces. The schemes total about 13.3 million contributors (11.0, 1.5, 0.5, and 0.3 million, respectively). Self-employed workers (at least 4.5 million) and informal sector workers (at least 10 million, but likely significantly more) do not participate in the pension system.

A pension reform went into effect on July 1, 1997. It affected only the system for private sector workers, which was formerly a defined-benefit scheme operated on a pay-as-you-go basis by the IMSS, and has been transformed into a defined-contribution scheme operated on a funded basis by private-sector pension funds.[33] The other three major pension schemes remain unaffected by the reform. Still, even for the reformed system, the old benefit structure will remain in place for many years to come, as all workers who contributed to the old system retain the right to choose the benefits of the old system upon retirement, in which case IMSS remains

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[32] Often, special programs like the family health insurance bring about moral hazard and adverse selection. On the margin, the new program could increase incentives for informalization of the labor market: workers insured under the new family health insurance would have access to the same IMSS facilities as workers insured under the regular program, yet their employers would not have to pay the regular payroll contributions. Similarly, the new program is likely to be attractive mostly for those with chronic or frequent illnesses.

[33] An overview of the reforms is provided in Box 3.

responsible for paying pension benefits. Over the next one to two decades, the retiring population is likely to choose the benefits of the old system since it is likely to offer higher benefits than those derived from accumulated savings in the new savings accounts.

The housing savings plans are, for the most part, complementary retirement savings schemes for formal sector workers, and do not include the vast majority of the poor who work in the informal sector. There are two such plans: INFONAVIT for private sector workers and FOVISSSTE for public sector workers. INFONAVIT is financed by a payroll contribution rate of 5 percent of the base wage (for FOVISSSTE, 6 percent), paid by employers. The plans were created under the constitutional mandate to provide housing for workers,[34] but the contribution rate is insufficient, and does not allow participants to accumulate enough savings to purchase even a modest home.

Traditionally, to make housing available at least to some contributors, INFONAVIT and FOVISSSTE have used worker savings to provide mortgage loans to the "fortunate few"—selected largely through patronage and political connections. For those who do not receive a loan (the majority), the accumulated savings are made available upon retirement. For those who receive a mortgage loan, mortgage payments are, in theory, deducted from paychecks. However, in the past, the housing plans did not have collection authority and, in many cases, mortgage loans were treated as gifts. Also, the savings balances held in the housings savings accounts frequently had negative real rates of return. As a result, the housing savings plans transferred resources from its saving members to its borrowing members. Reforms implemented in 1992 and 1996 gave collection authority to INFONAVIT, indexed loans to the minimum wage, and stipulated that INFONAVIT should strive to obtain positive real returns, although no minimum return guarantee was given. In practice, these reforms have changed little. In the case of INFONAVIT, 42 percent of the workers who have received a housing credit are delinquent by 12 or more payments; INFONAVIT's bad loans in 1998 totaled about 3 percent GDP.

Distributive effects of social security expenditure

Mexico's social security system covers only the formal economy; over 40 percent of the population is not covered.[35] Coverage is particularly poor in rural areas, and social insurance benefits accrue mainly to urban workers: 1991 data showed that in "less urbanized areas" only 18 percent of all workers and 42 percent of formal sector workers were covered by some social security arrangement; in "more urbanized areas," 50 percent of all workers and 75 percent of

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[34] For a discussion of the origins of public housing policy in Mexico, its scope in the 1970s, and a detailed review of INFONAVIT (from its establishment in 1972 to 1979) and of other schemes, see Moore (1984).

[35] In theory, the population coverage of INFONAVIT should equal that of the pension system for private sector workers; in practice, INFONAVIT contributions have not been received for about 30 percent of those workers covered by the pension system.

formal-sector workers were covered (IMSS, 1995). More recent data show that coverage in rural areas has increased, but still falls short of the urban coverage (26 percent versus 64 percent in 1996; see Table 7). The same data show that only 3 percent of the rural poor have access to social security, compared to nearly 28 percent of the urban poor.

Based on data for end-1996, the average income of the population insured in the new private system amounted to about 2.6 minimum wages. Although this is a moderate amount, it is higher than that of the uninsured population: according to an urban employment survey, 50 percent of the urban workforce earned up to two minimum salaries; in rural areas, the population share with an income of up to two minimum salaries is likely to be significantly higher. The minimum pension amounts to one minimum wage, which implies a minimum replacement rate of about 38 percent of the average salary of the insured population.[36]

Social security benefits are important for households in income deciles 3-6: most households in the lowest two income deciles are not covered by social security; households in income deciles 7-10 often have supplementary arrangements. Therefore, government contributions to social security—in the form of regular payroll contributions and additional transfers which together amounted to 0.3 percent of GDP in 1996—benefit mostly households that earn significantly more than the minimum wage. The additional government payment of about Mex$1 per worker per day—the so-called social quota that was established under the new social security system, at a cost of cost about 0.1 percent of GDP per year—also implies a redistribution to the same group of workers.

It is difficult, however, to establish the net incidence of social security benefits. Although social security and government spending on social security benefits is basically "pro middle class," a complete analysis would not only involve the expenditure incidence but also an incidence analysis of payroll taxes that help finance the social security system. Frequently, the full incidence of payroll taxes is not borne by contributors themselves, and may hurt low-income groups proportionately more: payroll taxes borne by employers are often shifted onto prices, implying that people who are not covered by the social security system share in paying for the social security benefits of those who are (Clements, 1997).

Recent reforms

Did the recent reforms of the pension system improve fairness? As shown in Box 3, the reform of the system for private-sector workers established a clear relationship between contributions and benefits, a key element of all defined contribution (or "funded") pension systems. Under the new system, pension benefits are linked to individual contributions, which improves equity in a narrow sense. Also, the government continues to provide a minimum pension guarantee if accumulated funds are insufficient to provide a minimum pension. However, by offering "transition workers" the option to retire under the old system—an option

[36] The replacement rate refers to the pension relative to the salary it replaces upon retirement.

that most transition workers will choose because they cannot accumulate sufficient savings under the new system in their remaining work life—the new system's potential improvements will not become effective for many years. Given that the transition workers (who will initially comprise the bulk of the contributors) always have the safety net option to retire under the old system, the new pension funds may turn to riskier investments—this "moral hazard" element represents a potential threat to the financial stability of the new pension system.

Furthermore, limiting the reform to the system for private sector workers could adversely affect labor mobility between the private and public sectors, and may introduce new inequities relative to public sector workers insured under the unreformed systems. Most importantly, however, the majority of the working population remains outside the social security system, and, as a result, the pension reform does not significantly change the overall benefit incidence. Broadening its coverage represents the single largest challenge in improving the equity of the social security system.

For the housing savings plans, the recent reforms raised the contribution cap and therefore reduced somewhat the regressivity of the system.[37] However, the recent social security reform only implied minor changes for INFONAVIT and did not affect FOVISSSTE. Until the government follows through with plans to transform INFONAVIT into a financial (savings and loan) institution, it will continue to suffer from serious investment and distribution problems, low returns, political pressures, and uncertain and nontransparent benefit distribution.

E. Other Social Expenditure

There are a number of social expenditure programs, most of which may be considered social welfare/social assistance and/or antipoverty programs. In principle, many of these programs are targeted to specific population groups. In 1990, total expenditures in these various programs amounted to 0.7 percent of GDP, and increased to 0.9 percent of GDP in 2000. Until 1995, these programs were mostly in charge of the Federal Government, but have been gradually decentralized to the states and municipalities since then. In 2000, over 50 percent of all expenditures for poverty reduction were destined to programs for human capital development, about 30 percent to programs for basic social infrastructure and the remaining 20 percent for programs in employment and productivity enhancement (Table 14).

Since the December 1994 crisis, the government has introduced several important social expenditure programs that have strong implications for reducing poverty. In general, these newer programs are not as much intended as short-term protection mechanisms, but as more permanent mechanisms to help people to improve their condition and escape poverty and its consequences. For this reason, in recent years there has been a shift from pure income transfers to transfers conditional on recipients investing in human capital; similarly, there has also been a

[37] The contribution cap, previously 5 percent of up to 10 minimum wages, is now up to 15 minimum wages, and is to be raised in steps to up to 25 minimum wages.

shift from generalized food subsidies toward targeted food subsidies. The two most important new programs (both initially introduced on a pilot basis) were: the *programa de educación, salud y alimentación (PROGRESA)*[38] and the *programa de empleo temporal (PET)*. There have also been changes in the *programa de apoyos directos al campo (PROCAMPO)*, the main support program for agriculture.

Table 14. Mexico: Expenditure for Poverty Reduction, 1990-2000

		By Level of Government			By Strategy		
	Total	Federal Government	State Government	Municipalities	Human Capital Development	Basic Social Infrastructure	Employment and Productivity
	(Percent of GDP)	(Percent of total)			(Percent of total)		
1990	0.7	100.0	0.0	0.0	35.9	51.0	13.1
1991	0.9	100.0	0.0	0.0	31.7	58.5	9.9
1992	1.0	100.0	0.0	0.0	36.2	52.0	11.8
1993	1.0	100.0	0.0	0.0	41.7	47.2	11.1
1994	1.0	100.0	0.0	0.0	42.9	47.1	10.1
1995	1.0	100.0	0.0	0.0	49.0	37.4	13.6
1996	0.9	99.7	0.3	0.0	51.7	34.6	13.7
1997	0.9	98.7	1.3	0.0	49.3	34.7	16.0
1998	0.9	63.9	9.7	26.4	48.9	34.5	16.7
1999	0.9	62.9	8.8	28.4	47.7	35.5	16.8
2000	0.9	64.3	8.4	27.3	48.3	35.5	16.2

Source: Mexico, Federal Executive, 2001 and authors' estimates.

PROGRESA—the integrated program for education, health, and nutrition

PROGRESA seeks to foster human development by linking the size of income transfers to households to compliance with a schedule of preventive health checkups and vaccinations and the continued primary and secondary school enrollment of children up to age 16. When it started in 1996, the program operated in one state. Since then the program expanded to incorporate a total of 2.6 million families by the year 2000. Families that enter PROGRESA remain on the roster for a minimum of three years. In 1997, PROGRESA represented less than 2 percent of total expenditure for poverty reduction; this share has increased considerably to nearly 20 percent in 2000 (Table 15).

Linking the size of income transfer to continued school enrollment is expected to provide strong educational incentives;[39] the impact on income distribution (before transfers), however, will not be seen for many years (i.e., next generation). Still, the impact on absolute poverty (headcount index) may be more substantial: SHCP estimates show that the combination of

[38] PROGRESA was initially called PASE (*programa de alimentación, salud y educación)*—the name was changed in August 1997 but the program remains the same.

[39] The basic transfer is Mex$90-100, and is supplemented by school attendance-related transfers of about Mex$100/month per child for up to 3 children.

continued strong economic growth and PROGRESA may mean that 50 percent of those now below the poverty line could cross it in the next several years.

However, PROGRESA can only be applied where schools exist. Similarly, PROGRESA was introduced first in communities that are poor but not homogeneously poor. PROGRESA could also run into problems of control: for example, formal school attendance is already high, but many students just linger on in school. Only certifying formal school attendance without paying attention to achievement indicators will not help achieve PROGRESA's goals. The control mechanism for regular school attendance currently relies on teachers and household heads.

In states where PROGRESA is introduced, all direct transfers to households, including various existing transfer programs are to be abolished. Since many of the transfer programs are

Table 15. Mexico: Expenditure in Special Poverty Reduction Programs, 1990-2000
(As a percent of total expenditure for poverty reduction)

	Total	PROGRESA	PET	Rural Development 1/	Access to Credit 2/
1990	100.0			5.0	8.2
1991	100.0			4.4	5.5
1992	100.0			3.5	8.3
1993	100.0			2.9	8.2
1994	100.0			4.0	6.1
1995	100.0		5.6	2.6	5.4
1996	100.0		5.6	3.6	4.5
1997	100.0	1.7	7.4	4.4	4.2
1998	100.0	9.8	7.8	4.8	4.1
1999	100.0	16.0	7.8	5.3	3.6
2000	100.0	18.6	7.7	5.2	3.3

Source: Mexico, Federal Executive, 2001 and authors' estimates.

1/ This includes primarily the programs Alianza para el Campo and Jornaleros Agrícolas.
2/ Includes, among others, the programs Fondo Nacional de Apoyo a Empresas Sociales, Crédito a la Palabra,Fondos Regionales del INI and Asistencia Técnica al Microfinanciamiento Rural.

characterized by a strong pro-urban bias, they are fairly inefficient in reducing poverty.[40]

PET—the temporary employment program

The PET is a standard public works program for low-skilled workers in rural areas. The PET was introduced in 1995 to provide temporary employment. While originally largely urban in its orientation, it has since been refocused to rural areas to provide employment during the three to four months of the year that rural workers are subject to seasonal employment fluctuations, and expanded also to address long-term unemployment in rural areas. In 1996, the total program cost amounted to less than 0.1 percent of GDP, and the program generated about 59 million daily salaries; in 2000, the program accounted for 0.7 percent of GDP and almost 8 percent of the total poverty-reducing expenditures (Tables 14 and 15).

Initially, participants only worked in productive activities (like road construction, and ditch and canal cleaning). The PET pays a sub-minimum wage to program participants; participation is based on self-selection. Since, over the last several years, the informal sector has absorbed large parts of new entrants into the labor force, and since most of the informal sector labor force is low skilled, the PET should help improve skill levels in a segment of the population that has borne the brunt of the worsening of the income distribution over the last several years.

In 1997, the government changed the focus of the PET. The two most important changes concern the type of work and the regional focus. The new work priorities are rural roads and work on the private plots of land of small farmers (under 12 hectares), the latter of which is a

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[40] An example of these inefficiencies is the subsidized milk distribution program (LICONSA): LICONSA's administrative costs amount to 28.5 percent of total outlays (Grosh, 1994); most LICONSA stores are in urbanized areas but not in poor rural areas; leakage of LICONSA benefits to the nonpoor amounts to about 49 percent (Subbarao and others, 1997); and LICONSA does not procure on the basis of bids, which invites corruption. The LICONSA experience shows that it is very expensive for the government to distribute products that are industrially produced, and that program benefits often do not reach the most needy. Other examples of inefficiencies and waste are generalized price subsidies. Low electricity prices largely benefit better-off households: the poorest 20 percent of all households consume only about 5 percent of electricity whereas the richest 20 percent of all household consume almost 50 percent. Similarly, the poorest 20 percent of all households receive only 10 percent of the benefits from the generalized tortilla subsidy (Mayer-Serra, 1996). For the generalized tortilla subsidy, also see Lustig (1984), which, although outdated now, still provides an interesting discussion of economic implications and fiscal costs. Most generalized subsidies have recently been scaled back or phased out by the Mexican Government.

new priority. The focus on the former runs into the problem that, although maintenance work is labor intensive and therefore a good candidate for a public works program, the roads that such a program would help maintain do not exist in remotely located poor communities, and therefore may not benefit some of the poorest segments of society. The new focus on agricultural work makes sense, considering that many of the rural poor have land holdings, although the quality of their land is frequently poor. Participation in the PET may increase their skill levels, and, thus working on the lands of others may help them improve their own productivity. PET has been used successfully to rebuild infrastructure and provide employment in the wake of natural disasters, such as the 1999 floods.

To function well, four aspects are fundamental for the new PET. First, maintenance of a salary at about 90 percent of the minimum salary is strictly enforced. In the past, PET money was distributed to communities, but local PET administrators found that to get people to participate in the program, they needed to pay a higher wage. This created problems of targeting. Second, PET funds will not be available to richer communities; they will be focused on areas where poverty is prevalent. Third, it is managed locally rather than centrally. Fourth, the focus on agriculture reflects the fact that the social rate of return from improvements in agriculture are higher than those obtained from maintaining roads.

PROCAMPO—the support program for agriculture

The government's main income support program in the agricultural sector is PROCAMPO, which provides subsidies to agricultural producers on the basis of acreage under production for 12 crops. PROCAMPO was initiated in 1993 to compensate agricultural producers for the gradual reductions in price-support schemes under NAFTA. PROCAMPO was designed to be in effect for 15 years and support payments are gradually decreased over the last 5 years. The budgetary cost of PROCAMPO amounted to 0.3 percent of GDP in 1995 and 0.2 percent of GDP in 2000.

PROCAMPO's main beneficiaries are larger farmers. World Bank data suggest that about 75 percent of total PROCAMPO payments are made to farmers with more than five hectares of land, although they only comprise 41 percent of all farmers. Subsistence farmers (with fewer than two hectares of land) receive only 8 percent of PROCAMPO payments; landless laborers do not benefit from PROCAMPO transfers.

IV. Concluding Observations

This paper has examined recent trends in Mexico's income distribution and their broad determinants, reviewed the main pro-poor and other expenditure programs, and discussed their incidence. Traditionally, Mexico has had a persistently high degree of inequality, access to human capital investment and social security have been distributed highly unequally, and rural/urban disparities have been pronounced. Notwithstanding government efforts to improve distributional equity, income inequality in Mexico has continued to increase throughout the 1990s, posing difficult challenges to improve the efficiency of social expenditures.

The Mexican government has introduced a number of important new initiatives to reduce program overlap and improve expenditure targeting. While the various recent initiatives are promising, as they will help to improve the distributional impact of social spending, they will take time to result in a significantly improved distribution of income. In addition, other expenditures, including the programs for bank restructuring and debtor support that were initiated following the 1994 crisis, are likely to offset gains in reducing income disparities, and may limit significant further increases in social expenditures.

For the education sector, the incidence of primary education spending is progressive (with the poorest 40 percent of all households capturing about 50 percent of the benefits); other education expenditure has a regressive incidence, which is not unlike the pattern found in most other countries. Reallocating education expenditure toward the primary level could be expected to reduce income inequality, but there may be welfare trade-offs in terms of technological progress and overall income, following the rise in returns to education at the higher level since the mid 1990s. As education spending is federally financed, and given the federal government's commitment to reducing regional disparities, regional differences in per-student expenditure are relatively small compared to other countries. **For the health sector**, there have been considerable improvements to broaden access, including for remote communities, but federal per-capita expenditure still exhibits large regional disparities, and, in general, are negatively correlated with poverty indicators for different communities. Also, large differences remain in the quality of health care available to the insured and the uninsured population. **For social security**, the July 1997 reform, while important from an efficiency perspective, should not be expected to have a significantly positive distributional impact. A main reason is that large parts of the working population (including the working poor) do not participate in the system. Hence, they do not benefit from government payroll contributions and additional transfers to social security. Finally, there are many **social assistance and anti-poverty programs** that target specific population groups. Many of these programs have shown good results, although government efforts to reduce program overlaps and prevent benefit leakages to nonpoor beneficiaries need to continue.

The paper has also explored several additional policy options that would further help to improve equity and efficiency of social expenditure, including the scope for introducing user fees for higher education, reducing the pro-urban expenditure bias in health care, and increasing the coverage of the social security system. The paper suggests that, in the education sector, the government could introduce user fees in higher education and improve the input mix in primary education by emphasizing expenditure on inputs that have a particularly positive impact on raising educational attainment levels. In the health sector, it would be important to reduce further the pro-urban expenditure bias and to extend coverage of the system to the entire population. For the social security system, improvements in equity and efficiency would critically depend on increasing the number of insured workers. At the same time, however, an increased participation in the system would mean increased labor costs in companies where workers currently do not participate, and therefore may adversely affect the demand for labor.

Box 1. Data Issues

How reliable are the Mexican data? For any given country, measures of inequality can vary significantly depending on whether household income or consumption measures are used, and on the methods used to obtain the data.[1] Most inequality estimates for Mexico are based on household survey data that are subject to some degree of underreporting.

For example, in 1994, household consumption data from the Mexican national accounts exceeded that of the household survey by 26 percent; similarly, household income from the Mexican national accounts exceeded that of the household survey by 93 percent (Lustig and Székely, 1997a). As shown in Table 1, in 1994, the Gini coefficient based on unadjusted household income survey data was 0.48 (Instituto Nacional de Estadística, Geografía e Informática (INEGI), 1995), whereas, based on adjusted data, it ranged between 0.55 and 0.61 (Lustig and Székely, 1997a).

Also, the methodologies used in the different Mexican household surveys have changed often, which makes it difficult to have a consistent picture of changes in inequality over time. This is particularly true for the early surveys carried out between 1950 and 1968, where differences relate to the sampling techniques used, how representative the different subgroups are, the definition of households, the reference periods for income and consumption, the nature of the questionnaires used, and the proportion of unsuccessful interviews. In addition, nonmonetary incomes were not captured adequately.

Researchers have used different approaches to capture the missing income and make the household survey information more consistent over time and more compatible with the national accounts. The two most popular approaches have been to assume that the degree of underreporting is related to the income level of each household or to assume that it is related to specific sources of income.[2] Whereas there is probably some underreporting in all households, it seems likely that much of the missing income is derived from capital incomes that accrue mainly to higher-income groups.

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[1] For an overview on the reliability of income distribution statistics in Latin America, see Altimir (1987).

[2] For a discussion of alternative methods for adjusting Mexican household survey data for underreporting of income, see Székely (1996).

Box 2. Health Care Reform

1. The 1997 reform

The July 1997 health care reform focused on restructuring the financing of IMSS by reducing the importance of employer-employee premiums in favor of budgetary transfers. As a result of the privatization of the pension system, IMSS health care programs can no longer be financed with surpluses from the pension system. Previously, IMSS was financed by a payroll tax of 12.5 percent of the base wage (i.e., excluding bonuses) which was split between the employer (70 percent), the employee (25 percent), and the government (5 percent). The new system retains the tripartite nature of health care financing, but changes the financing formula. For the government and employer parts, contribution payments are a mix between fixed contributions (related to the official minimum salary) and salary-based contributions; for the employee part, contribution payments are salary-based. For earnings below three minimum salaries, there is a fixed contribution that is split equally between employers and the government; for earnings above three minimum salaries, there is no government contribution and workers have to contribute. Under the new system, the shares of employers, employees, and the government are expected to amount to 57 percent, 8.4 percent, and 34.6 percent, respectively. The 1997 reform also established a new voluntary family health insurance for the uninsured which is subsidized by the federal government. Finally, the law increased the role of the private sector by offering employers the right to opt out of the IMSS health insurance program by providing private health insurance to their employees. The latter provision reduces the extent of risk-pooling, and, as a result, may further increase the budgetary burden of IMSS-sponsored health care programs.

2. Other reform efforts

With assistance from the World Bank, the Mexican Government is seeking to improve the efficiency of the public health care system. The fragmentation of the public health system is to be addressed by developing alternative financing mechanisms and cooperative agreements with other providers (both public and private), including contract agreements between (public) providers. This will also help improve information on health care costs. Insured people will have the choice of family physicians in private practice. The IMSS is planning to outsource various ancillary services and will be decentralized into seven regional semi-independent units, to improve service delivery. To improve the efficiency of internal providers (hospitals/clinics/physicians), better incentives will be offered to encourage innovation, improve quality, and ensure accountability, and more management training will be provided.

Box 3. Pension Reform

1. Overview

The reform that went into effect on July 1, 1997 privatized the pension system for the private sector; it did not affect workers in the public sector or workers in the informal sector. All contributions for old age pensions and severance pay go to a private pension fund of the insured person's choice. The IMSS and INFONAVIT remain responsible for disability and life insurance and the housing savings program, respectively, and will receive payroll contributions for these purposes.

2. Contribution payments

Under the new system, total payroll contribution payments remain at 15.5 percent of the base wage (i.e., excluding bonuses), with the same split between employers (12.95 percent), employees (2.125 percent), and the government (0.425 percent). In addition, however, the government pays an additional social quota that amounts to 5.5 percent of one minimum wage of the Federal District as of January 1, 1997, indexed to the CPI. Initially, the social quota amounts to about Mex$1 per day per insured person. Contribution payments are capped at 25 times the minimum wage. Total contributions of 15.5 percent of the base wage (plus the social quota) are distributed as follows: for old-age pension and severance pay (private pension funds), 6.5 percent plus social quota; for housing savings (INFONAVIT), 5.0 percent; for disability and life insurance (IMSS), 4.0 percent.

3. Eligibility requirements (contributions periods and age)

The new system significantly tightens eligibility requirements for the various benefits.

Old age pension:	1,250 weeks & age 65 (previously 500 weeks & age 65)
Severance pay:	1,250 weeks and age 60 (previously 500 weeks and age 60)
Disability pension:	250 weeks (previously 150 weeks)
Life insurance benefits:	250 weeks (previously 150 weeks)

4. Benefits

- Old-age pensions: For new workers, benefits amount to the accumulated balances in individual savings accounts (private pension funds and INFONAVIT). Benefits can be withdrawn either on the basis of a gradual withdrawal option or by applying the balance toward the purchase of an annuity from an insurance company. Those choosing the gradual withdrawal option must purchase annuity insurance to cover the probability that they live longer than expected and outlast their savings. For transition workers, benefits amount to either: (a) the benefits of the previous system, or (b) the accumulated balances in individual savings accounts (private pension funds and INFONAVIT) plus the balances accumulated in the savings accounts during 1992-97. Upon retirement, transition workers are free to choose between these two options. If they choose the second option, the same stipulations as for new workers apply. For current pensioners, benefits continue to be paid as under the previous system, and they will not be affected by the reform.
- Disability: 35 percent of the average individual wage during the last 500 weeks of contributions (previously 50 percent of the average wage during the last 150 weeks of contribution).
- Life insurance: As under the previous system, 90 percent, 20 percent, and 30 percent of the disability pension; for a widow, for dependants, and when both parents are deceased, respectively.
- Minimum pension guarantee: equivalent to one minimum wage of the Federal District as of January 1, 1997, indexed to the CPI.

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