

Poverty in Mexico:

AN ASSESSMENT OF CONDITIONS,
TRENDS, AND GOVERNMENT STRATEGY



Poverty in Mexico: An Assessment of Trends, Conditions, and Government Strategy

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This report exclusively represents the views of the World Bank team.

MAIN ABBREVIATIONS & ACRONYMS

ACERCA	Program for Comercialization Support (Programa de Apoyos para la Comercialización)
APAVER	Program for Drinking Water and Sewerage in the State of Veracruz-Llave (Programa de Agua Potable y Alcantarillado del Estado de Veracruz-Llave)
BANRURAL	National Bank for Rural Credit (Banco Nacional de Crédito Rural)
CEC	Strategic Community Centers (Centros Estratégicos Comunitarios)
CENDIS	Child Development Centers (Centros de Desarrollo Infantil)
CIDE	Center for Economic Research and Education (Centro de Investigación y Docencia Económicas)
CIESAS	Center for Social Anthropology Research and Studies (Centro de Investigaciones y Estudios Superiores en Antropología Social)
CONACYT	National Council on Science and Technology (Consejo Nacional de Ciencia y Tecnología)
CONADEPI	Commission for the Development of Indigenous Communities (Comisión para el Desarrollo de los Pueblos Indígenas)
CONAFE	National Council for Educational Development (Consejo Nacional de Fomento Educativo)
CONAFOVI	Housing Development Commission (Comisión Nacional de Fomento a la Vivienda)
CONAPO	National Council on Population (Consejo Nacional de Población)
CONASUPO	National Company for Popular Subsistence (Compañía Nacional de Subsistencias Populares)
CONAZA	National Commission on Arid Zones (Comisión Nacional de Zonas Áridas)

DICONSA	CONASUPO Commercial Distributor (Distribuidora Comercial CONASUPO)
DIF	Integrated Family Development System (Sistema para el Desarrollo Integral de la Familia)
ECLAC	Economic Commission for Latin America
ENCASEH	Household Economic Characteristics Survey (Encuesta de Características Socioeconómicas de los Hogares)
ENESTYC	National Survey on Employment, Salaries, Technology and Training in the Manufacturing Sector (Encuesta Nacional de Empleos, Salarios, Tecnología y Capacitación en el Sector Manufacturero)
ENEU	National Urban Employment Survey (Encuesta Nacional de Empleo Urbano)
ENIGH	National Survey on Household Income and Expenditure (Encuesta Nacional de Ingreso-Gasto de los Hogares)
FAIS	Social Infrastructure Contributions Trust Fund (Fondo de Aportaciones para la Infraestructura Social)
FAPPA	Fund for the support of Productive Projects by Agrarian Organizations (Fondo Para el Apoyo a Proyectos Productivos de las Organizaciones Agrarias)
FIFONAFE	Trust Fund for the National Ejido Development Fund (Fideicomiso Fondo Nacional de Fomento Ejidal)
FIRA	Agriculture Trust Funds (Fideicomisos constituidos en Relación con la Agricultura)
FIRCO	Trust Fund for Shared Risk (Fideicomiso de Riesgo Compartido)
FONACOT	National Fund for Workers' Consumption Development and Guarantee (Fondo de Fomento y Garantía para el Consumo de los Trabajadores)
FONAES	National Fund for Support to Social Enterprises (Fondo Nacional de Apoyo a Empresas Sociales)
FOVI	Fund for Housing Banking Operation and Financing (Fondo de Operación y Financiamiento Bancario a la Vivienda)
FOVISSSTE	ISSSTE Housing Fund (Fondo de la Vivienda del ISSSTE)

IMSS	Mexican Social Security Institute (Instituto Mexicano del Seguro Social)
INDESOL	National Institute of Social Development (Instituto Nacional de Desarrollo Social)
INEGI	National Statistics, Geography and Informatics Institute (Instituto Nacional de Geografía, Estadística e Informática)
INFONAVIT	National Institute for Housing Development (Instituto Nacional de Fomento a la Vivienda del Trabajador)
INI	National Indigenous Institute (Instituto Nacional Indigenista)
INSP	National Public Health Institute (Instituto Nacional de la Salud Pública)
ISSSTE	Social Security and Services for the State Workers Institute (Instituto de Seguridad y Servicios Sociales de los Trabajadores del Estado)
LICONSA	CONASUPO Industrial Milk (Leche Industrial CONASUPO)
OECD	Organization for Economic Cooperation and Development
PAC	Coverage Expansion Program (Programa de Ampliación de Cobertura)
PAREIB	Program to Bring Down the Educational Lag in Primary Education (Programa para Abatir el Rezago Educativo en Educación Inicial y Básica)
PEC	Program for Quality Schools (Programa de Escuelas de Calidad)
PET	Temporary Employment Program (Programa de Empleo Temporal)
PEMEX	Mexican Petroleum (Petróleos Mexicanos)
PIASRE	Comprehensive Program of Sustainable Agriculture and Productive Transformation in Areas of Loss Record (Programa Integral de Agricultura Sostenible y Reversión Productiva en Zonas de Alta Siniestralidad)

PROBECAT	Training Scholarships Program for the Unemployed (Programa de Becas de Capacitación para el Desempleo)
PROCAMPO	Program for Direct Support to Agriculture (Programa de Apoyos Directos al Campo)
PROCEDE	Program for Ejido Rights Certification (Programa de Certificación de Derechos Ejidales y Titulación de Solares Urbanos)
PRODEFOR	Forestry Development Program (Programa de Desarrollo Forestal)
PRODEI	Program for the Development of Pre-scholar Education (Programa para el Desarrollo de la Educación Inicial)
PRODEPLAN	Program for Commercial Forestry Plantations (Programa de Plantaciones Comerciales Forestales)
PROMUSAG	Program for Women in the Agricultural Sector (Programa de la Mujer en el Sector Agrario)
PRONABES	National Scholarship Program for Higher Education (Programa Nacional de Becas para la Educación Superior)
PRONASOL	National Solidarity Program (Programa Nacional de Solidaridad)
SAGARPA	Ministry of Agriculture, Livestock, Rural Development, Fisheries and Food (Secretaría de Agricultura, Ganadería, Desarrollo Rural, Pesca y Alimentación)
SFP	Ministry of Public Function (Secretaría de la Función Pública)
SEDESOL	Ministry of Social Development (Secretaría de Desarrollo Social)
SEMARNAT	Ministry of Environment and Natural Resources (Secretaría de Medio Ambiente y Recursos Naturales)
SEP	Ministry of Education (Secretaría de Educación Pública)
SHCP	Ministry of Finance (Secretaría de Hacienda y Crédito Público)
SRA	Ministry of Agrarian Reform (Secretaría de la Reforma Agraria)

SSA	Ministry of Health (Secretaría de Salud)
STPS	Ministry of Labor and Social Prevision (Secretaría del Trabajo y Previsión Social)
UDLA	Universidad de Las Américas, Puebla
UNDP	United Nations Development Program
WDI	World Development Indicators
WDR	World Development Report

POVERTY IN MEXICO

AN ASSESSMENT OF CONDITIONS, TRENDS AND GOVERNMENT STRATEGY

SUMMARY AND KEY MESSAGES

This report presents the results of an assessment of poverty conditions in Mexico and government strategies to reduce poverty. The report constitutes the first phase of a longer-term work program on poverty reduction in Mexico that the World Bank is undertaking between 2003 and 2006. While the work has involved extensive collaboration with both the government and Mexican specialists working on poverty, the views expressed are those of the World Bank alone.

This summary distills the report main conclusions and messages. The current situation is mixed with respect to poverty. In terms of well-being, Mexico has experienced major progress in some dimensions —notably related to basic service access— but much weaker progress on others —notably on the income of the poor. Despite the gains between 1996 and 2002, particularly for the extreme poor, poverty remains widespread and is only slightly below levels prevailing before the 1994/95 crisis.¹

Related to government strategy, there are many strengths. The **CONTIGO** framework is excellent as a conceptual framework, especially in its attempt to integrate the multiple dimensions of well-being and public action into a life-cycle approach. There are notable successes in specific programs —with **OPORTUNIDADES** unusual in its combination of highly effective targeting and broad reach amongst the extreme poor. The emphasis on evaluation (especially in SEDESOL) is commendable. The recent introduction of the *Ley de Desarrollo Social* is a potentially valuable attempt to institutionalize social development strategy and in particular provide more continuity across government administrations.

But there are also many challenges. There is some way to go to implement the principles of the **CONTIGO** conceptual framework across government programs. The quality of services is a major issue in many sectors. Social policies for the extreme poor are well developed, but not policies for their income growth. There is a broader pending agenda for the moderate poor, especially with respect to improving the productivity of the self-employed and informal enterprises. Most of the extreme and moderate poor fall outside the formal social protection system, and face significant risks, for example from health, unemployment or lack of income in old age. And there are a wide range of institutional issues to be tackled —from strengthening accountability, especially under decentralized structures, to social incorporation of excluded groups and linking of rigorous evaluation to results-based management.

¹ This is defined in terms of those with incomes below the food-based poverty line.

Section A discusses poverty conditions and Section B reviews government strategy. Section C provides brief concluding comments on public action and future analysis.

A. POVERTY CONDITIONS AND TRENDS

Poverty in Mexico remains widespread, and is closely linked to high levels of inequality. Poverty has many dimensions, including human capacities (especially education and health status), access to infrastructure, incomes, vulnerability and social status. Recognizing these multiple dimensions can be thought of as an imperfect approximation to the approach to well being developed by Amartya Sen, in terms of a person's freedom (or capability) to pursue a life of their choosing. This depends both on their human capacities, and their ability to convert these into "beings and doings".² This ability is powerfully shaped both by the economic context —especially opportunities for productive work— and the political and social context in which people live. In this regard, Mexico has been going through two major transitions. In the economic sphere it has been experiencing a major deepening of integration in the international economy, while in the political and social sphere it has been going through a process of deepening of democratization. Yet both are complex and of a long-term nature. These transitions are central aspects of the environment for living conditions and government policy.

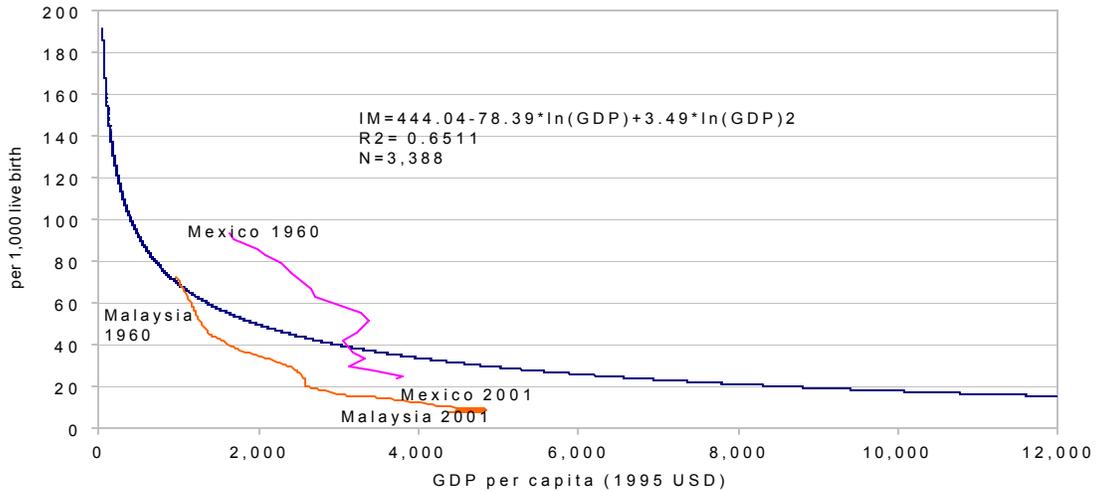
Conditions and trends are reviewed for the various dimensions of poverty —that are matched to the dimensions laid out in the government's **CONTIGO** strategy. We also review geographic aspects of poverty.

(1) Human capital/Capacidades

Mexico has made important progress in terms of the human capacities of the population, including health, nutrition and education. For both health and educational status and levels of service provision, Mexico is now reasonably close to where it might be expected to be for its income level. There have been large, long-term advances with respect to both infant mortality and secondary enrollments (Figures 1 and 2). In both cases the progress was as good or better than the East Asia "success" case of Malaysia, one of the high-performing East Asian countries that has the most similar structural and socio-economic characteristics to Mexico. However, despite this success on average, large differences exist both between social groups, and between regions within Mexico.

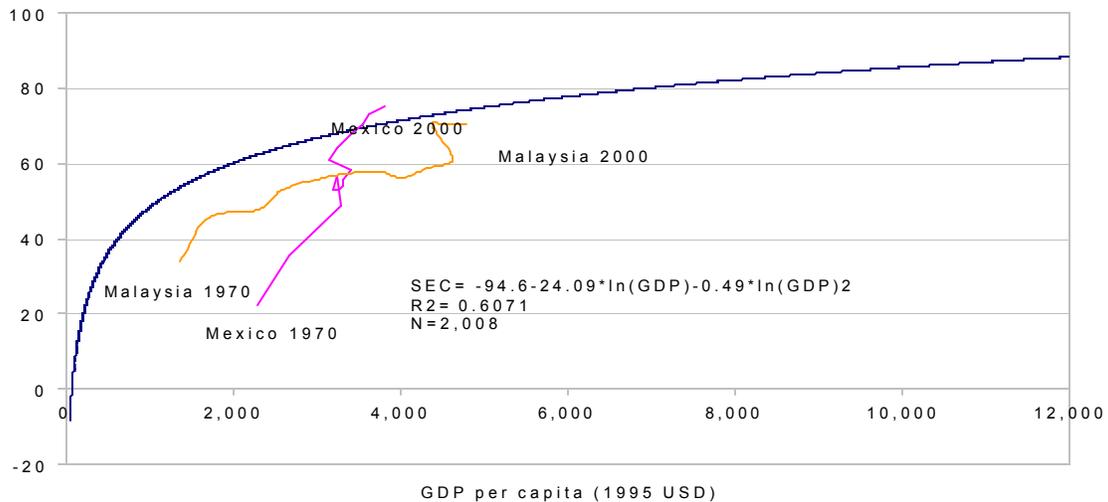
² See Sen, 1999.

Figure 1. Long run trends in infant mortality and GDP per capita



Source: WB staff calculations from World Development Indicators.

Figure 2. Long run trends in secondary school enrollment and GDP per capita



Source: WB staff calculations from World Development Indicators.

Progress in human capacities was supported by a combination of expansion of programs that have aimed for universal service provision and have been increasingly pro-poor as they have expanded (especially basic education, public health programs, and water supply) and, in recent years, demand-side measures, that combine transfers with incentives for income-poor households to send their kids to school and attend health clinics. **OPORTUNIDADES** is the flagship program for these transfers. These measures have been supported by a large expansion in social spending by the government — especially for education and poverty reduction programs (see below).

While this progress is of a long-term nature, it has been consolidated and deepened under current administration. Growth in social spending since 2000 is especially

commendable in light of the stagnation in growth and revenues in this recent period. By contrast, public spending on health has declined in the 2000-02 period, despite significant issues in the sector.³ More generally, there remain major issues of bw and uneven quality for both education and health services.

(2) Assets poverty/Patrimonio

With respect to infrastructure there have been major advances in access to electricity and improved water sources⁴, and a more modest expansion in the coverage of improved sanitation. At the national level access rates were 98%, 90% and 80% respectively for electricity, water and sanitation in 2002. While the poor have systematically lower access rates, they also experienced gains in the past decade. For example, for the rural extreme poor —the most disadvantaged group with respect to services— access to electricity increased from 63 to 90% between 1992 and 2002, while access to improved water increased from 38 to 58% in the same period. By contrast, access to improved sanitation for this group only rose from 22 to 26%.

There has also been steady growth in the ownership of household durables, that is driven more by private savings and investment. However, there remain large inequalities in the ownership of housing and financial savings, with very little use of formal financial institutions. For example, while close to 70% of the moderate poor own their house, only five percent reported that they were paying for their houses— an indicator of the predominantly self-financed process of house acquisition and construction.

There is evidence of Mexico lagging behind comparators —especially East Asian ones— in infrastructure provision, and this could emerge as a major problem for income dynamics in the future. Mexico's investment fell in absolute terms in the early 1990's, and despite some recovery, still remains below 1990 levels. This occurred in a period in which the average shortfall in Latin American infrastructure relative to fast-growing East Asian countries was rising (Calderón and Servén, 2003).

(3) Income poverty/Oportunidades de ingreso

Poverty changes in terms of incomes are driven by the interactions between growth and income inequality. Even with steady growth, poverty reduction tends to be slow, as a consequence of Mexico's high income inequality. And growth has not been good. One way of reading Figures 1 and 2 is of large advances in social indicators, *despite* markedly

³ Actual spending for 2003 is not yet available. Estimates indicate that health spending grew almost 24 percent from 2002 to 2003 (SHCP, 2003).

⁴ Access to potable water: running water in house, running water out of house, and by pipe-track.

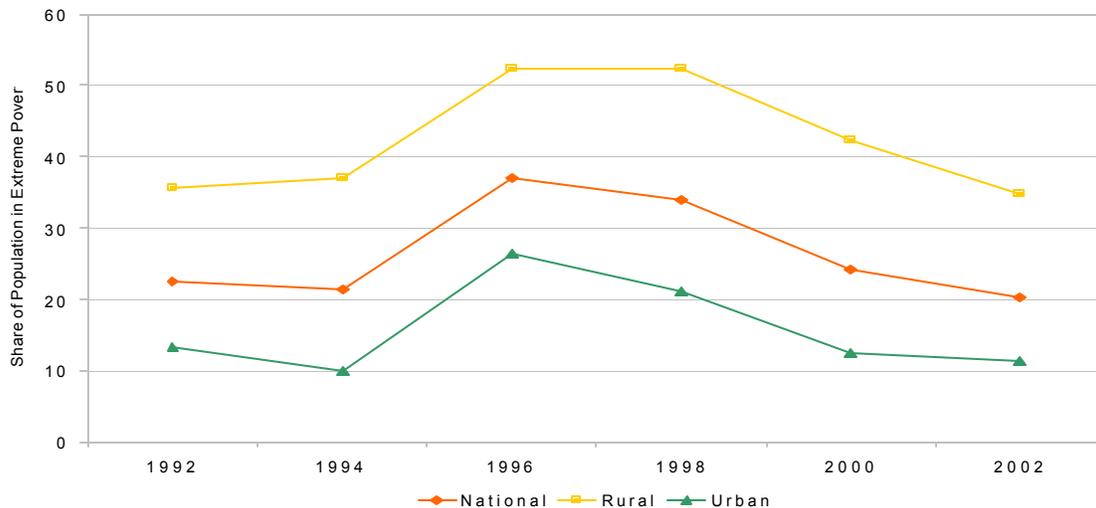
slow progress along the income axis —with Malaysia leapfrogging over Mexico from an initially lower level of mean income.

Over the past decade, the pattern of overall poverty changes has closely followed the macroeconomic cycle and the associated rhythm of the labor market (Figure 3). The crisis of 1994-95 constituted a massive setback. Extreme poverty rose from 21% in 1994 to 37% in 1996. Between 1996 and 2002 the proportion of extreme poor then fell by 17 percentage points to 20%, just one percent below the pre-crisis. While open unemployment is not of great importance for the poor, low labor returns (in self-employment and wages) and under-employment continue to be a fundamental characteristic of poverty.

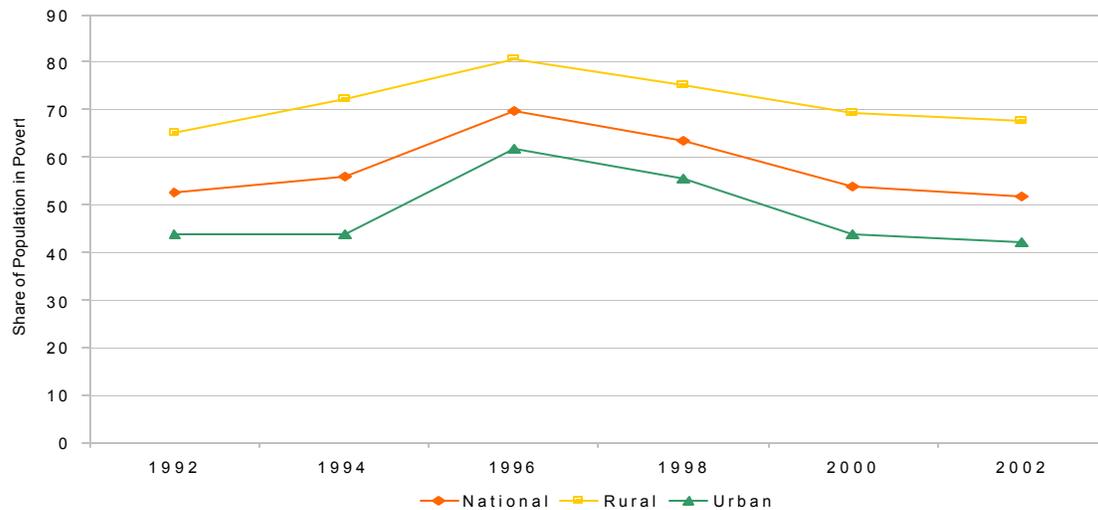
While poverty has only recently recovered from pre-crisis levels, the measured trends in the 2000-02 period are encouraging, with a significant decline in extreme poverty, despite stagnation in average incomes. This was driven by a combination of substantial income growth in rural areas, combined with a decline in inequality in both rural and urban areas in this period.

Figure 3. Overview of Poverty Trends for Extreme and Moderate Poverty

a) Extreme Poverty (food-based poverty line)



b) Moderate Poverty (assets-based poverty line)



Source: WB staff estimates using the methodology of the Technical Committee for Poverty Measurement.

There has been some debate within Mexico as to whether the measured changes in poverty reflect lack of comparability across surveys, since the 2002 ENIGH involved changes in both the questionnaire and the sample size. Recently, the Technical Committee on Poverty Measurement (CTMP, by its acronym in Spanish) concluded that the 2000 and 2002 surveys are broadly comparable, at least for total incomes of households (CTMP, 2004). This report concurs with the CTMP's conclusions. It judges the 2002 survey to be superior, and comparable with 2000 for total household (and per capita) income.⁵ This report also provides estimated confidence intervals for poverty comparisons, where feasible. This conclusion is further supported by comparison with independent evidence on trends, especially from the series of labor force surveys (the National Employment Survey, ENET since 2000), for which the survey instrument did not change.

While the pattern of measured changes in income poverty is consistent with the official estimates, not all the changes were sufficiently large to be statistically significant. The most important changes that were statistically significant were the notable reduction in extreme poverty in both rural areas and at the national level. When poverty is measured in terms of consumption rather than incomes, declines in moderate poverty were also statistically significant at both rural and national levels; falls in extreme poverty at rural and national levels continue to be significant. Measured declines in urban poverty are not significant whichever concept is used.

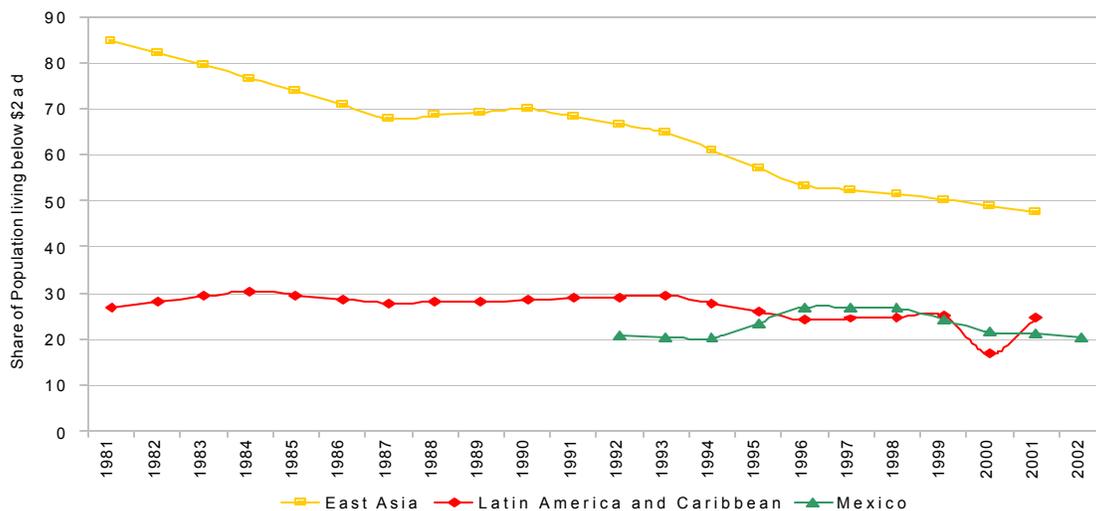
⁵ At the level of sub-categories of incomes—such as transfers—the surveys were not designed to be strictly comparable, and the statistical assessment has to be undertaken on a case-by-case basis.

The results both from the ENIGH and from the ENET (the labor force survey), are consistent with the view that there was growth in income of the poor despite economy-wide stagnation, driven by two factors: first, rapid growth in labor incomes, especially for rural unskilled wages (that increased by over 20% between 2000 and 2002, according to the ENET), with some reduction in the premia to higher levels of education and formal urban work; and second, a substantial measured contribution from remittances and transfers (that include **OPORTUNIDADES**) for the rural extreme poor.

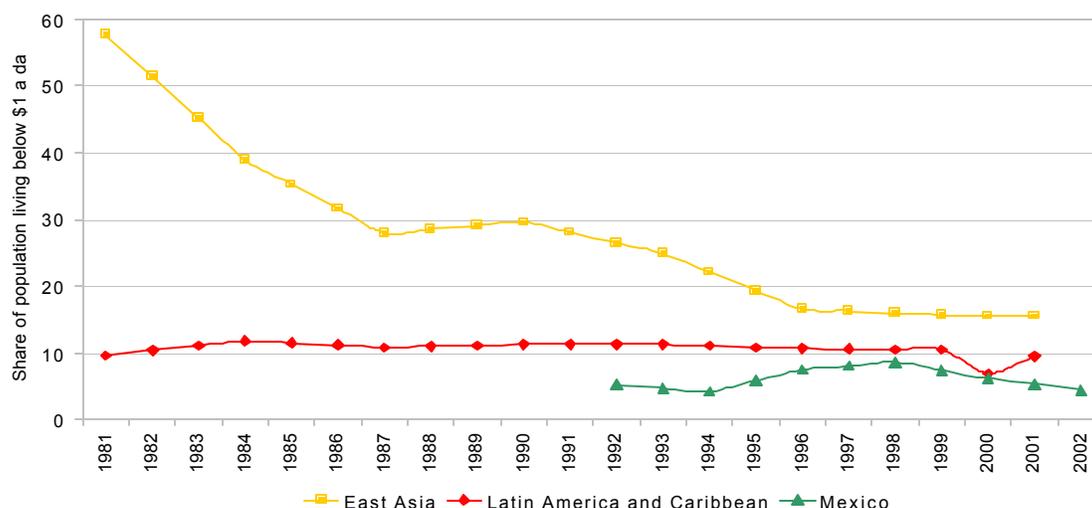
To put Mexico's poverty reduction in an international context, we can compare it with the most recent global poverty analysis that uses standardized poverty lines of approximately one and two dollars a day, at 1993 Purchasing Power Parities (Chen and Ravallion, 2004). While the methodology is different, the two dollars a day line is quite close to Mexico's extreme, food-based poverty line, and the patterns over time are similar. As Figure 4 shows in relation to the Latin American average, Mexico has generally had slightly lower poverty incidence. This is because incomes are above average, and inequality close to the (high) Latin America average. Over the past two decades, and over the past decade, progress has been weak in both Mexico and Latin America, but Mexico's performance has been faster than the average since the 1994/95 crisis. East Asia, by comparison, started very much poorer than Latin America two decades ago, but then made much faster progress. Only some four to nine percent of Mexico's population still live under \$1 a day. This is a line that is close to those used in the some or the poorest countries in the world, and would represent a deep level of deprivation in the Mexican context (as well as probably being more subject to measurement error).

Figure 4. Tendencies in poverty incidence in Mexico, Latin America and East Asia using international poverty lines.

a) At “two dollars a day” (at 1993 purchasing power parities)



b) At “one dollar a day” (at 1993 purchasing power parities)



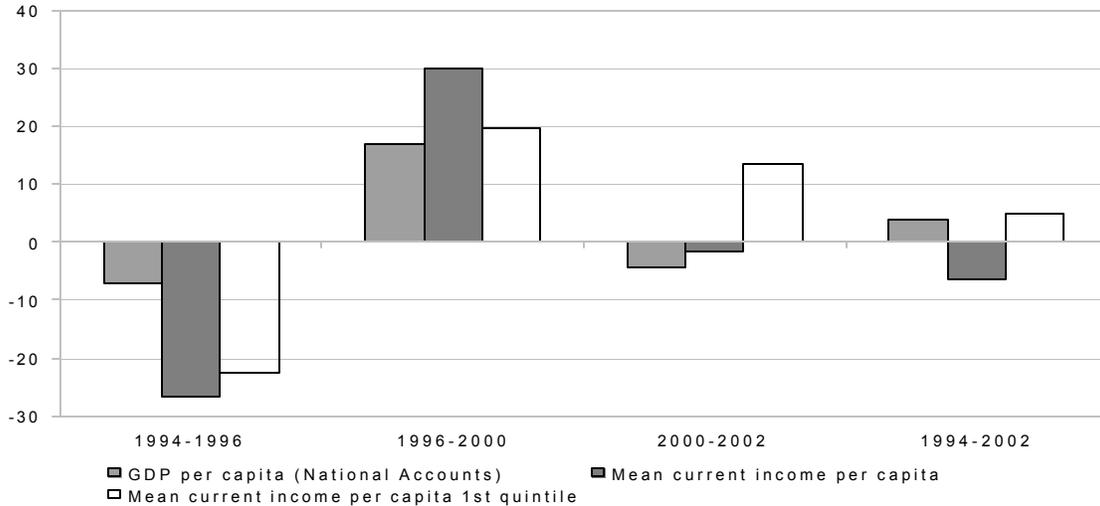
Note: The World Bank's 1993 consumption PPP exchange rate for Mexico is 2.102. The PPP one dollar per day poverty line is about 68.82 pesos per person per month in 1993 prices.

Source: Chen and Ravallion (1994) and WB staff calculations.

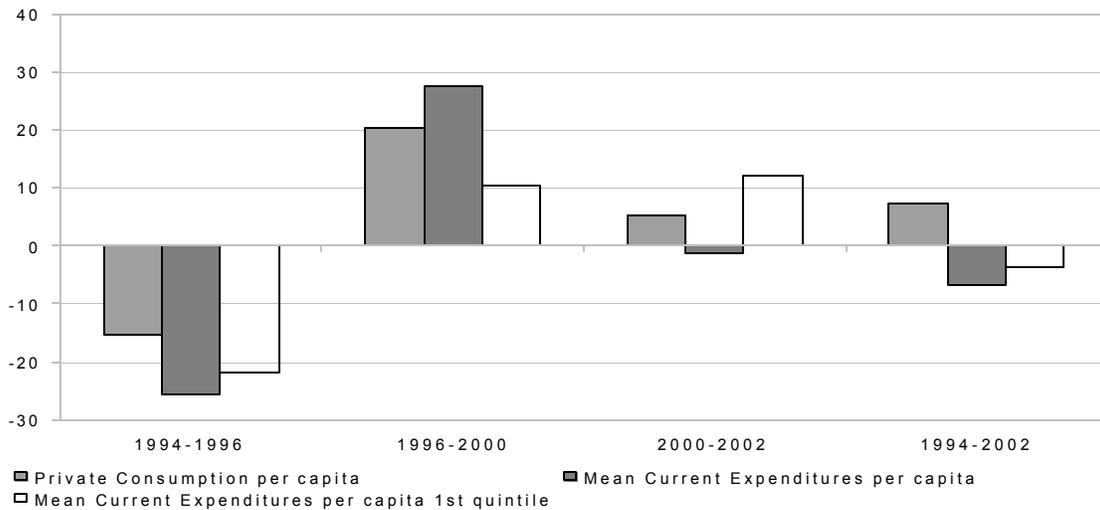
The impact of the macroeconomic crisis and recovery is abundantly clear from the poverty trends shown above. However, there have been notable changes in the relationship between macroeconomic performance and poverty reduction in the past decade. This is illustrated by the significant divergence between growth in income and consumption from the national accounts, survey means, and the mean income of the bottom 20% of the distribution (Figure 5). Changes in measured average income and consumption from the surveys do not track National Accounts figures because of different concepts and measurements. Both suffer from measurement error, but survey-based evidence is generally considered a better measure of the welfare of households. In the 1994-95 crisis, income and spending from the surveys fell much more than in the national accounts, for both incomes at the mean and the bottom 20%. Survey-based income and spending rose fast in the 1996-2000 period, but less for the poorest. Finally in the 2000-02 period, survey and national accounts estimates both show little change, but there is substantial growth for the poorest 20 %.

Figure 5. Patterns of Growth for National Accounts, Survey Mean, and Bottom Quintile, 1994-2002

a) Income



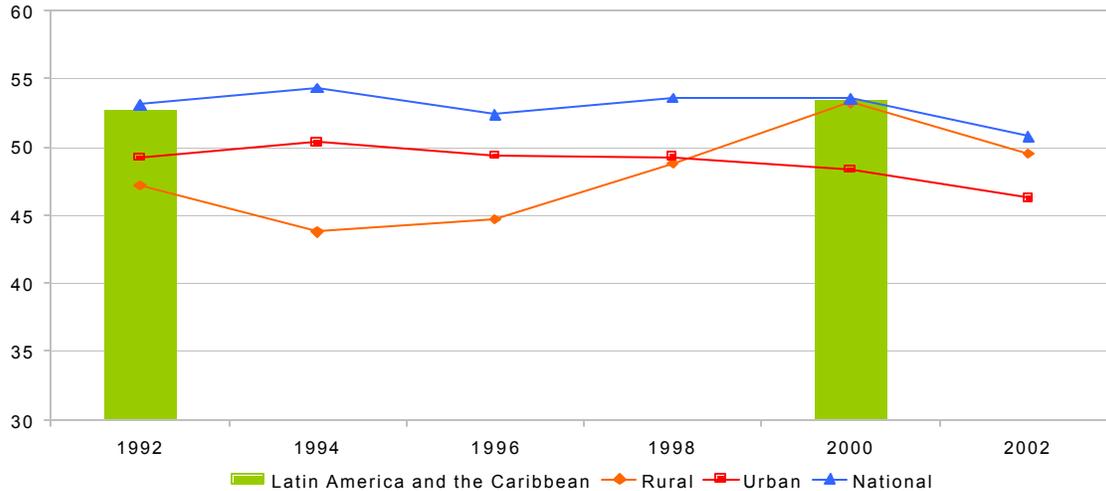
b) Private Consumption



Source: WB staff calculations using ENIGH, and National Accounts.

The observed changes in poverty reflect changes in both mean income and in inequality. High levels of inequality are associated with higher poverty, and are also of interest in their own right. Inequality has tended to be counter cyclical (in contrast to characteristic patterns in Latin America in the 1980's), with the 1994-95 crisis mildly equalizing, the 1996-2000 recovery disequalizing, and the 2000-02 period of stagnation equalizing for income (Figure 6). Mexico has moved from being around the (very high) Latin American average, to slightly below the average in 2002. While the pattern of inequality changes may in part reflect genuinely cyclical forces, there also appear to be longer-term structural factors at work.

Figure 6. Trends in Inequality (Gini coefficient based on income)



Source: WB staff calculations from ENIGH, various years, using the approved methodology by the Technical Committee for Poverty Measurement for the calculation of income.

Note: The Latin American averages are unweighted, there is little difference when using weighted averages.

There are several features of the changes in inequality that may reflect structural forces, and are noteworthy.

- First, the returns to tertiary education of workers in the labor market rose significantly in the decade to 1997, but have fallen since. This is generally attributed to the skill-biased technological changes induced by the large-scale opening of the Mexican economy to trade and foreign direct investment, which was consolidated under the North America Free Trade Agreement (NAFTA).⁶ Chile—which also went through a profound opening to international markets—also experienced a large rise and modest fall in the wage premium to college graduates, suggesting that the effect of opening could be transitional, especially with vigorous expansion of education.
- Second, the last decade has witnessed a reduction in average wage differentials between rural and urban areas, probably reflecting rising integration between rural and urban labor markets, especially in the more developed parts of Mexico. This has been reinforced by relatively large remittance flows to rural areas in the more recent past.
- Third, within rural areas, there has been a significant rise in inequality since the mid 1990's, with a sharp increase through 2000, followed by a more moderate fall

⁶ See De Ferranti et al. (2003) for discussion of overall patterns of wage inequality in Latin America and Lederman, Maloney and Servén (2003) for a review of the effects of NAFTA.

in 2002 (Figure 5). The 2002 distribution is now more like the 1992 pattern. There has tended to be more rapid growth in higher-productivity agriculture, and in non-farm rural income growth in areas closer to manufacturing and service centers.

(4) Vulnerability/Protección Social

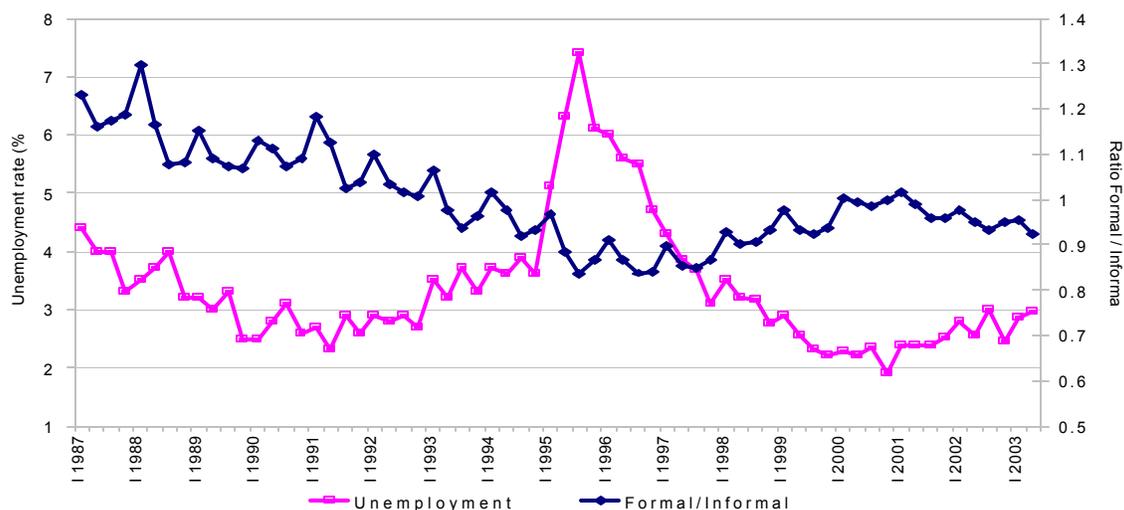
Vulnerability to a variety of adverse shocks is widespread, affecting rural and urban poor and non-poor alike. Adverse shocks due to ill health, employment conditions, meager harvests and natural disasters tend to deepen poverty for the poor, and cause some of the non-poor to fall into poverty. Rural and urban workers appear to experience quite similar patterns of income fluctuations, though the self-employed and informal sector workers experience higher income variability; this is particularly marked in rural areas, where farming is a major activity for the self-employed and informal workers. Large-scale crises, such as the 1994-95 macro shock, affected *all* groups adversely, without markedly altering the *pattern* of changes across groups.⁷

The major gain from the perspective of vulnerability since 1995 has been the avoidance of a macroeconomic crisis. Yet there remain important covariate risks associated with natural disasters and the climate, and idiosyncratic health and employment risks. There is also the risk of having insufficient savings or support for old age. Some of these are systematically related to the characteristics of households —as with the greater fluctuations of incomes for the self-employed.

While many individual workers move to the informal sector out of choice, there are structural reasons for the large size of the sector, associated in particular with the regulatory and tax burden of formalization and the weak links between social security costs and benefits. An important correlate of this is the large fraction of the population that is not covered by formal mechanisms for provisioning against risks. The proportion of the work force in formal work experienced a large long-run decline from the late 1980's to the mid-1990's, followed by a partial recovery in the late 1990's, while the 1994-95 crisis and the 2000-02 period of stagnation tended to increase both unemployment and informality (Figure 7).

⁷ Chapter 3 provides the analysis, findings, and literature review on vulnerability in Mexico.

Figure 7. Unemployment and Informality in Mexico



Source: WB staff estimates from the ENEU (based on the original sample size of the 48 largest cities).

In the recent period, weaker labor market conditions were reflected more in higher unemployment rather than lower wages. This may reflect a change in how the labor market is functioning, that could be associated with low inflation, that means that the mechanism of effecting broad real wage declines via price increases has to a large extent gone. It is possible that future shocks could be associated with more long-term unemployment, as in countries such as Argentina and Colombia. This has potentially important implications for social protection policy, increasing the need for efficient mechanisms for dealing with unemployment risk.

(5) Social poverty/Incorporación social

This important area is the hardest to assess quantitatively. A tentative qualitative assessment is that problems of both social exclusion and weak accountability of public institutions to poor groups remain of widespread importance, despite important progress in the recent democratic opening. There have been very valuable initiatives regarding greater transparency and accountability under the present government, but experience from other countries shows that for greater transparency to be *effective* it is crucial to have complementary institutional structures and processes in place. This can be challenging and can take time, especially where there are strong traditions of patron-client relationships and social exclusion. There is now a need to take stock of how much efforts in this area are leading to better services and responsive to poor groups.

The position of indigenous groups is of particular importance because of historical patterns of social exclusion and deeper levels of poverty. The ENIGH does not include a

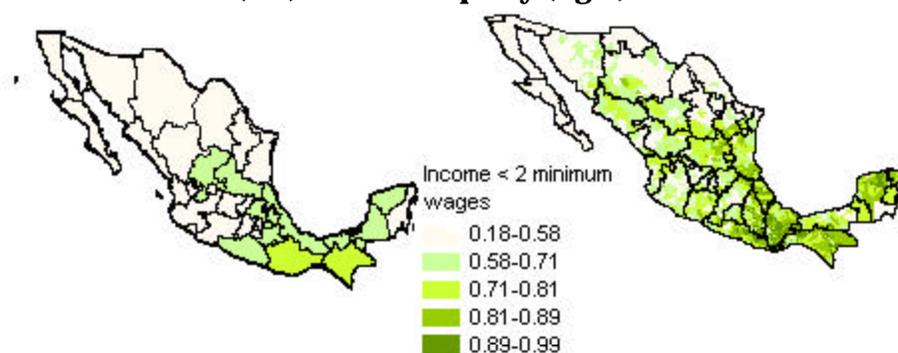
question on ethnicity, but according to the 2000 Census, 44% of indigenous groups are in the bottom 20% of the overall distribution of income, and 80% in the bottom 50%. Using the bottom quintile as a measure of extreme poverty (this is close to the incidence under the food-based poverty line from the ENIGH), indigenous peoples account for about a fifth of the extreme poor, that is over twice their population share according to answers to the question on language at home in the 2000 Census. Indigenous groups typically suffer higher levels of deprivation in terms of education and health status and access to services.

(6) Spatial aspects of well being

Cutting across the different dimensions of well-being is variation by geographic location. Living in a poor area can make a profound difference to life prospects. There are large differences in income poverty and other indicators of well-being across different regions, with a generalized gradient from North to South. The high level of deprivation in the South is confirmed by both the Population National Council's (CONAPO, by its acronym in Spanish) index of marginality (based on access to basic infrastructure services, housing conditions, education attainment, and wage earnings), and the UNDP's Human Development Index (based on per capita GDP, educational achievement and enrollment, and life expectancy). For both indexes, the Southern states have the lowest rankings among all states (World Bank, 2002).

These overall regional differences hide a great deal of spatial heterogeneity *within* states, both in terms of levels of well-being and patterns of change. In terms of numbers, there are large groups of the extreme poor living outside the poorest states (roughly a quarter of all the extreme poor in Mexico live in urban areas in the center states). Indeed, all parts of Mexico have steep gradients in conditions of living, from more developed urban areas, through peri-urban areas and smaller towns, to the more remote rural areas (as well as significant inequalities within any location). The heterogeneity across and within states is illustrated by one indicator —the proportion of employed people earning less than two minimum wages in Figure 8. A similar pattern of heterogeneity exists for other measures of well-being, such as schooling, access to various services and ownership of consumer durables.

Figure 8. Proportion of employed who earn less than two minimum wages at the state (left) and municipality (right) level



Source: WB staff calculations from 2000 Census.

There is an overlap between indigence and spatial indices of well-being, especially for rural indigenous groups. There are high concentrations of indigenous groups in many municipalities in the South Pacific states and in the Yucatan peninsula as well as in some municipalities of the West and Northwest of Mexico. Among those who are self-identified as indigenous, or speak an indigenous language at home, a relatively high fraction live in relatively small rural villages, with low levels of services.

In terms of trends, regional differences have long historical roots. There has been some long-term spatial convergence in most indicators of services and social conditions, but a tendency toward divergence in income and wage measures in the 1990's, that appears to be associated with the differential effects of heightened international integration both before and after NAFTA. Areas closer to the border, or to urban centers, typically grew faster.

B. GOVERNMENT STRATEGY

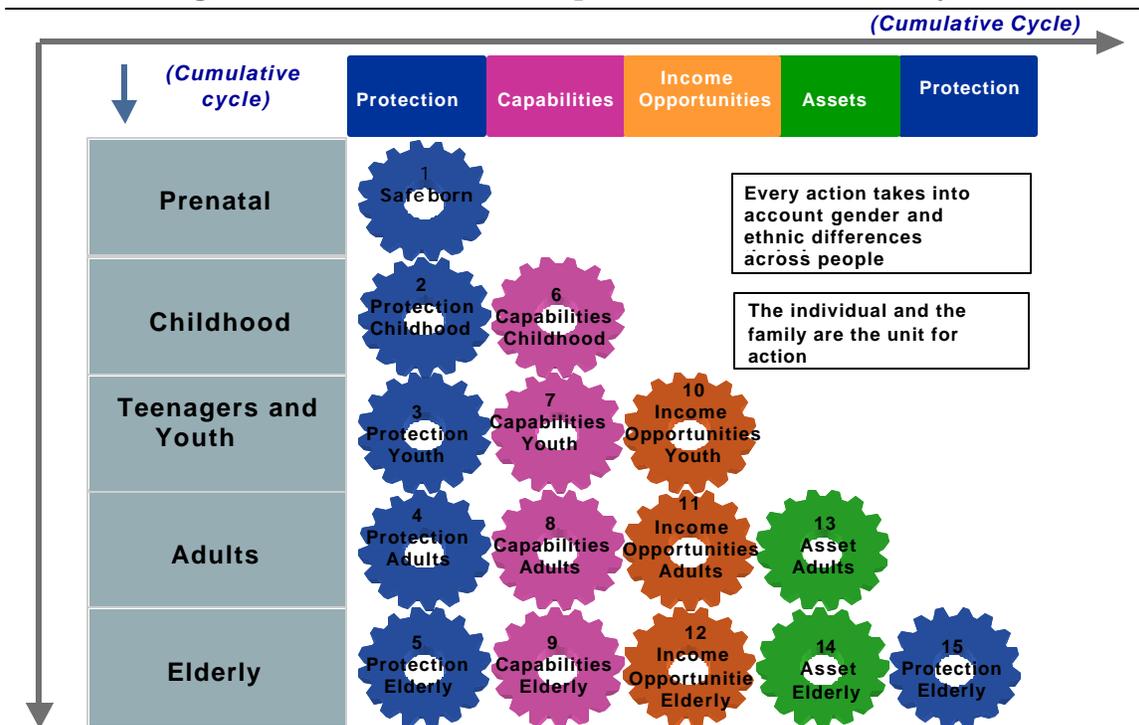
In this section we turn to the role of government strategy in reducing poverty. It covers the following: an overview on the administration's **CONTIGO** framework for poverty reduction; issues of public finance and the distributional incidence of spending (this draws on work conducted jointly for a parallel public expenditure review and this report); and key issues of policy design. The third subsection on policy design discusses policies on social service provision, policies for income growth of the poor, and a set of cross-cutting institutional questions.

The Government's CONTIGO framework for poverty reduction and social development

The Government has framed its strategy for reducing poverty in terms of an explicit framework on the nature of poverty and how public action may improve the well-being of the poor. This framework is known as **CONTIGO**, which is both a conceptual framework, and a set of programs that are particularly concerned with poverty reduction under the social cabinet. As a *conceptual framework* **CONTIGO** is excellent. Two features stand out (Figure 9). First, it explicitly recognizes both multiple dimensions of poverty and the complementary domains of public action, including human development, income generation, physical asset accumulation and social protection. Second, it embeds this within an understanding of well-being and poverty over the life cycle of individuals and households. It is unusual to have such a well-developed and coherent approach to assessing poverty and framing policy as part of official policy.

Within the **CONTIGO** framework, there are two areas that could be articulated further to underpin analysis and action. First, more attention could be given to the design of the supply side of social policy —articulating a framework for understanding the determinants of the coverage and quality of the full range of public services that affect the lives of the poor. A particular dimension of this concerns how the federal government can influence the coverage and quality of provision of services at subnational levels; this is of rising significance, in light of the relatively recent extensive decentralization in Mexico. Second, there is a case for giving more weight to issues of formal and informal institutional conditions, especially with respect to social incorporation and accountability. These are central determinants of both service performance and economic potential of poor groups. While issues of social inclusion and accountability are indeed treated as transversal themes within the **CONTIGO** framework, they could be articulated in more depth and fleshed out. Implementing this will involve continuing analytical and empirical work on specific areas of service delivery (involving the micro-design of the supply side of service provision), questions of the social incorporation of particular socio-economic groups (e.g. rural indigenous groups, urban slum-dwellers), and the effective integration of economic and social policies —since most of the poor are self-employed or workers in very small units (of family size), often in unstable jobs, and in non-registered establishments.

Figure 9. CONTIGO: Areas of public action over the life cycle



Source: **CONTIGO**'s web page and power point presentation, both available at: <http://www.contigo.gob.mx>.

CONTIGO as an *operationalization* of the framework has made progress, but remains hard to evaluate. There are many important sectoral activities that appropriately fall under the **CONTIGO** umbrella, as well as a few programs that build multiple dimensions into the program itself, most importantly **OPORTUNIDADES**, also **MICRORREGIONES** and **HÁBITAT**. However, with the partial exception of programs such as these, it is generally unclear how the large number of programs under **CONTIGO** is related to the integrated approach that is at the core of the **CONTIGO** conceptual framework. Indeed, the conduct of the bulk of social and economic policy affecting the poor appears to continue to be primarily along sectoral or ministerial lines, with little integration of the **CONTIGO** framework into decision-making. Moreover, there is considerable variation in the extent to which programs reach the poor, and a particular weakness in linking social and economic programs. Indeed a theme of this report is that there are powerful complementarities between social and economic development, and it is crucial that a poverty reduction strategy is not limited to a social development strategy.

This assessment of **CONTIGO**'s operationalization in the initial years of the administration is preliminary because of the difficulty of analyzing intended impacts, and the small amount of readily available information on actual progress in terms of results. This is not a critique of the work of the social cabinet—who have made significant advances over the past three years—but rather a comment on the complexity

of the challenge and the inheritance of programs from previous governments. Coordination between social and economic programs is made more difficult since the social cabinet is concerned primarily with social programs, while many complementary economic programs fall under other organizational structures, including the economic cabinet.

The government is now revisiting the operationalization of **CONTIGO**, placing the coordinating function of the social cabinet under the Presidency and exploring ways to focus on a more limited number of priority programs, rather than seeking to coordinate all programs that are important for poverty reduction. These appear to be sound moves.

In addition to these developments within the executive branch, Congress recently passed a Law on Social Development (Box 1). This represents an important step to institutionalize a state policy for social development. It institutionalizes social policy in Mexico through a series of bodies to oversee social development policy and implementation, including a board for evaluation, a national commission on social development, an inter-ministerial commission and an advisory committee, which will include members from civil society. It also states that the principal (though not exclusive) executors of some social development programs will be municipalities, and includes a requirement that social development spending not be reduced in real terms in any year. The law has challenges in implementation, especially with respect to the workings of the various commissions created, and the primary emphasis given to municipalities. While the guarantee on not reducing social spending as a share of GDP is desirable in principle, this introduces a significant inflexibility into the already inflexible budget (World Bank, 2004). As discussed below, not all social spending is effective and pro-poor, and other categories of spending (including parts of economic sector spending) are important for poverty reduction.

Box 1. The Law on Social Development (*Ley de Desarrollo Social*)

The Social Development Law, enacted in late 2003, establishes the principles and general guidelines to shape and institutionalize a state social policy that transcends the sexennial policies.⁸ The law establishes the creation of a National Commission of Social Development, the creation of an Evaluation Council, and the budgetary mandates for social development programs that will permit the effective planning and coordination of social policy in Mexico. The law includes a chapter on priority areas; regions where inequalities are deeper and the conditions of poverty and marginality are broad and complex. It seeks to concentrate the energies and resources of public institutions and society so that Mexicans suffering high levels of deprivation in these areas reach, in the least possible time, acceptable levels of well being. The law stipulates that the principal executors of the programs, resources, and federal actions for social development will be the municipalities, except in those cases where actions or programs are

⁸ The Law will be fully implemented once the President decrees the specific operational rules and guidelines.

explicitly assigned to the federal government or another institution.

One of the contributions of the law is in the guidelines and criteria for the financing of the social policy. These are defined in such a way that the programs, funds, and resources aimed at social development are considered priority and of public interest. Spending on these programs cannot be lower, in real terms, than in the previous fiscal year and must increase, at least at the rate of growth of GDP. It empowers the federal government to establish and administer a fund of social contingency in light of economic and budgetary developments of unforeseen phenomena, of which the amount and minimum rules will be included in the Federal Expenditures Budget (PEF, by its acronym in Spanish).

The institutions created by this Law are:

- *National System of Social Development.* This system will group actors and institutions concerned and involved with social development. It will be established as a permanent mechanism of attendance, collaboration, coordination and consensus building of the three levels of government, as well as civil society and private sectors.
- *National Commission of Social Development.* This Commission will be an instrument of coordination of the programs, actions, and investments for the achievement of the objectives, strategies, and priorities of the national policy of social development. The creation of this entity is fundamental for institutionalizing social programs.
- *National Evaluation Council.* This Council may carry out its duties by itself or through one or more independent agencies. Its objective is to periodically review the goals, actions and results of social programs, in order to correct, modify, add, reorient or suspend programs. Institutions of higher education and of scientific research, and nonprofit organizations can all participate as evaluation agencies, chosen through a competitive bidding process. The law stipulates that for the mandated performance audit, the evaluations of social programs must include outcome, management, and service indicators in order to measure and report on their coverage, quality, and impact. The existing evaluation mandate now acquires the status of a legal requirement. This helps assure its continuation into the future. The Council also lays the foundations, guidelines and criteria for poverty definition, identification, and measurement.
- *Inter-secretarial Commission of Social Development.* This Commission will be an instrument of coordination of the actions of the Federal Executive in order to guarantee the comprehensive nature in the design and execution of the national policy of social development.
- *Advisory Committee of Social Development.* This Committee will analyze and propose programs and actions that affect the fulfillment of the national social development goals.

Source: Diario Oficial de la Federación (2004).

The role of public finance in supporting programs for poverty reduction

There has been a substantial increase in social development spending since the 1994-95 crisis, including support for basic services and at least some well-targeted subsidies.⁹ This was important to some of the service coverage gains and reductions in extreme poverty. While overall spending rose an average of 6.3% per year from 2000 to 2002, social development expenditure rose an average of 5.3% per year, and poverty reduction spending¹⁰ rose 14.2% per year. Overall, the growth in social spending since the mid-1990's was achieved despite fiscal astringency, especially through large reductions in "economic sector" spending.

Expenditure on programs specifically targeted to the poor now represents 1.3% of GDP compared to 0.7 % in 1990. Programs involving transfers to the poor, led by **OPORTUNIDADES** since it was created, grew by an average of 8.4% per year during the 90's, and by even more —9.8% per year— after 2000. However, the most striking pattern is the rapid pace of growth of social security spending —of 35.2% per year since 1990— that is not targeted to the poor.

The long-run reductions in economic sector spending are a possible cause for concern from a poverty reduction viewpoint because of the potential impact on both aggregate growth and the inclusion of the poor within the growth process. This is especially true in light of the different patterns of progress in different dimensions of poverty, noted above —with much weaker gains in income poverty than in human capital. There has been some recovery in economic sector spending in the 2000-02 period, but spending levels remain below those prevailing in the early 1990s. It is, of course, crucial that economic sector spending be effectively oriented toward pro-poor growth. This is discussed further in the section below, when we discuss policies for income growth of the poor.

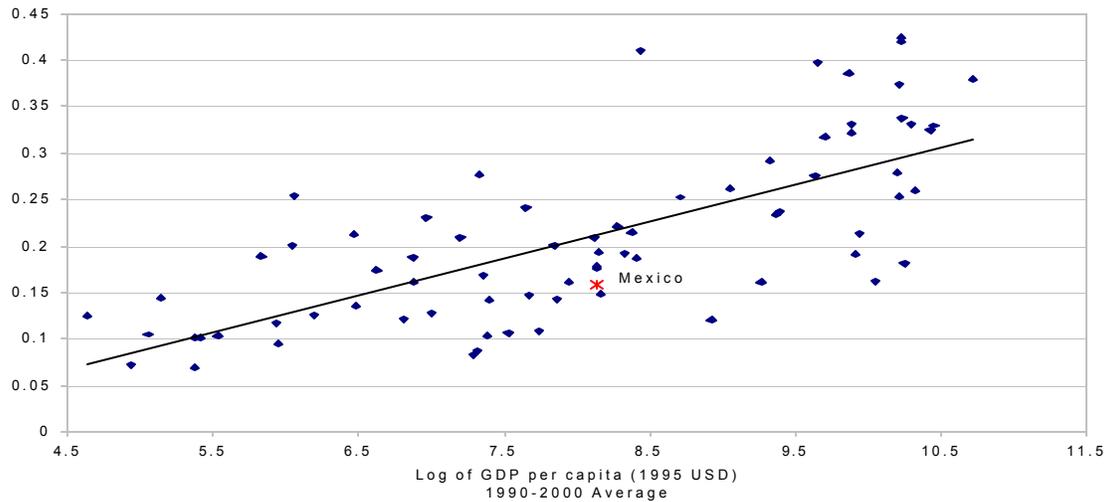
In light of the likely need to increase economic sector spending, continued demands for social development spending, and the transitional costs of the pension reform, the fiscal position for spending affecting poverty reduction will be very tight in the absence of a tax reform. A tax-increasing reform can be one of the most poverty-reducing actions the state could take, *provided increased resources are used effectively*. Along with many Latin

⁹ The Ministry of Finance's functional classification of spending includes the following three categories of spending: "economic sector", "government management", and "social development". "Economic sector" spending covers infrastructure, rural development, energy, transport, communication, and other services and economic activities, while social development spending includes education, health, social security, social assistance, regional and local development, and labor policy. Government management includes legislation, law and order, national security, election processes, governance and environment.

¹⁰ This refers to programs specifically targeted to the poor.

American countries, Mexico has a low level of tax revenue (Figure 10) and this greatly reduces the capacity of the state to take redistributive action. Even a proportional increase in taxes can be highly progressive if resources are well used. The latter implies a combination of channeling of incremental resources into areas that are documented to be effective now, while linking incremental spending in other areas to institutional reforms to make spending more efficient and equitable. In contrast to earlier periods there is now greater capacity to design transfers to offset lower benefits of a tax increase for poorer groups.

Figure 10. The relationship between total tax revenues (in percent of GDP) and GDP per capita



Source: WB staff calculations, based on data from the World Development Indicators.

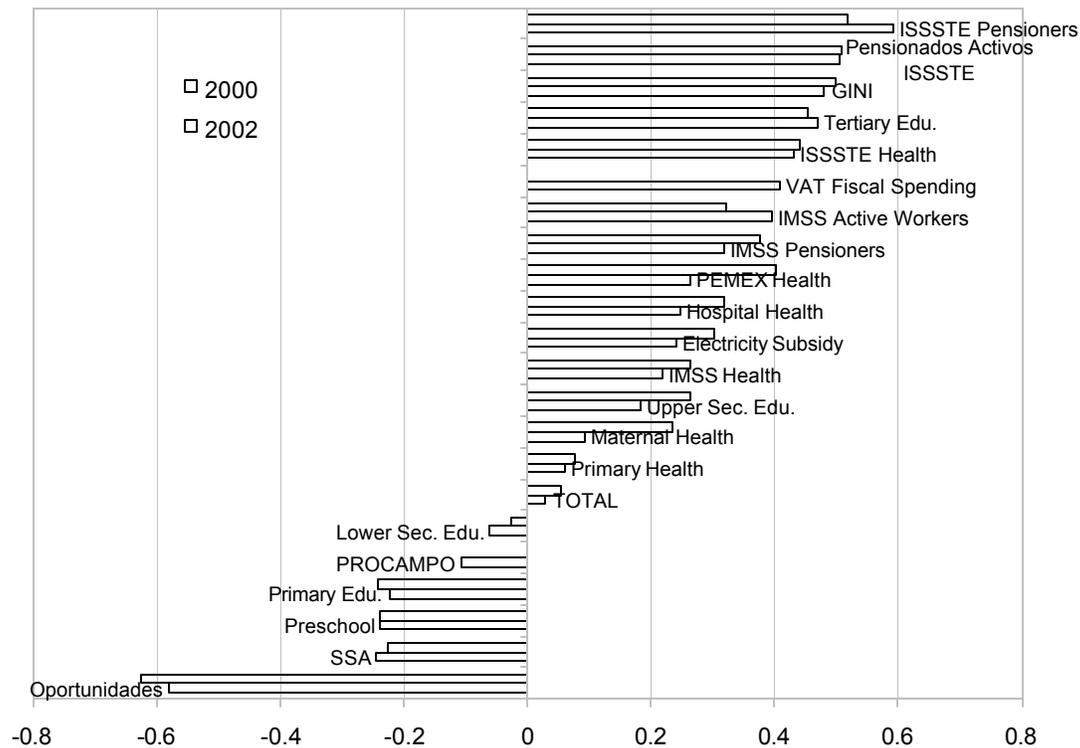
While increasing taxes is an important part of a poverty-reduction strategy, there is also great potential for more effective use of public spending.¹¹ Within social spending plus subsidies, there is enormous variation in incidence, with some programs highly equalizing (mainly benefiting the poor) and others highly unequal (mainly benefiting the non-poor).¹² On average, public spending appears to be much more equal than incomes, and at the margin, is becoming more equal and pro-poor, but there remain

¹¹ Spending analyzed here accounts for over half of total programmable spending and almost 1% of GDP in 2002. The coverage is primarily on social spending, plus subsidies —since few economic sector programs can be linked to specific households.

¹² The incidence analysis involves matching the use of programs from survey data to administrative costs from budget data. It makes no allowance for quality or for behavioral responses from households (Van de Walle, 2003). Despite these limitations it is a useful measure of the orientation of government efforts across the population. Households are ranked in terms of “autonomous” spending per capita, or spending before monetary transfers. This concept is directly comparable to autonomous income (or incomes pre-monetary transfers), with the assumption that the marginal propensity to consume from transfers is 50% (for details on the methodology see World Bank, 2004a).

large areas of spending with very unequal incidence, and some with rising inequalities in incidence, for example ISSSTE pensions, tertiary education and IMSS benefits for active workers. This is illustrated in Figure 11 using a summary measure of the incidence of spending across different income groups in the population: the concentration coefficient (that is similar to the Gini coefficient) goes from -1 when all spending goes to the poorest, through 0, where everyone receives the same spending, to +1 when all spending goes to the richest.

Figure 11. There is huge variation in the inequality of different government programs
(Concentration coefficients for 2000 and 2002)



Note: The GINI refers to the distribution of private income. **PROCAMPO** is not reported in 2000 because the sample of beneficiaries captured by the 2000 survey is not representative. VAT fiscal spending refers to exemptions and the zero VAT rate.¹³

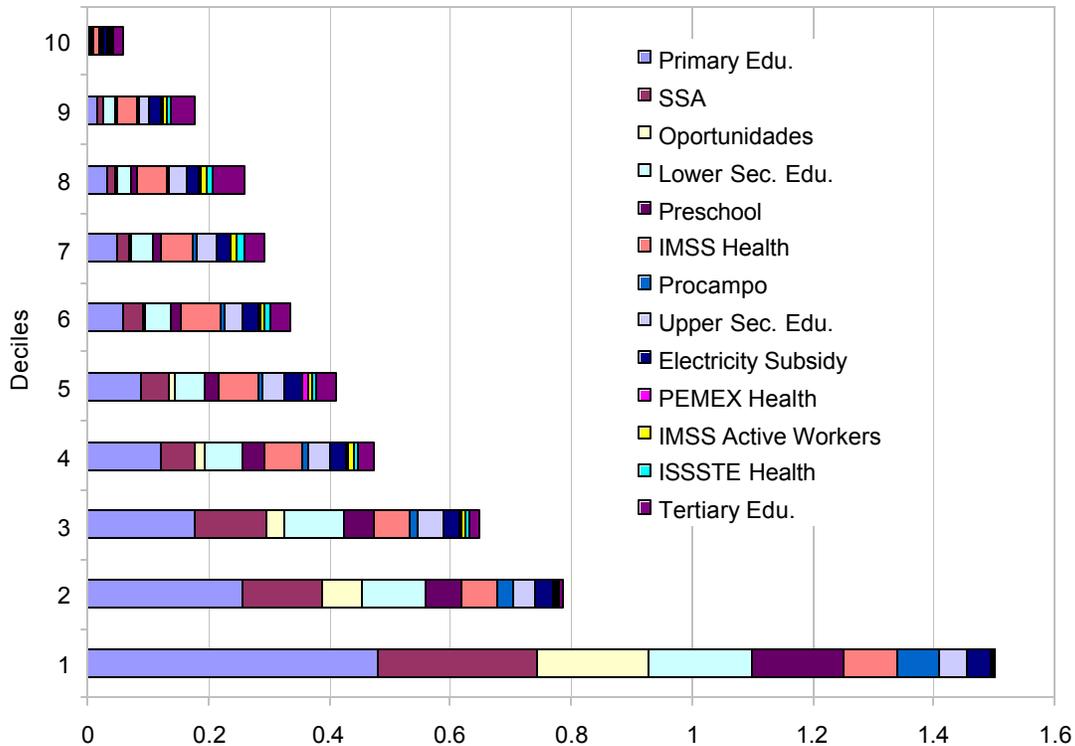
Source: Background work for World Bank (2004) and SHCP (2004) for the VAT fiscal spending.

While the distribution of government social spending across different groups is only mildly unequal on average, with wide variation, the size of spending *in relation to* private (pre-transfer) spending is much larger for poorer groups. This is precisely because their incomes and spending are so low. Figure 12 shows the ratio of the value of measured public spending going directly to households to their private (pre-transfer) spending. The cost of such public programs is actually larger than private spending for the bottom three deciles of the rural population, and over 50 % of the private spending

¹³ For details, see Chapter 4.

of the bottom 20% of the urban population. This is only part of the story of their benefit to households, of course, since that also depends on the quality of the services, and how much they are valued by the recipients. Question of quality, which are discussed further below, are of major importance.

Figure 12 Public expenditure is larger in relation to private spending for the poor
(The ratio of program spending to autonomous household expenditure, by major program, national, 2002)



Source: WB staff calculations; see also World Bank 2004a.

A further aspect of the story concerns the *reach* of different programs in relation to the “needs” of different groups from the poverty profile. The analysis for this report suggests a mixed picture. Some basic services —basic education, water, electricity— have near-universal coverage among the whole population. While not necessarily highly progressive, they reach most of the poor. In general, programs that are highly targeted to the poor actually have relatively modest reach —both in Mexico and elsewhere in the region (De Ferranti et al., 2004). **OPORTUNIDADES** is an important exception, with already 60% reach among the rural extreme poor from the household survey in 2002 and an estimated total 80% reach in 2003¹⁴. There remain gaps in basic service provision, especially for the extreme poor, and incomplete coverage of the social protection system —for health, old age, and unemployment. These are particularly marked for those

¹⁴ Information provided by SEDESOL.

amongst the moderate poor who have neither access to the formal social security nor to **OPORTUNIDADES**.

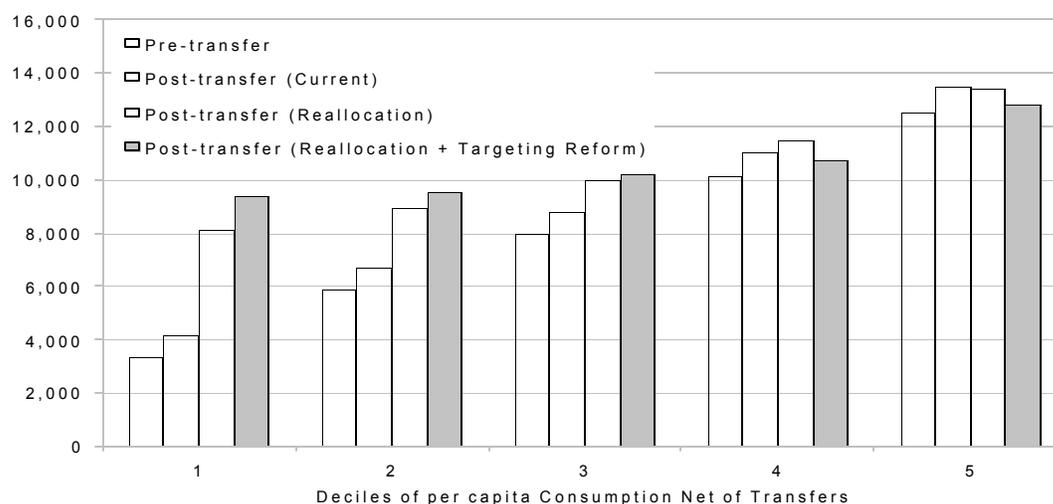
The analysis of incidence and reach suggests there is considerable scope for redistribution within the budget for greater impact on the poor. To explore this, scenarios were developed which involved shifts either from the electricity subsidy or from the removal of exemptions under the VAT, with reallocations going to a hypothetically expanded **OPORTUNIDADES**.¹⁵ These programs were selected for the scenario since they would in principle be good for both efficiency and equity. The electricity subsidy and VAT exemptions are quite inequitably distributed now (with concentration coefficients of 0.24 and 0.41 respectively), implying more of the resources go to richer groups. Despite this, they do account for non-trivial amounts of spending of the poor: electricity subsidies are equivalent to around 3% of private spending of the extreme and moderate poor, and VAT exemptions are equivalent to some 4.5% of their private spending.

However, if these programs were cut and resources saved were *redistributed*, for example, with a pattern similar to **OPORTUNIDADES**, the *net* benefits to the poor would be substantial.¹⁶ **OPORTUNIDADES** is equitable (with a concentration coefficient of -0.58) and probably has positive efficiency effects, since it provides incentives for investment in human capital. Two scenarios for redistribution are shown in Figure 13. The first redistributes the resources in line with existing distributions of programs, while the second assumes the 2002 gaps in coverage of households by **OPORTUNIDADES** would be fully filled for the bottom decile, 50% for the second decile and 25% for the third decile. Under these assumptions the bottom three deciles would experience large gains —making a substantial impact on extreme poverty— while the fourth and fifth deciles (as well as higher deciles) would experience small losses. While this is only one among many illustrative scenarios, it shows the great potential for more effective use of the budget as an instrument of efficient redistribution. For example, for illustrative purposes on the tax side, we selected a tax change (exemption removal) that would have some negative effects on the poor which are then more than offset by the redistributive action. To the extent the same tax gains could be obtained by other tax reforms with less effect on the poor, the potential benefits from redistribution would be even greater —if potentially at some cost in terms of efficiency or administrative feasibility in the short run.

¹⁵ These should be treated as illustrative only, since a further expansion of **OPORTUNIDADES**, for example to groups not now covered, would raise new questions of design.

¹⁶ It is important to mention that this impact will not be achieved if another instrument is used instead of **OPORTUNIDADES**.

Figure 13. Closing the poverty gap: the impact on per capita household expenditure of the bottom five deciles of full reallocation of electricity subsidy and VAT subsidies to OPORTUNIDADES



Note: The targeting reform scenario assumes design changes that would close the coverage gap fully in decile 1, 50% in decile 2, and 25% in decile 3.

Source: WB staff calculations.

Key issues of policy design for poverty reduction

Of equal importance to potential shifts in tax and spending composition are issues of program and policy *design*. The discussion is divided into three areas: the provision of social services; policies influencing income growth; and a set of crosscutting institutional issues.

(1) The design of public service provision: social services and social protection

Human capital/Capacidades. Mexico, like many countries in the region and elsewhere, will have to run fast to keep up with the dynamics of returns to skills. Returns to primary and secondary education have been flat and are particularly low for rural areas. Returns to tertiary education are high, reflecting large rises in this premium in the early 1990s. While there is evidence of declines in the premium to tertiary education since 1997, tertiary enrollments remain highly concentrated in the children of richer households — who both appropriate the high subsidies and enjoy the high private returns. In the 1990's expansion of tertiary enrollment was actually *disequalizing*, with an increase in the gap between net enrollments from high and low income households. A continued push on both access and quality for secondary, and mechanisms for giving bright poor children access to tertiary education will be key to future progress. There are initiatives to provide funding or access for poorer children to tertiary education (including support to inter-cultural establishments, with a particular orientation to indigenous groups) but

a broad-based student loan scheme will be challenging to implement in light of weaknesses in the tax collection system, which could make loan recovery difficult.

A central issue, which is well documented for education services (and also appears to apply to health and other services) is quality; it is low on average and displays significant variation, with the poor, and especially indigenous groups (at least those in indigenous schools), experiencing the lowest quality in schooling outcomes as measured by test scores. While socio-economic status is a major determinant of individual test scores, there is an agenda of change on the supply side, where teaching reform to increase the accountability of teachers to outcomes will be central if the skills of the poor are to be upgraded. There are probably also opportunities for strengthening the resource base of schooling in deprived areas, with indigenous schools being one example.

The design of any additional support for education would, however, need to take account of the risk that expanded spending could be captured by increased rents of public sector workers rather than better services for the poor. For both quantity, and especially, quality the primary focus should be on efficiency-improving reforms. International experience suggests that this is likely to involve complex institutional issues within the sector, between national and local governments, and between schools and the communities they serve. There are now an array of programs, including **CARRERA MAGISTERIAL** (Magisterial Career), **INCENTIVES FOR HIGHER EDUCATION TEACHERS**, **ESCUELAS DE CALIDAD** (Quality Schools), **COMPENSATORY PROGRAMS** and **APOYO A LA GESTIÓN ESCOLAR** (Support for School Exertion). Some of those which have been evaluated show specific gains, but also potential for design improvements. Others have not been evaluated. Consolidation of programs and systematic evaluation is probably desirable; it is likely that deeper reforms to increase the accountability of teachers to outcomes will be central if the skills of the poor are to be upgraded.¹⁷

As an incentive program for human capital investment, **OPORTUNIDADES** has had a significant impact on nutritional status and secondary school attendance amongst the poor, as shown by its impact evaluations. With the recent expansion into poor urban areas, it is a program of national significance, which already reaches a high fraction of the rural extreme poor, as noted above. Since 2001, **OPORTUNIDADES** extended education benefits to individuals 14 to 20 years old in poor households enrolled in upper secondary education. After only one year of implementation, the program provided more than 400,000 scholarships for upper secondary, yielding a net impact of 38% increase in enrollment rates in rural areas and 6% in urban areas (Rubalcava and Teruel, 2003). A further extension is **JÓVENES CON OPORTUNIDADES**, which consists of a savings fund for lower secondary graduates wishing to continue their upper secondary

¹⁷ Education quality is the topic of an ongoing work program in the World Bank, and any statements here are necessarily preliminary.

education and finishing it before reaching 22 years old. Students can cash out their accumulated points and use them as collateral for micro credit, as down payment to buy a house or for home improvement, to buy health insurance, or finance higher education. This design is promising, but the component has not yet been evaluated.

Areas that could be strengthened in **OPORTUNIDADES**, especially as a potentially integrating part of the **CONTIGO** strategy, include improving the connectivity with local service delivery and assessing its accountability mechanisms and procedures for graduation from the program. There is also a case for clarifying the balance between the program's dual objectives of increasing attendance at schools and clinics and transferring income to the extreme poor. The extensive transfers to primary schooling do not have a large impact on attendance, since most children already attended school, but they can be justified as part of a comprehensive redistribution and social protection system, for which the objective of transferring resources to the extreme poor is key; this is taken up next.

Managing vulnerability/Protección Social. Social protection has two objectives: supporting efficient risk management of households, and redistributive transfers to the poor. These are sometimes mixed in the same program —and indeed this can bring political economy benefits, if the risk management component increases middle class support for programs that also redistribute to the poor. A sound strategy for risk management involves a balance between strategies to reduce risks, self-insurance and pooling of risks. The poor typically have relatively weak capacity for self-insurance, while risk pooling is especially limited to extended families or other informal mechanisms, which tend to be costly, and to break down in the context of covariate risks. Government action can be crucial in these areas.

Within such a framework, an important part of an overall risk management strategy for the poor and vulnerable involves building rural and urban asset bases and strengthening of financial systems (including micro-finance). It is thus closely linked to an asset-building strategy discussed below. There is a two-way relationship between assets and vulnerability: assets can be a means of managing vulnerability; conversely high levels of vulnerability can lead to reduced levels of investments, because of the risks these entail when credit and insurance markets are incomplete.

However, an assets-based strategy needs to be complemented by government social protection programs to deal with the risks that cannot be efficiently managed by individuals and groups themselves. A sketch of the current system is given in Table 1. The core of current structure of social protection is oriented to the formal sector, including pensions, health and unemployment benefits. Beneficiaries of social security and health services from the two largest social security institutes, the Mexican Institute of Social Security (IMSS, by its acronym in Spanish) and the Social Security and Services for the State Workers Institute (ISSSTE, by its acronym in Spanish), are primarily among

richer and some middle groups in the population (Figure 10); the incidence of benefits of these institutes is roughly as unequal as the overall income distribution.¹⁸ This reflects the “truncated” welfare state that is so typical of Latin America (De Ferranti et al., 2004). Diagnosis of the formal system lies largely outside the scope of this study, though there are clearly areas for reform. With respect to the uncovered population, that is the primary concern of a poverty report, there is a clear need to expand social protection to the poorer and informal households.

Table 1. Mexico’s social protection system by poverty status (an illustration)

	Extreme Poor	Moderate Poor	Non-poor
Old Age	No significant coverage	IMSS (19% with rights) ISSSTE (3% with rights)	IMSS (27% with rights) ISSSTE (12.4% with rights) Other social security institutes (federal and state)
Major Health Risks	PAC (SSA) SEGURO POPULAR (SSA) IMSS-OPORTUNIDADES <i>Seguro de Salud para la familia</i> (IMSS) Private providers	IMSS (34% with rights) ISSSTE (5% with rights) Private providers	IMSS (47% with rights) ISSSTE (15% with rights) Private providers Other social security institutes (federal and state)
Unemployment Risks	Very partial coverage of PET	Partial coverage with formal severance pay and SICAT .	Partial coverage from formal severance pay
Natural Disasters and Harvest Failure	FONDEN OPORTUNIDADES	FONDEN	Largely inapplicable
Social Assistance and Children	OPORTUNIDADES (42%) DIF	Partial coverage of OPORTUNIDADES (16%) DIF	Not applicable

Notes: Percentages refer to population covered in each group. Full program titles are: **PAC**—*Programa de Ampliación de Cobertura*; **FONDEN**—*Fondo Nacional de Desastres Naturales*; DIF—*Sistema de Desarrollo Integral de la Familia*.

Source: WB staff calculations from ENIGH 2002.

¹⁸ There are several other smaller federal and state social security institutes discussed in Chapter 3.

The main poverty-targeted transfer programs, especially **OPORTUNIDADES** and **PROCAMPO**, have good to very good targeting properties as redistributive social assistance (Figure 10), and also help reduce risk for recipients, since transfer amounts are not generally subject to shocks.¹⁹ However, these have incomplete coverage of vulnerable groups, and there is scope for broadening in two respects: (i) conditional transfers for groups in extreme poverty not covered by **OPORTUNIDADES** that is focused on children; this might include adults in community service, and aged extreme poor; (ii) strengthening risk-based programs, such as public works, that can kick in automatically in response to covariate shocks (**PET**, the decentralized public works program has relatively small coverage and uncertain impact). This should be complemented by strengthening of information and accountability systems.

With respect to health risks, Mexico has multiple providers: social security rights-holders have access to IMSS/ISSSTE based curative care; there is a network of public curative hospitals and clinics provided by the health services of the states (SESA) and regulated by the Ministry of Health (SSA), as well as subsidized parts of IMSS; and an extensive private system serving all parts of the population. A striking feature of the health system is the extent of use of private providers for major health risks, from the uninsured poor to the well off with social security rights. This is indicative of access or quality problems, at least for the poor.

The Government has recently taken measures to extend health insurance for the uncovered population. The flagship program is the **SEGURO POPULAR** that was introduced in 2002, offering a package of specific services and medicines to those not covered by social security, with highly subsidized premia linked to ability to pay —with a zero premium for the bottom quintile of the population. This was complemented by a 2003 decree designed to progressively extend health insurance to all by 2010. The primary objective of **SEGURO POPULAR** is to increase public resources going to curative care for poorer groups. This is highly desirable in light of the generally inequitable pattern of overall spending in health. In 2000, the World Health Organization (WHO) ranked Mexico's health system 51 out of 191 in terms of overall performance, but 144 out of 191 in terms of financial fairness (assessed in terms of distribution of potential health care costs in terms of ability to pay rather than need). Moreover, Mexico spends less on health than international comparators. **SEGURO POPULAR** is complementary to **OPORTUNIDADES** since it provides resources conditional on health risks. Like **OPORTUNIDADES**, it works on the demand side — albeit via finance of the in-kind provision of health services rather than a cash transfer. **SEGURO POPULAR** also provides a potential instrument for changing incentives within the health system. The major challenges here are providing a means for the Ministry of Health (SSA, by its acronym in Spanish) to provide genuine stewardship of

¹⁹ However, **PROCAMPO** did decline significantly in the wake of the 1994-95 crisis, underscoring the cost of such macro-fiscal crises.

the health system, through its “compact” relationship with the states, and for the state ministries to fulfill a comparable stewardship role over public sector providers within their states.

By the end of 2003, 625,000 families had been affiliated to **SEGURO POPULAR** in 24 of nation’s 32 states. This is a notable achievement. However, since **SEGURO POPULAR** has only just been introduced, there is not yet information on its impact. Indeed, its actual impacts will depend greatly on the behavior of households, on service providers, and on interactions between the SSA and the states. While it has the potential to deliver major benefits, the extent of these remains uncertain. For example, there is uncertainty over the extent to which **SEGURO POPULAR** will lead to households actually increasing use of public health services, shifting from private to public providers (saving out of pocket expenses) or choosing not to enroll in formal social security. There are also unknowns on the behavior of health service providers. This uncertainty is comparable to the situation when **OPORTUNIDADES** was introduced (then as **PROGRESA**) in the late 1990’s. Getting information on these issues will depend on structured monitoring and evaluation both on household behavior and service provider performance. While current plans do indeed put considerable emphasis on monitoring and evaluation, there is a need for particular attention to the design of impact evaluations, especially including mechanism to track the behavior of households and service providers over time (as was undertaken as an intrinsic part of **PROGRESA**’s design with, in particular, the use of longitudinal household surveys).

SEGURO POPULAR potentially covers health risks for all uncovered families —with higher subsidies for the extreme poor. For other risk categories, a strategic issue for the future concerns middle groups in the population —especially amongst the moderate poor— who will never be reached by **OPORTUNIDADES** and related programs that are primarily focused on the extreme poor, and will only participate in the formal social security system in the longer term. This constitutes a policy challenge for social protection that will be the focus of the next phase of work —it parallels the challenge of providing income opportunities for this group that is the focus of the government’s **IMPULSO** strategy, that seeks to improve the productivity and formalization of the informal sector and raise the potential productivity of workers (see below).

Finally, a different type of vulnerability concerns risks of violence. Criminal violence is of particular importance in some urban neighborhoods, affecting both personal well-being and economic security. Rural violence continues to be an issue in some of the poorer areas of the country, where it is often associated with land conflicts, political or social divisions. Effective access to justice systems in Mexico, as elsewhere in Latin America, is biased against poorer groups. OECD Mexico Economic Overview (2003) found that there are serious and persistent problems in the judicial system in Mexico, as illustrated by long judicial processes, poor enforcement of judicial decisions especially at

the local level, and high corruption. Actions to address these issues are required both at the federal and the state levels.

(2) Promoting income growth amongst the poor

As seen in Section A, there has been much weaker longer-run progress with respect to income poverty than for social dimensions of well-being. Future income gains amongst the poor will depend on both overall growth and the pattern of growth, and especially the pattern of job creation. Scenarios undertaken for this report show that both growth and inequality matter for poverty dynamics. Slow growth, of 2% per annum, between 2002 and 2015, would have little impact on poverty if inequality does not decline, or reverts to 1998-2000 levels. But if inequality fell by 10%, extreme poverty would fall to 8% by 2015. Growth of 5% per annum would bring extreme poverty rates to 6% by 2015 if inequality reverts to 1998-2000 levels, but bring them down to 2% if inequality fell by 10 %.²⁰

The core of any job-creating strategy lies in the environment for private investment. In other words, a poverty reduction strategy is inseparable from the design of a competitiveness and growth strategy. This relates to the current overall competitiveness agenda, which is currently under public scrutiny in light of Mexico's poor international performance relative to competitors such as China, especially after the initial gains from NAFTA were realized. This is a complex agenda, in which international evidence suggests that macro stability, infrastructure provision, tackling of protections of the private sector, and a range of measures to improve logistics are all important.

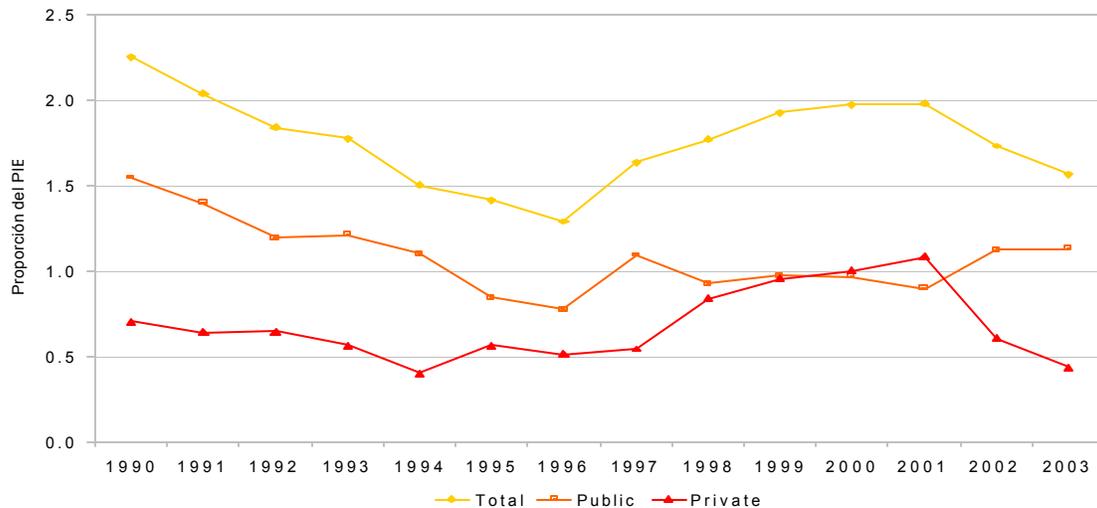
Economy-wide measures to strengthen competitiveness will need to be complemented by strategies specifically oriented toward income growth of the poor —both the extreme poor (mostly in rural areas) and the moderate poor (mostly in urban areas). Current government strategy for the extreme poor is much more developed in the social arena than the productive arena; this is a priority for the future. With respect to the moderate poor, the government has recently formulated a new strategy, termed **IMPULSO**, whose central thrust involves a variety of measures to increase the productivity, security and dynamism of the self-employed and small- enterprise sector, that is now largely informal. This is based on sound diagnosis, but there is an important agenda in policy design and execution. We sketch issues in asset-formation and the policy and regulatory framework for income growth in both rural and urban areas.

Infrastructure and Assets/Patrimonio. Throughout Latin America, infrastructure investment has fallen sharply in the 1990's —with rises in private investment not offsetting the fall in public investment, except in telecommunications. Recent work on cross-country growth finds that higher infrastructure stocks are associated with both

²⁰ See scenarios in Chapter 5.

higher growth and lower inequality (Calderón and Chong, 2003, Calderón and Servén 2003). In Mexico, during the 90's, investment levels have been at best flat and, after a short-lived boom in telecommunications in the late 1990's, private investment recently displayed a significant decline. Public investment has recovered since 2001 particularly in sectors such as electricity, roads and water. However, levels of investment remain low by international standards, and more effort will be needed to reactivate investment in infrastructure in both the public and private sectors.

Figure 14. Investment in New Infrastructure in Mexico 1990-2003 (excluding PEMEX)



Note: Investment in infrastructure includes roads, electricity, railways, airports, ports, water, and telecommunications. Data for 2003 are estimates.

Source: Anexo del Tercer Informe de Gobierno 2003.

While more spending on infrastructure is undoubtedly necessary, issues of policy and institutional change are fundamental for both efficiency and equity, whether these involve privatization, the regulatory framework for private production, or the possibly more challenging goal of reforming public provision. However, privatization in Mexico has led to a mixed performance. In some sectors privatization has led to significant positive results —notably in ports, railroads and telecommunications. But in many areas privatization also created considerable market power for the incumbent, reducing the pressure for quality, low-price service. This may include telecommunications, airlines, toll roads, and commercial banks. Important parts of Mexican infrastructure are either of low quality (electricity) or high cost (telecommunications, transport). In addition to these general concerns, specific issues for the poor include completing access to water and sanitation, improving service quality, and restructuring of electricity subsidies.

Electricity subsidies are regressive and large, despite recent reductions. Those who consume more receive higher subsidies, except for the very top of the income distribution. The benefits of a hypothetical redistribution from electricity subsidies to **OPORTUNIDADES** were illustrated above. There is scope for price rationalization

within the residential subsidy, which could maintain lifeline subsidies for the poor, and release resources for other investments. A reduction in electricity subsidies could have large impacts on the poor, if combined with compensatory mechanisms both within the price schedule and from other programs. However, pressure groups are successfully blocking implementation of the 2002 price increase. Moreover, in April 2003, the Senate approved an increase in subsidies for residential electricity prices in some regions in the North and Southeast (“with difficult climatic conditions”). This decision is clearly a step backward, and it can only further reduce the ability of the *Comisión Federal de Electricidad* (CFE) to invest in new capacity. There is also potential for savings in the electricity subsidy for irrigation, that mainly goes to large farmers.

For the rural poor (and especially the extreme poor), there is an ongoing agenda of strengthening their productive asset base. Part of this involves the continuation of the complex process of land management and rights, notably the *Programa Nacional de Certificación de Derechos Ejidales y Titulación de Solares Urbanos (PROCEDE)*. This is a demand-driven program of land regularization which was created in 1993. The program allows groups of producers to choose their property rights regime, delineates *ejido* boundaries, measures individual plots, and eventually issues certificates to individually owned plots (including house plots) as well as communally managed lands to each individual. **PROCEDE** has led to positive results such as increased land access, improved governance and transparency at the grassroots level, increase in household welfare, and improved functioning of land markets. However, challenges remain, including improving investment and management skills, building capacity for conflict resolution, especially through alternative mechanisms and out-of court settlements, and seeking alternatives for reducing the costs of the program (World Bank 2001b). Equally important is the provision of economic *infrastructure* and access to *finance*. It is important that this be designed in ways that supports diversified production patterns. There appears to be potential for building on existing local financial intermediation, with a particular area of opportunity being the inclusion of the substantial flows of remittances that are being received by some 13% of rural households, and a fifth of the poorest.

It should be mentioned that other work indicates that land reform remains an important issue for the poor in many parts of Mexico (World Bank 2001b, Finan, Sadoulet and De Janvry 2002). In some areas the challenge is in facilitating the individualization of tenurial systems under the 1992 land reform. In others it is a case of supporting indigenous groups who prefer to keep communal systems. Issues of land conflicts are important in many areas. However, resolving land issues will only yield benefits if complemented by measures to strengthen the competitiveness of land beneficiaries with close links between titling, technical assistance to manage land independently, and structural measures to raise productivity.

For the urban poor—who account for the bulk of the moderate poor—the assets-based agenda is centered on regularization of settlement/property rights, strengthening the

quality of urban infrastructure, and broadening access to financial savings. **HÁBITAT** is designed to face the challenges of the urban poverty, through a model of action that combines, among other aspects, the improvement of infrastructure and equipment in the urban-marginalized areas, and the implementation of social services and community development actions. With its different modalities, **HÁBITAT** tries to support the population in a state of assets poverty who live in cities and metropolitan areas whose size, location, social and economic significance, converts them into strategic points, with particular care for the needs of women, people with different capabilities, children, teenagers, young adults, and the elderly. While of promising design, there are not yet impact evaluation results of this program.

Policies and regulations. To complement an assets-based strategy, there is scope for strengthening the policy and regulatory environment for income growth of the poor. For the moderate poor, the **IMPULSO** strategy correctly focuses on the dynamics of growth in the informal sector, including self-employed and small-scale producers. A central issue is the costs of formalization. The costs, due to inflexibilities in the labor market, taxes, costs of registering businesses, and other bureaucratic burdens, outweigh benefits for most self-employed and micro and small firms.

One element of this involves the functioning of the labor market. The existing legislation probably has only minor effects on the overall pace of job creation, but it does constitute a constraint on the poor getting good jobs, since it increases the incentives for informal work (on the part of firms and workers). The debate on the modernization of labor legislation that started in 1997 (with the signing of “the agreement for a New Labor Culture”) resulted in 2002 in a formal law proposal that is still under discussion in Congress. The reform proposal could represent a significant step forward in making the formal market more attractive, for example through the introduction of probation periods, initial steps in easing regulations concerning permanent contracts, efforts to modernize industrial relations, some simplification of bureaucratic requirements for small and medium size enterprises, measures to promote labor force training and measures to reduce corruption and legal uncertainty. However, the proposed law does not yet address the main issues affecting the labor market, especially those which are sources of inflexibility in hiring and firing (Santamaría and López-Acevedo, 2003).

Beyond changes to labor market legislation, other initiatives could be taken in the short to medium-term to improve the balance between the formal and informal sectors. They include enhancing the quality of services provided to formal workers and reducing the tax wedge, in particular employers’ social security contributions for low-skilled workers.

Within rural areas, there is a wide range of programs, whose coordination is not yet clear. An effort is being made under the **PROGRAMA ESPECIAL CONCURRENTE** mandated by the *Ley de Desarrollo Rural Sustentable* to coordinate different programs but only modest progress has been made. While **PROCAMPO** continues to be progressive,

most existing programs under **ALIANZA PARA EL CAMPO** benefit large producers, and agricultural productivity growth of the recent past was weakest in the poorest regions.²¹ Since 2001, the following improvements were introduced in **PROCAMPO**: the transfers are paid earlier in the crop cycle to facilitate the purchase of inputs and to encourage investments among producers by providing a more secure expected income; producers are allowed to use part of their payment as a collateral for loans; and the eligibility criteria was simplified and awareness of these criteria was promoted. Also since 2001, improvements were introduced in **ALIANZA PARA EL CAMPO**, including: dissemination in the *ejido* sector so that a larger proportion of *ejidatarios* are aware of the program, understand its objectives, and are clear on how to access the resources; elimination of requirements for group participation (which may be difficult for the poorest) in some subprograms; and allowing *ejidatarios* to purchase their own inputs directly from local distributors (rather than government-certified distributors).

A broader consideration concerns the scope for a more structured and coordinated territorial strategy, that could build on existing programs such as **MICRORREGIONES** and the *Ley de Desarrollo Rural Sustentable*. These programs need to be institutionally linked and integrated into productive territorial strategies for agricultural and non-agricultural growth, and strategies for technological change. In shaping such strategies it will be important to focus on the role of rural non-farm sources of income. As a share of rural income this has risen sharply in the past decade, from 50% in 1992 to 70% in 2002.²² Even for the bottom quintile, that is more dependent on agriculture, this proportion rose from 30 to over 50%. In addition, the *non-poor* will typically be the key agents of economic dynamism, and it is of great importance to develop approaches to production strategies that support alliances and economic connectivity between the poor and the non-poor.

Finally, there is a particular agenda around income growth of rural indigenous groups. This is both because these groups suffer high levels of poverty, and also because of distinct preferences and practices—for example in attitudes to nature and in collective modes of organization. Ongoing projects, for example in communal forestry and coffee cooperatives, show that it is possible to support dynamic productive products through working with the organizations of indigenous groups. Where an external agent has directed or assisted the initial process, there are common characteristics, including: initial seed capital (not loans) by a grass-roots development agency; a large dose of

²¹ Thus, between 1990 and 2002 productivity in the production of grains in the North Pacific region (Baja California, Baja California Sur, Sonora and Sinaloa) grew at 1.47% per annum, while in the southern states (Guerrero, Oaxaca and Chiapas) it grew at 0.63% (work in progress, Mexico Rural Poverty Study).

²² This is the share of total household income from non-agricultural sources, from the ENIGH, in settlements of less than 2,500 people. Non-agricultural income includes rural non-farm labor and enterprise income, remittances and transfers and rents. In 2002, the proportion of total income from rural non-farm labor and enterprises income was over 40% for all rural households.

technical assistance, but provided with a view of an exit strategy; and building upon local models of intervention and a local socio-cultural vision of the goals and objectives of indigenous groups.

(3) Crosscutting institutional issues: accountability and decentralization, social inclusion, and evaluation

Cutting across specific programs and social and economic strategies are broader institutional questions that will play a powerful role in the design and, especially, the implementation of poverty-reducing strategies.

Clientelism/patronage and service delivery. As with much of Latin America, and indeed much of the developing world (World Bank, 2003), Mexico has been struggling to reduce the importance of clientelistic and patronage-based relations with poor groups. There have been some notable successes, such as the shift from strongly patronage-driven programs associated with **PRONASOL** to the much less captured approach of **Oportunidades**. However, the legacy of history on institutional functioning is deep, and especially so in the complex area of service delivery. Both the use of services as sources of patronage (for jobs and service access), and the particular formation of interest groups amongst service providers, can make reforms for quality and equitable services a challenging and complex undertaking. Mexico is in the midst of a major political, social and institutional transition, broadly associated with the deepening of democracy, but it is important not to underestimate the difficulties and complexities in this transition.

Transparency and accountability. Greater accountability is in principle a central part of the answer to problems of clientelism and weaknesses in service delivery. An emphasis on transparency, participation and the building of the capacities to engage poorer groups are ways to both mitigate these risks, and strengthen use of local knowledge and capacities in design and implementation. There has been important progress in the overall objective and recent laws, but this needs to be systematically introduced into specific local and sectoral settings —from municipalities to schools. However, there are even less blueprints in this area than in others.

Experience elsewhere suggests there are significant complementarities between measures that seek to improve incentives between policymakers and implementing agencies (including lower levels of government) and local mechanisms for accountability that seek to strengthen the “voice” of poor and non-poor clients. There are also complementarities between processes of social mobilization and reforms that increase local accountability, often working to reduce the capture by local elites —in what Fox (1992) has termed a “sandwich” strategy, that has occurred in some successful cases in Mexico (notably in parts of the **PROGRAMA DE ABASTO RURAL — DICONSA**— programs and some municipalities). There is again a strong case for

experimentation linked to systematic monitoring and rigorous evaluation to give concrete information on what does and does not work in different contexts.

Managing decentralization. Decentralization is a political fact of life, and is, in principle, desirable. Already a high proportion of poverty-related spending takes place at sub-national levels —with the new Law on Social Development— emphasizing municipalities as the core level for government action in the social arena, except in certain federal programs. In Mexico, there have been significant shifts of spending and program management to states and municipalities (Box 2). The implications of this for institutional interactions, program management, and distributional impacts are complex. Little is known about the impact of decentralized expenditure on poverty outcomes. It is unclear how the **CONTIGO** programmatic orientation can have a purchase under decentralized auspices. It is noteworthy that the flagship success — **OPORTUNIDADES**— is a federal program. This report concurs with a World Bank study (2003) that concludes that relatively weak social outcomes in the poorest states of Mexico are the product of multiple influences, including lack of funding, inefficient use of funds, and difficult initial conditions (from high levels of income poverty, to highly dispersed populations and relatively underdeveloped infrastructure networks).

Box 2 Dimensions of decentralization

A series of institutional reforms took place during the Zedillo administration to decentralize public spending. These included the creation in 1998 of a new modality of federal transfers implemented through a budgetary branch: *Ramo 33 (R33): Fondo de Aportaciones Federales para los Estados y Municipios*. R33 comprises seven funds: *Fondo de Aportaciones para la Educación Básica y Normal (FAEB)*; *Fondo de Aportaciones para los Servicios de Salud (FASSA)*; *Fondo de Aportaciones para la Infraestructura Social (FAIS)*; *Fondo para la Infraestructura Social Estatal (FISE)* and *Fondo para la Infraestructura Social Municipal (FISM)*; *Fondo de Aportaciones para el Fortalecimiento Municipal (FORTAMUN)*; *Fondo de Aportaciones Múltiples (FAM)*; *Fondo de Aportaciones para la Educación Tecnológica y de Adultos (FAETA)*; and *Fondo de Aportaciones para la Seguridad Pública de los Estados y el Distrito Federal (FASP)*.

Today, close to 65% of total educational spending and 75% of public health spending for the uninsured population are decentralized. The bulk of these resources are spent by state governments, with only 13% of R33 is spent directly by municipal governments.

Table 2 Federal Transfers

FUNDS (% R33)	OBJECTIVES	BUDGET CRITERIA	ALLOCATION CRITERIA
FAEB (62.4%)	Basic education	Established Infrastructure and Personnel, Previous Budget	
FASSA ²³ (12.2%)	Health for uninsured population	Equity (1%)	Formula: minimal per capita health spending, non-covered population, mortality, poverty.
FAIS (9.7%)	Basic infrastructure: clean water, sewerage, drain, municipal urbanization, electricity for rural and poor urban areas, basic health and education infrastructure, housing, rural roads, rural productive infrastructure.	2.5 % Federal Revenue FISE (0.303 %) FISM (2.197 %)	Equal state shares (transitional) Formula: illiteracy, education, drain, electricity, housing, income.
	Institutional Development	Max 2 % FISM	
FAM (3.1%)	Social Assistance Education Infrastructure	0.814 % Federal Revenue	
FAETA (1.7%)	Technical education	Established Infrastructure and Personnel, Previous Budget	
	Adult education	Formula: Illiteracy, basic education, work training.	
FORTAMUN (9.9%)	Institutional Capacity Building of the Municipalities particularly in the area of infrastructure	Population's size	
FASP (1.4%)	Public Security Support	Trial and convicted population	

Source: World Bank Staff from the Statistical Annex of the President's State of the Union, 2003.

Decentralization brings a classic tradeoff —with lower levels of government having advantages in greater information on local conditions and needs, but higher risks of local elite capture and weaker institutions. Community and municipal level

²³ After the 2003 reform to the health sector, the FASSA resources were split into two funds, FASSC and FASSP, which respond to the division of health goods into public goods, also known as community services, and personal services respectively. FASSP resources will be allocated to the states by a formula based on number of families to be covered, health needs, as well as effort and performance of the states. The reform, however, contemplates that the states should not receive less total resources (FASSP and FASSC together) as compared to the total amount of resources they received through FASSA in 2003.

participation has enormous potential. But both decentralization and “participation” carry risks of strengthening of local elite capture and patronage-based approaches, whether at state, municipal or community levels. This constitutes a major agenda for future experimentation, and diagnosis, in light of the central importance of subnational governments in service provision.

Excluded groups and the hard-to-reach poor. While there have been many initiatives over the years, indigenous groups (identified by language in the home, or self-identification) are on average much poorer than others in most dimensions of well-being, as noted above. This is true both unconditionally and conditionally with respect to characteristics such as education. As noted above, they account for some 10% of the overall population but 21% of the extreme poor in terms of income. There is a major outstanding agenda around indigenous groups, in terms of recognition, evaluating and strengthening experiments in bilingual education and conflict management. More work needs to be done to assess the importance of other social excluded groups, but a prior would be that socio-cultural processes are important for others —such as poor urban youth and slum-dwellers— as well. There has been a wide range of programs aimed at indigenous groups, and a careful stocktaking would be useful to assess their effectiveness.

There can be other reasons why some categories of the poor will be difficult to include in development processes and will require special efforts. Two issues are highlighted.

- *Remote and dispersed areas.* There are a large number of very small rural settlements in Mexico, including many indigenous communities, which are typically very income poor and under-served by services. They raise special challenges because of the higher cost of service provision, and the fact that they can fall outside the net of those transfer programs that are linked to service provision or attendance at schools or health centers. This will require innovative action: for example strengthening the program of board-schooling for poor indigenous children.
- *Shaping programs to the needs of very poor households.* There will also be particular individuals, households, and groups within rural and urban communities, who have a weak capacity to respond to general initiatives —often because of histories of extreme vulnerability and exclusion. For these groups there is also scope for experimentation with approaches that seek to have public agents or social workers mold responses to the multiple needs of particular groups and households, on the model of the **PUENTE** program in Chile.
- *Streamlining or redesigning of social programs.* A different category of institutional issue concerns the large number of programs that directly or indirectly seek to reduce poverty. This is a reflection of the long history of introducing programs —there has, if anything, been a decline in the number of activities under the

present government, at least in SEDESOL. However, this report did not form a position on whether the numbers of programs should be cut or not.

During the present administration, as an example of the actions of one ministry, SEDESOL has made a significant effort to adjust social programs to better serve the needs of the poor. These programs fall under four categories. First, SEDESOL has created new programs such as **HÁBITAT**, which contributes to overcoming urban poverty and improving housing conditions. Second, it has reinforced and extended existing programs: as noted above **OPORTUNIDADES** was significantly expanded and new components introduced, notably **JÓVENES CON OPORTUNIDADES** which provides additional incentives for youth to complete high school. Third, some programs were transformed: **LECHE INDUSTRIALIZADA CONASUPO (LICONSA)** now distributes milk enhanced with iron and zinc, because the 1999 National Nutritional survey found a lack of these nutrients in urban children. Fourth, SEDESOL has eliminated a few programs that were not found to be effective, like the *Tortilla* subsidy. Other ministries such as Labor and Education have also re-structured their programs (Cravioto, 2004). The Ministry of Finance (SHCP, by its acronym in Spanish) and a consulting firm, *Grupo de Economistas Asociados* (GEA), did a review of the re-structuring of social programs.

Perhaps of greatest importance is continued stocktaking concerning what does and does not work, building on successes, and pursuing opportunities for integration and complementary action. Further streamlining and coordination can possibly occur at the level of central ministries. Greater payoffs will probably come from designing experiments and greater coordination of programs at the local level. This takes us to a final issue.

Monitoring and evaluation. Last, but not least, monitoring and evaluation have a major role to play at both the technical and institutional level. There are some impressive aspects of evaluation in Mexico and SEDESOL in particular is a pioneer in the effort to deepen and extend this. Recent initiatives are in line with best practice, including Mexico's congressional mandate calling for annual evaluations, and its extension in the *Ley de Desarrollo Social*; the establishment and monitoring of presidential goals; SEDESOL's registry of programs' beneficiaries; and the citizens' manual (*Manual Ciudadano*), which provides information on SEDESOL's functions in addition to providing a medium for citizens' complaints and suggestions.

There have been important efforts to improve the *Padrón de Beneficiarios* (beneficiaries' registries) of the social programs. This is with the aim of further developing the areas of targeting and efficiency, and avoiding duplication of recipients. In this administration, SEDESOL has made significant progress in having the complete beneficiaries' registries for all its programs. It has also signed agreements with some state governments to

complete the lists. A further effort will be made to eventually include other ministries and programs.

However, effective monitoring and evaluation is confined to only a few areas and ministries, with the world-renowned evaluation of rural **OPORTUNIDADES** being exceptional in the Mexican context. Congress' mandate requiring annual impact evaluation of all the one hundred and four programs providing public subsidy is highly commendable in spirit, but brings a serious bias toward undertaking quick and superficial evaluations that bring few benefits. Moreover, the **OPORTUNIDADES** model of impact evaluation, based on comparing the effects of treatment and control cases with randomized allocation of treatment, has limitations. It is state of the art for a bottom-line assessment of whether a treatment is beneficial. It is weaker for ongoing learning about the processes behind observed effects, and for understanding the role of local context. Both are key for the improvement of the design of interventions. What is desirable is to combine the treatment and control approach and external evaluation approach, with systems of monitoring of progress across interventions structured both to maximize ongoing learning and improvement in design, and to provide information in a user-friendly way to the public to increase social pressures for accountability (see Box 3 below on international experiences). SEDESOL is currently exploring a broadening of its evaluation agenda. To be effective in affecting government behavior, this needs to be integrated within an overall program of results based management. This is under development in both SEDESOL and government-wide through the Social Development Law.

Box 3 Selected experience with Results Based Management in Latin America

Chile: The Government of Chile initiated the design and implementation of a Results Based Management (RBM) system in 1994 (*Sistema de Control de Gestión y Presupuestos por Resultados*) in order to improve public management. The Ministry of Finance launched the initiative, developing a number of instruments to foster a more transparent budgeting process, strengthen its analytical capacity, and improve program management. Although the Chilean approach is decentralized (i.e., no single entity is responsible for developing and maintaining a national system as in Colombia), the processes are relatively well coordinated by a cabinet level inter-ministerial committee. The budget unit in the Ministry of Finance plays a key role in coordinating the various decentralized initiatives, and uses performance data in formulating its budget on an annual basis. Performance is evaluated at the level of policies, expenditures, organizations, programs and individual public servants. The government has begun to link performance evaluations to organizational incentives.

Colombia: Colombia began its performance evaluation system, SINERGIA, in the mid-1990's as part of the national development planning process. The exercise is led by the technically competent National Planning Department (DNP), which carries out the performance evaluations of ministries and programs. DNP presents annual reports on the government's strategic objectives and performance indicators to the Economic and Social Policy Council (CONPES) responsible for the oversight of social policy in Colombia. While the system is well conceived from a technical point of view, it still lacks full coverage —as it is centered on evaluating public

investment programs in the National Development Plans and does not cover recurrent Government activities— and the performance information generated from the system is not systematically taken into account in government decision-making.

Bolivia: The 1990 *Sistema Integrado de Administración Financiera y Control Gubernamentales* (SAFCO) Law required government entities to prepare annual operational plans with performance indicators. Most recently, the government attempted to develop a new performance evaluation system, *Sistema de Seguimiento y Evaluación de la Gestión Pública por Resultados* (SISER), located in the Ministry of the Presidency and supported by the multi-donor Institutional Reform Project. In specific sectors, especially education and health, donor support for sectoral reforms has also resulted in better specification of sectoral goals and performance indicators. Overall, however, the system is far from fully operational. Annual Operational Plans (POAs) have always been treated in perfunctory fashions by both sectoral ministries and the Ministry of Finance, and the SISER project has been discontinued. A reform of the budget system that was supposed to accompany the development of the SISER never took off, in spite of the notable recent progress with a new financial management information system.

Brazil: Since the mid 1990s, the Ministry of Planning, Budget and Management has led an ambitious effort to turn the federal government's multi-year plan (PPA) into a strategic instrument for results-oriented resource allocations and program management. Most of the PPA programs are assessed each year, and the report is submitted to Congress prior to the beginning of the annual budget cycle. Although the new PPA framework has enhanced government transparency and contributed to better strategic discussions about program goals and designs within the bureaucracy, there is little evidence that the annual assessment reports are seriously reviewed, let alone debated, by the Congress, and that evaluation results are systematically influencing resource allocations decisions. High degrees of rigidities in the budget structure and public management regulations limit the government's ability to manage for results. In spite of the multi-year character of these plans, they are still steps away from a robust medium-term expenditure framework as found in advanced OECD countries.

Source: World Bank (1997), Ospina Bozzi and Ochoa (2003), Montes (2003), and World Bank (2002b).

C. CONCLUDING COMMENTS: ON ACTION AND FURTHER WORK

This overview of Mexico's situation with respect to both the poverty conditions and strategy has revealed a mixed picture. There has been considerable progress in the outcomes for the poor in both the long term and the recent past, albeit there remain large differences in well-being indicators between and within states. But long-term progress has been much greater for health and education than for the incomes of the poor. And the recent, and noteworthy, short-run gains in incomes of the poor, has only just reduced poverty below levels prevailing in the early 1990's. Moreover, because of Mexico's high inequality, poverty levels are high for an upper middle-income country.

Other dimensions of well-being —especially the insecurities associated with the range of risks faced by the poor and near-poor —are also of great concern.

With respect to strategy, there has also been commendable progress, especially in provision of services, both over the long term, and in the actions of the present government. This applies both to the expansion of basic services, and to the extension of programs specifically targeted to the poor, with **OPORTUNIDADES** particularly impressive in both its targeting and its reach. But there remains a major agenda ahead, notably in sustained growth of incomes of both the extreme poor and the moderate poor, in raising quality of all basic services, and in dealing with risks. We conclude with some comments both on areas for action and future work plans.

Areas for action in the short and medium term. This report already provides a number of results with implications for action for poverty-reducing policy, in both the short and medium term. Some examples are:

- *Public finance.* In the short run, a tax reform that increases tax collections can be powerfully poverty-reducing. Even the removal of food and medicine exemptions under VAT could lead to substantial poverty declines *if* the resources are well-used, through channeling into an expanded version of **OPORTUNIDADES**, for example. To continue improving the progressivity of electricity subsidies is another prime target with large benefits for equity and efficiency.
- *Social protection.* In the short run, there is potential for further extension and consolidation of **OPORTUNIDADES**, looking to gaps in coverage for the extreme poor, backed by continued careful attention to monitoring, evaluation and accountability in light of the program's size. In the medium term, there is a need to reform the highly inequitable ISSSTE, and design options for the missing middle of the moderate poor. **SEGURO POPULAR** shows great promise for helping the poor with health risks, but its impact is not yet established and rigorous evaluation will be important.
- *Service quality.* The service quality agenda is fundamentally a medium-term one of strengthening the accountability of providers —teachers, nurses, doctors— both upwards in terms of linking incentives to results, and outwards to clients and communities. In the short-term there are many initiatives (e.g. **CARRERA MAGISTERIAL** for teachers; **CRUZADA NACIONAL POR LA CALIDAD DE LOS SERVICIOS DE SALUD** for health workers) where specific design changes can increase effectiveness in improving service quality. The broader agenda of linking performance to results is likely to require substantial strengthening both in accountability structures, especially at subnational levels, and in providing instruments whereby the federal government can influence reward the performance of service providers at the state and municipal level.

- *Competitiveness and income growth of the poor.* The competitiveness agenda is intimately linked to a poverty reduction agenda because of the centrality of employment creation. As one example, economy-wide measures both to expand infrastructure spending *and* deal with high costs and inefficiencies (whether in electricity, telecommunications, or roads) of infrastructure services, can be good for both growth and distribution. This type of measure will need to be complemented by targeted action for the poor in both rural and urban areas:
 - In rural areas, two areas for short-run action including genuine experimentation with territorial approaches —that will imply solving current coordination problems in some infrastructure programs, and continued facilitation of flows of remittances.
 - In urban areas, there are short-term options for reducing the cost of formality —for example through increased flexibility of hiring and firing and reducing tax and regulatory burdens— and a more complex longer-term agenda of broadening financial and infrastructure services, titling, and providing technical assistance to micro and small firms.

- *Accountability.* Getting effective accountability of government programs to citizens is a complex and medium-to-long term endeavor, but one that is fundamental to effective government policy.²⁴ There have been notable initiatives in this, including the Law on Public Access to Information (2002) and the Law on Social Development (2003). However, international experience indicates that accountability also requires strong formal and informal institutions, including at local levels, to make such laws work effectively.

- *Evaluation and results-based management.* Monitoring and evaluation are fundamental for the review and ongoing redesign of poverty reduction programs. The government has good frameworks for evaluation (especially in SEDESOL) and a relatively new results-based management system (for example in *Presidencia*) but these are weakly institutionalized. In the short run, there is scope for extending systematic evaluations of particular programs —especially extending the plans for systematic evaluation under development in SEDESOL to other ministries. Institutionalizing results-based management is intrinsically a medium to long-run activity.

Future work plans. There are many areas where deepening the analysis and exploring policy options are needed. Areas currently planned under World Bank’s work program include the following:

²⁴ Examples include the Citizens’ Report Card in Bangalore, India and *Cómo vamos?* in Bogotá.

- *Rural and urban poverty.* Parallel studies are under preparation on the particular characteristics of poverty in urban and rural areas. These will focus in particular on the structural and institutional influences on income growth —identified as a major issue in this overview— patterns of vulnerability and coping, and issues of social incorporation, as well as analyzing government programs in these areas.
- *Social protection.* To complement the diagnostic on vulnerability in urban and rural areas, this study will focus on the effectiveness of current policies and institutions to support risk management. It is expected to focus both on options for consolidating policies for the extreme poor, and the important middle groups not covered by formal social security or likely to be reached by **OPORTUNIDADES**.
- *Decentralization and service delivery.* Following the above studies, it is planned to deepen the understanding of how to get effective and quality service delivery under decentralized auspices. This is of rising importance with the large and growing devolution of responsibilities to states and municipalities, and the complex issues of equity, institutional functioning and accountability that this raises.

Both the current poverty assessment and future work are intended as a contribution both to government policy formulation and to broader debates, to strengthen efforts to reduce poverty in Mexico. It is hoped that they can play a useful role in these important endeavors.

CHAPTER 1. INTRODUCTION AND FRAMEWORK

This report examines the structure and causes of poverty in Mexico, and explores options for strengthening government strategies to reduce poverty.

Despite improvements in many aspects of well being in Mexico, in both long and short term, concern over poverty is high on the agenda of societal concern and policy debate. According to estimates of poverty in terms of income following the official methodology (that is the proportion of people who have incomes below levels judged necessary for decent living) we find that about half the population lives below the poverty line, with almost 20% living with insufficient income to cover basic food needs. Despite significant reduction in income poverty since the crisis of 1994-95—including in the most recent 2000-2002 period—poverty incidence remains close to levels prevailing a decade ago.

Lack of income is only one measure of the well-being of disadvantaged groups. Poverty has many dimensions including inadequate educational and health status, lack of access to basic services, vulnerability, low self-esteem and social exclusion. In some of these—especially those relating to education, health and access to basic infrastructure—there has been substantial and sustained progress in Mexico. But even in these areas there remain important concerns over reaching the poorest and over low service quality for the poor (and the non-poor). Measures of vulnerability are less well established, but we present quantitative evidence that shows that risks of adverse shocks for the poor, and of falling into poverty for the non-poor, are widespread. There is even less quantitative evidence on questions of self-esteem and social exclusion but case study works indicates that these are important issues for both the condition and dynamics of poverty.

The causes of poverty are multiple. Government efforts to reduce poverty operate within a context in which both longer-term structural influences and short-term external forces play major roles. Structural factors include patterns of asset ownership, geography, besides formal and informal institutional influences, which flow from political, social and cultural sources. Short-term external influences include the effects of international economic influences on the state of the economy, patterns of prices and employment opportunities, as well as weather-related shocks.

Mexican governments have a long tradition of both economy-wide efforts to reduce poverty through job-creating growth and basic service provision, and a wide range of targeted policies for poverty combat. Some of the latter —notably **OPORTUNIDADES** (previously **PROGRESA**)— are justifiably world-renowned. The current administration took the valuable step of explicitly articulating an integrated social government policy in the form of the **CONTIGO** framework (Székely, 2000). This is a conceptual framework for understanding the dynamics of well-being, that recognizes the manifold influences

on household living conditions, and also an organizing framework for a subset of the government's programs.

This report aims to do the following. This introductory chapter outlines the overall framework for understanding well-being and analyzing public action to reduce poverty. Chapter 2 provides a brief overview of living conditions in Mexico in international context. Chapter 3 then goes to the core of the diagnostic of poverty conditions, examining patterns and trends for the different dimensions of poverty up to the most recent available information (generally 2002), and interpreting the casual influences on these trends. Chapters 4 and 5 then turn to government strategy: Chapter 4 reviews the overall mix, structure, and trends in public spending and government programs in relation to the poverty and inequality with a particular focus on social services and transfers. Chapter 5 then discusses the influence of government policy on changes in income of the poor (and non-poor) that often works through the more indirect, but potentially powerful, influences of economy and sectoral policies, rather than specific programs. Finally, Chapter 6 reviews issues in monitoring and evaluation in Mexico, within a global context, which is also an area in which there have been some important initiatives.

This report is the first major product in a series of studies that will be undertaken in close collaboration with the government of Mexico. These are expected to include a special in-depth focus on issues of rural poverty, urban poverty and social protection in 2004 and on links with decentralization in 2005. It should be treated as a contribution to an ongoing dialogue on the central issue of what poverty means and how to reduce it in Mexico.

A. CONCEPTS: WHAT IS POVERTY AND WHY DOES IT MATTER?

Discussions on poverty, in Mexico and elsewhere, have often been dominated by questions on the numbers of people living below or above a poverty line defined in terms of incomes or spending. This is an important part of the story, and this report will indeed devote space to the analysis of trends and causes of income poverty. But this is only part of what is meant by poverty in a society. Both empirical work on what people think and conceptual considerations support the view that poverty has multiple dimensions and is as much about the future—in terms of risks and possibilities—as well as current conditions.

One reason for taking a broader view of well-being and poverty is that this reflects what people believe, not least those who live in poor communities. This is reflected, for example, in the tradition of participatory poverty research, which seeks to systematically understand the nature of poverty from structured listening and interactions with groups and individuals living in poor areas. The international archive collected in *Voices of the*

Poor was a worldwide undertaking of this type that included several Latin America countries.¹ SEDESOL recently undertook a somewhat similar exercise for Mexico, that relied on a questionnaire-based approach (Székely, 2003). While the methodological approaches differed, there were significant common findings. The *Voices of the Poor* studies found that ill-being (or poverty) did indeed mean lack of material means but also meant many other things, specially ill-health, social exclusion and isolation, insecurity and feelings of powerlessness, helplessness and frustration. By the opposite, a good life means having enough for basic material needs, being and appearing well, social well-being and inclusion, security and freedom of choice and action (Narayan et al. 2000 Chapter 2). In SEDESOL study for Mexico, 23% of respondents said that well-being (*bienestar*) meant having enough to eat, while 16% said it mean good-health, 13% basic services, 11% having work, and 5% having peace. Mexico also has a rich tradition of ethnographic and other field-based work that documents the complexity of poverty.² Participatory research is not a substitute for survey-based quantitative work, but does provide an invaluable source of understanding what well-being and poverty means for poor people and how they advice government and other attempts to provide services.

Taking a broader view of well-being and poverty also has strong conceptual roots. A major influence on development thinking has been the work of Amartya Sen. Three ideas from his work are of especial relevance. The first concerns what constitutes well-being —and so poverty. Sen argues that it is what people can do or be, or their “functionings” that should be assessed as achievements in well-being. Such achievements can range from quite basic functionings, including “being well-nourished, avoiding escapable morbidity and premature mortality”, etc. to more sophisticated ones, such as “having self-respect, being able to participate in the life of the community and so on”. Material conditions, including income, might develop the realization of such achievements. Second, it is of great importance to distinguish between “achievement” and “the freedom to achieve” in assessing both the extent and normative significance of differences in well-being. The “capability set” represents the range of potential functionings that an individual can achieve, or the “overall freedom a person enjoys to pursue her well-being”.³ Third, questions of human agency are central to both normative and positive approaches —which we need to look at individuals as purposive agents rather than passive recipients of their conditions and government actions.

¹ See references by Narayan and co-authors (1999, 2000, 2001). The work covered some 60,000 people in 60 countries, including Argentina, Bolivia, Brazil, Jamaica and Ecuador in Latin America and the Caribbean. Follow up work has included other Latin American countries, including Peru and Colombia.

² Pioneering ethnographic work on the culture of poverty was by Oscar Lewis in Mexico. While the concept of a “culture of poverty” is now, correctly, controversial, the work forms part of a tradition that finds the complexity and social embeddedness of poverty.

³ Sen (1992) pp. 4-5 and p. 150.

Related to both the view of poor people and conceptual approaches such as Sen's is the importance of the future, whether in terms of possibilities and opportunities, or the "freedom to achieve" (or its absence), or of the risk of falling into poverty, ill-health or other forms of deprivation.

These approaches were at the core of the World Bank's 2000/01 World Development Report on Poverty and Development, as well as the series of global Human Development Reports of UNDP from the past ten years or so, including the recent country Human Development Report on Mexico (UNDP, 2003). And, of particular relevance to this report, they are consistent with the vision of social development expressed by the government of Mexico, as well as the work of the CTMP (see Box 1.1 at the end of this section). As an example, in 2002 the Secretary of SEDESOL, Josefina Vázquez Mota stated:

"El desarrollo social es el proceso permanente mediante el cual se amplían las capacidades y las opciones de las personas y comunidades para que puedan ejercer plenamente sus libertades y derechos y realizar todo su potencial productivo y creativo, de acuerdo con sus aspiraciones, elecciones, intereses, convicciones y necesidades". (SEDESOL, 2002)

("Social development is the permanent process through which the capacities and opportunities of people and communities are expanded, so that they can fully exercise their freedoms and rights, and fulfill their productive and creative potential, according to their aspirations, choices, interests, convictions, and needs".)

Under this approach poverty is the *lack* of what a society considers the basic minimum in terms of the range of dimensions that constitute well being. As a general concept this is necessarily complex, and fundamentally political—even if we can (and do) quantify relevant elements. As a recent report on poverty in Indonesia starts: "Poverty is an idea: a political and social idea that reflects a society's hopes and aspirations. Poverty *is* what we hope to eliminate". (World Bank, 2001a.)

What does this mean in practice? We suggest explicitly recognizing various dimensions of poverty, which can provide the basis for both analysis of the condition of poverty and its causes. While there is always an element of choice in constructing such a list, here are a plausible set of categories that are consistent with international thinking and current work in Mexico.⁴

Poverty of human capacities. This refers to lack of possession of minimal human capacities to lead a healthy and productive life. This can be framed in terms of a condition—as in freedom from "escapable morbidity or premature mortality" and possessing literacy and other basic skills. It is also often expressed in terms of access to a

⁴ See World Bank (2001a) for a similar approach for the case of Indonesia.

service of basic education and health services of adequate quality that support these ends. What is considered “basic” depends on the level of development, notably in the area of education.

Poverty of assets and infrastructure. Beyond human assets, lack of physical and financial assets is an element of poverty. These include private goods such as housing, as well as access to publicly provided goods. In many societies access to a basic set of infrastructure services, such as water and sanitation, roads and electricity, is considered essential to a minimum level of living standards. The nature of this list will again often depend on the level of development: basic water and sanitation services are almost universally judged necessities; in middle income countries electricity would typically be included.

Income or expenditure poverty. This defines a minimal level of incomes or spending that allow the purchase and consumption of a minimum basket of private goods, including food, clothing, housing and privately purchased elements for education, health and other services. It can be defined in terms of either incomes or expenditures. While poverty lines tend to be higher for richer societies, they are usually held constant over time for at least the medium term, in order to analyze changes in “absolute” income poverty. In Mexico the official poverty lines are absolute and based on incomes, so we use the term “income poverty” as a convention. (See Box 1.1 for a discussion —as discussed there, there are reasons for preferring consumption to incomes as a monetary measure of well-being, and we work with both in this report). In Mexico and elsewhere it is recognized that there are degrees of poverty defined by income (or consumption). This is reflected in the use of different lines, that range from the minimum needed to cover a basic food basket, to higher lines to cover spending on health and education, and to cover a more comprehensive set of consumption requirements. It is also reflected in the use of poverty index that measure the distance poor people fall below the poverty line in question, and inequalities amongst the poor.

Vulnerability. The issue of vulnerability, or the risk of falling into poverty, is emphasized in all participatory poverty work. There is also a tradition of economic analysis, though there are less well-developed measures of vulnerability than there are for current poverty. This is in part because of data limitations, since special survey designs are required to capture the phenomena (employing panel surveys and/or retrospective questions on the experience of shocks). While panel surveys are much more limited in scope in Mexico than the core cross-sectional household survey instruments, the report presents some quantitative analysis on the pattern and trends of vulnerability, as well as discussing policy instruments for reducing vulnerability.

Poverty of dignity and social inclusion. Socially based indignity and lack of social inclusion are further elements of poverty. Such social functionings (to use Sen’s terminology) have a long intellectual history, going back in economics at least to Adam

Smith's emphasis on the importance of "appearing in public without shame" and also includes "taking part in the life of the community" (Sen 1992, p. 115). However, a standard approach to quantitative analysis of these areas as dimensions of poverty has not been established, and a variety of sociological and political analyses are likely to be necessary to get a handle on them.

This report will generally work with this list of areas of poverty. In doing so three points are worth emphasizing:

First, different dimensions of poverty will be of varying degrees of importance for different individuals and groups. While multiple deprivations are of particular concern, there is no obvious metric for developing a unitary index. Nor is this desirable, since it would obscure the structure of deprivation, which is an area for social and political debate.

Second, in debates and diagnoses on poverty, it is common to treat poverty as a condition that someone either has or does not have—as with poverty lines or minimum service levels. This is a misrepresentation of any sensible approach to valuation, which would give greatest weight to more severe degrees of deprivation. A common assumption, in the language of economists, is that social welfare functions defined over a particular dimension are concave, or place continuously declining weight to increments to consumption or income. We are often interested in the structure of a particular dimension of well-being across the whole distribution: there are important linkages between questions of poverty and inequality both for normative analysis of well-being and understanding causal relations.

Third, while all the areas listed above are constitutive of poverty, and so of social concern in their own right, they also have causal influences on other aspects of well-being in a society. For example, human investments and access to infrastructure have powerful instrumental influences on income poverty; social inclusion can influence the quality of service delivery, etc. Poverty, in its various dimensions, can also affect the broader pace of development, for example where lack of immunization or access to clean water increases risks of infectious diseases; where credit constraints of the poor lead to under-investment; or where social exclusion or polarization are associated with heightened distributive conflicts.⁵ The latter effect is strictly about social inequalities, but there can be significant links with dimensions of poverty.

⁵ In economics there has been a significant, relatively recent, literature on links between inequality and development; some of the theoretical arguments are essentially about poverty, others apply intrinsically to inequality. See for example Aghion et al. (1999) and Bénabou (2000) for surveys, and De Ferranti et al. (2004), Chapter 1 for a brief discussion in a Latin American context.

Box 1.1. Mexico's Technical Committee on Poverty Measurement and the Choice of Income Poverty Lines

Until recently Mexico did not have an official position on what constitutes poverty. This is not unusual amongst countries, though a few, notably India and the United States (US), have a long tradition of maintaining an official income poverty line. Since the definition of poverty is necessarily a product of both technical analysis and political process, it is a major asset to have such an official position. This can help shift debate from how “many poor there are” on to the really important questions of trends, causes and what to do.

In 2000, the government of Mexico had the excellent initiative of convening a committee of experts to prepare an official position on poverty, the Technical Committee for Poverty Measurement (*Comité Técnico para la Medición de la Pobreza* or CTMP, by its acronym in Spanish). This comprised a range of academics, with observers from the government (The latter group does not have voting rights, in order to preserve the independence of the committee).

The assessment work of the committee has been of high quality, and made full use of the international literature on poverty measurement (see CTMP, 2002, for a discussion). There is room for debate on a few of the choices made in methodology —and the committee itself explicitly recognizes this. However, one of the most important contributions of the work is setting up a transparent and ongoing process. In terms of the overall conceptual framework the committee recognized the multi-dimensional and complex nature of poverty, and the need to employ multiple indicators in assessing the structure and trend —an approach broadly similar to that described in the text.

A particular focus of the committee's work was the choice of poverty lines for income poverty. Three elements are needed to compute a poverty measure: (a) an indicator of well-being at the household level, such as per capita consumption or income; (b) a poverty line to which the indicator can be compared; and (c) a statistical tool (the poverty measure itself) used for reporting at the aggregate level the results of the comparison for each household of its indicator with the poverty line. The key points are summarized here.

Welfare measure: There are eight rounds of the Household Income and Expenditure survey — ENIGH, by its acronym in Spanish —(1984, 1989, 1992, 1994, 1996, 1998, 2000, and 2002). The ENIGH is fielded on the third quarter of each one of these years. Issues have been raised regarding the comparability between the ENIGH surveys in the 80s and those in the 90s. Monetary income is comprised of income from different functional sources spanning the 6-month period prior to the survey date. This feature makes possible the adjustment by functional sources, i.e., wages and salaries, profits, rental income and etc. Expenditures are obtained for different time periods according to the type of good purchased. The CTMP decided to use net per capita household current income as the welfare measure. The total current income of the households is the sum of monetary and non-monetary income. The monetary income comprises earnings, income from businesses, capital income, transfers, income from cooperatives, and other income. The non-monetary income includes auto-consumption, payment-in-kind, gifts received in-kind, and an estimate of the housing rent. Before calculating the per capita monthly income of each household two adjustments were made: 1) the category “other income” was subtracted from the total current income and 2) gifts *granted* was eliminated. The major question here is whether

income or consumption is a better monetary measure of well-being. There is in fact a strong case for using consumption as the indicator of material well-being, both because it will reflect the smoothing strategies of households in response to income shocks and variations in savings over the life cycle, and is likely to be more accurately measured than income.⁶ In this report we use both income and consumption.

Normalized average monthly income and expenditure: The CTMP recommended calculating all income and expenditure in average monthly figures in August of the corresponding year's prices. Incomes are deflated using the general price index, while expenditures are deflated using good-specific price indices.

Poverty lines: Regarding the specification of the poverty lines, SEDESOL uses three lines, building on the CTMP's proposal. The first is the food-based poverty line, which is an estimate of the income required to purchase a food basket to satisfy minimum nutritional requirements. The Basic Foods Bundle (CBA, by its acronym in Spanish) was defined and calculated by INEGI with the collaboration of ECLAC. This bundle is calculated separately for rural and urban areas, and is based upon the food spending patterns of households who just satisfy minimum nutrient requirements, assuming all spending was on food. This is calculated for urban and rural areas. Then, the food poverty line is deflated using food specific consumer price index from Banco de México.

To compute the second poverty line, food expenditures and food shares are ranked by per capita total expenditures based on the ENIGH Survey. By intersecting the estimated poverty line one with the food expenditure line and taking a range of roughly five percentile points to each side of this intersection, the average non food component is used in determining poverty line two. The inverse of the Engel coefficient is the Orshasky coefficient that has to be multiplied by the corresponding poverty line one in order to obtain the poverty line two for urban and rural areas. This became known as the "assets" or *patrimonio* line. SEDESOL then added a third intermediate line, that is intended to account for somewhat above the food-based line, Table 1.1 presents official poverty lines for the past decade at current prices, as used by SEDESOL. With respect to the calculation of lines, there are some questions over the constancy of the non-food ratio (official lines do not always use a constant Engel/Orshasky coefficient) and over the choice of price deflator. This report works both with official poverty lines, and with re-calculated lines that use a constant 2000 Engel coefficient and Banco de México price indices for non-food items of the poor. These are reported in the annex to Chapter 3. As discussed there, the overall pattern of changes in poverty is quite robust to different poverty lines, as well as choice of income or consumption.

Table 1.1. Official Poverty Lines in Current Pesos per month

	Zone	1992	1994	1996	1998	2000	2002
Food Based	Urban	167,955.2	194.0	389.4	524.8	626.0	672.3
	Rural	124,750.6	143.3	290.0	388.5	462.9	494.8
Capacities	Urban	197,963.8	236.1	469.4	622.1	767.7	792.6
	Rural	140,586.3	165.6	335.6	445.0	548.4	587.3
Assets	Urban	333,122.7	414.5	804.2	1054.5	1,255.3	1367.4
	Rural	218,794.4	278.7	527.2	690.9	842.6	946.5

⁶ For discussions see Deaton (1997) and Ravallion (1993).

Poverty measures: Measures of poverty need to take account of both the extent and depth of poverty —deprivation is much worse the further someone is below the poverty line. The most widely used poverty measures, endorsed by the committee, are the FGT indices (Foster, Greer, and Thorbecke, 1984). The incidence of poverty, denoted by P_0 or H for the headcount index, is simply the share of the population living with income or consumption below the poverty line. The depth of poverty, measured by P_1 or PG for the poverty gap, captures the distance separating the poor from the poverty line as a proportion of that line (the non-poor having a zero distance). The severity of poverty, measured by P_2 or SPG for the squared poverty gap, takes into account not only the distance separating the poor from the poverty line, but also the inequality among the poor. Higher order poverty measures are rarely used and are harder to interpret. Denoting by Y_i the indicator of well-being at the household level, (in the absence of information on intra-household allocation), by N the population, by w_i the household's weight, (household size times the expansion factor, the sum of the weights being equal N), and by Z the poverty line, the FGT measures are usually applied with values of q equal to 0, 1, and 2 in:

$$P_q = \sum_{i: Y_i \leq Z} \left(\frac{w_i}{N} \right) * \left(\frac{Z - Y_i}{Z} \right)^q$$

While these indices have many desirable properties, including decomposability across groups, they do not escape the essential arbitrariness of the poverty line itself. Poverty lines are of great use in focusing public attention, but there is not a sudden change in well-being when you cross the lines. Techniques for more robust assessment of whether poverty has changed are illustrated in Chapter 3.

Inequality measures: The CTMP has not taken a position regarding how to compute inequality. This report uses the CTMP per capita income and expenditure definitions for inequality measures. Alternative definitions of income and expenditure were also used and the yielding measures were consistent with the CTMP definitions.

There are a number of areas for future work, which were noted by the committee. These include the choice between income or expenditure (noted above); questions on the use of equivalence scales for differing needs between individuals (e.g. children) and economies of scale in consumption for larger households; and price variation across regions.

B. FRAMEWORKS FOR REDUCING POVERTY

We now turn to frameworks for assessing causal mechanisms affecting poverty. This is, of necessity, a stylized sketch, since it would be impossible to summarize the vast literature on the topic. However, it is useful to have an organizing framework, or frameworks, for analysis of causes of poverty and the influence of policies. Moreover, there has been a significant evolution of thinking in the past decade.

At the core of many approaches (including the one used by Mexico's **CONTIGO**, that we outline below) is the interaction between assets and opportunities. A relatively

simple version of this was presented in the World Bank's 1990 World Development Report on poverty that saw the dynamics of poverty reduction as a product of the interaction between the expansion of human capital and jobs. Human capital formation was there conceived to be largely a product of government provisioning of education and health services; while jobs were determined by the level and pattern of growth. It then saw a complementary role for transfers and safety nets for those unable to participate in the growth process and at risk of shocks.

This characterization remains valid but it is incomplete as a treatment of the process of expansion of well-being in a society and consequently of poverty reduction. There is a need for a broader account of capabilities in terms of the interaction between the economic and social assets of individuals and groups and the opportunities for their use, in both market and non-market contexts. For this market, political and social institutions all matter. Of particular importance for the poor are the contextual determinants of opportunities for work (whether in wage-paying activities or self-employment) and the potential to directly or indirectly influence decision-making affecting service delivery. These are a function of the patterns of inequality, institutional structures and development strategy. To illustrate this general point we highlight three areas where a richer account of processes is important: in the determination of incomes; in influences on service delivery; and the centrality of volatility.

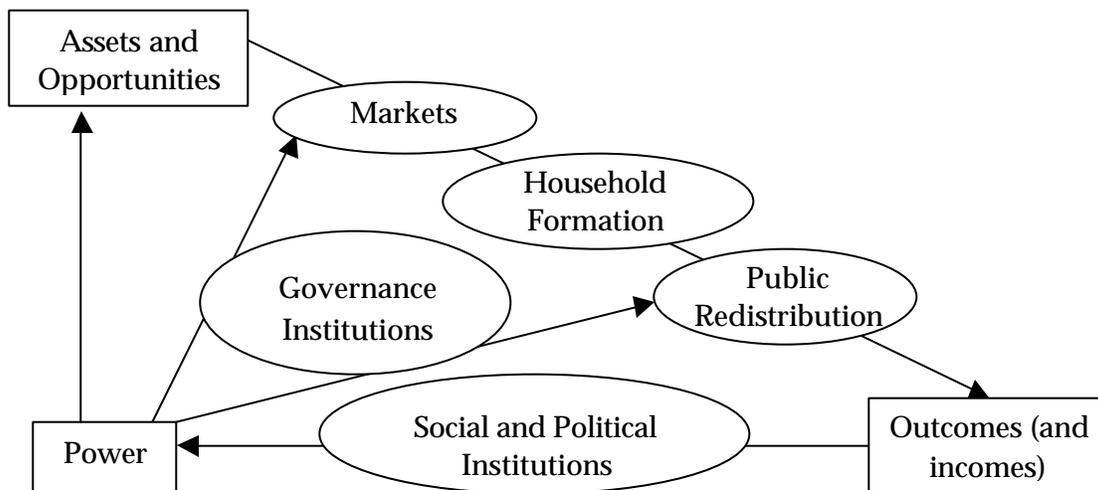
Income determination and the interaction between economic, political and social mechanisms. Opportunities, assets and outcomes are related in complex ways. It would be impossible to give a comprehensive treatment of these complex interactions. The distribution of incomes is determined within the general equilibrium of the economy, and Mexico is a complex modern economy, with market imperfections, incomplete information, strategic interactions and political processes all taking place simultaneously.

We present a very simple general framework of the circular interaction between the distributions of assets (and opportunities), incomes (and other outcomes) and power (and influence in society) —this is discussed further in recent work on inequality in Latin America (De Ferranti et al., 2004). This is schematically presented in Figure 1.1, where the distribution of assets is depicted at the top. These assets include not only physical and financial wealth, such as land or stocks, but also human capital endowments, such as education. Individuals may inherit some of these, but others are produced during a person's lifetime. People then make choices about the use of their assets in markets, where they are remunerated. Financial savings receive interests or dividends, in bonds or stock markets; land generates returns through rents or profits; human capital is remunerated in labor markets.

The combination of incomes arising from the remunerations of assets in these different markets combines to form individual incomes. Primary household incomes depend on

how individuals match to form households, and on their family size and composition decisions. Finally, secondary incomes are also affected by taxes and transfers, grouped together here under public redistribution.

Figure 1.1. A simple conceptual framework for changes in well-being



These economic processes do not take place in a vacuum. At every step of the way, they are mediated by social and political institutions, very broadly understood, to encompass the rules and norms of behavior in society, but also more specific institutions which formally or informally regulate markets or affect governments.⁷ These include both the formal institutions in societies, and the socio-cultural processes that are products of the interactions between different groups in a society, notably those between dominant and subordinate groups, that affect the daily lives and practices of poor groups in interactions with service providers, in economic exchange, in the labor market and so on.⁸

While formal and informal institutional arrangements are central to economic functioning, they are neither immutable nor indifferent to economics. Income and wealth—or ‘economic power’— is closely linked to political power, influence and voice and this is represented here through the link between income and power, mediated by

⁷ See North (1990) for a classic treatment of institutions as norms and ‘rules of the game’.

⁸ As sociologists such as Charles Tilly and Pierre Bourdieu have emphasized, the latter are essentially *relational*, and are deeply intertwined with both the organization of economic production and the structure of power. See Heller and Mahoney (2003) for a review, Tilly (1999) and Bourdieu (1990) for key examples of their work, and Rao and Walton (2004) discuss “inequality of agency” from a cultural perspective. A related strand of the economics literature on measurement of inequality concerns the development of the theory and measurement of polarization. This starts from the conceptual insight that individuals evaluation of the salience of inequalities is linked to differences between groups with which they *identify* relative to other groups, from which they feel relatively *alienated*. See Esteban and Ray (1994).

political institutions and socio-cultural processes. Like the economic processes heroically summarized along the hypotenuse of this simple triangle, this side subsumes whole bodies of social science and political economy, in an extremely reduced form. Institutions shape economic realities in many ways. Despite the magic of the “invisible hand”, markets themselves never really operate independently of regulatory institutions or the purposeful activity of different groups, with more or less political and market power—a theme that Adam Smith himself forcefully emphasized.⁹ At the most basic level, the enforcement of law and order is necessary to secure the property rights of those coming to sell, and then of those who buy. And as the commodities themselves and the markets in which they are traded become increasingly complex—moving, say, from apples in a farmers’ market to, say, micro-enterprise credit or financial derivatives—the enforcement of property rights and the need to correct for informational and other market failures also grows. Financial regulators, inspectors of working conditions in labor markets and anti-trust investigators are examples of governance institutions through which political systems provide a frame for the activities of markets, shaping economic processes and outcomes.

Policy can also affect the distribution of assets, either through direct redistribution (such as via land reform or privatization processes) through taxation and subsidies and the influence on the options faced by individuals and groups (as in the direct financing and provision of education). The overall economic incentives with which agents are faced shapes differential rates of accumulation, which influence how asset distributions evolve.

Finally, governments affect the distribution of disposable household incomes, through the need to finance their operations. Taxes serve to raise the revenues for a number of redistributive services and transfers, whether in kind (such as in the provision of free education or health care) or in cash (such as in unemployment insurance or various cash subsidies), as well as for the regulatory roles.

In each of these steps initial conditions and policy choice affects the environment for the poor groups, and influences their choices over schooling, work, investment in physical assets, migration and a range of other behaviors affecting economic and social conditions.

This ‘circular causality’ between wealth, incomes and power, mediated through institutions, evolves through time and history. History has placed poor groups at a disadvantage in their initial economic conditions, in the shaping of policy and in its implementation. However, this does not imply we should be fatalistic. There is scope for purposive action of policy-makers and a range of other agents, including the poor

⁹ See Rothschild (2001) for a rich account of how Adam Smith and other enlightenment thinkers were greatly concerned with the abuse of unequal influence, and the role of purposive agency of different groups in shaping economic and social outcomes.

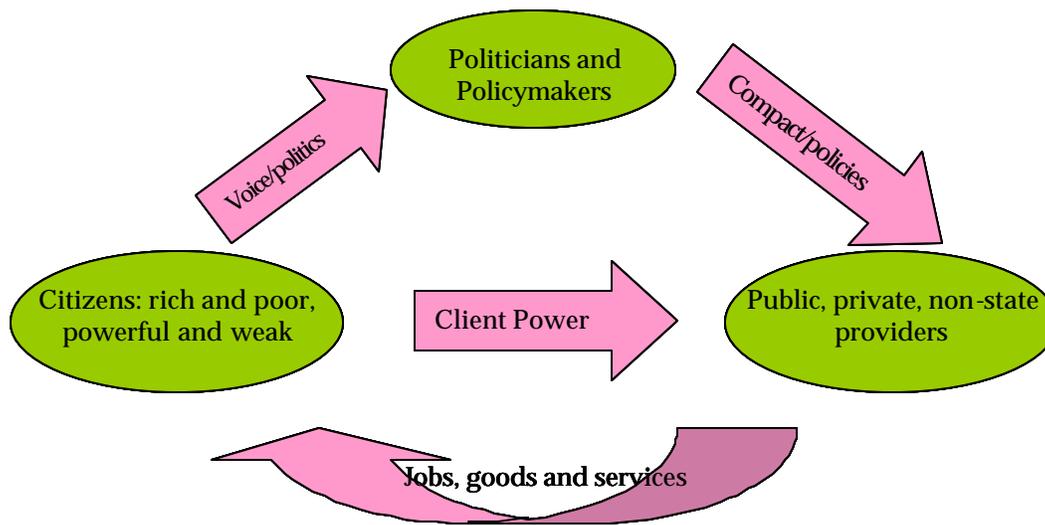
themselves, to break through vicious cycles of deprivation and the reproduction of inequality. Mexico's past and recent history provides both evidence of forces that have tended to perpetuate poverty and social exclusion and of such purposive action to reduce poverty and inequality. There is a wide range of initiatives under implementation now. However, in assessing how to strengthen such initiatives we believe it is useful to place them within this broader context of interactions between economics and institutions, sketched in highly schematic terms in Figure 1.1.

Service delivery. The delivery of services is a key nexus for the interaction between institutions, economic behavior and well-being. Basic services such as education, health, electricity, water, sanitation and roads are both constitutive of well-being (as noted above) and can enhance the dynamic processes of asset accumulation and its interaction with opportunities. There has been a quite profound shift over the past decade in mainstream development thinking on what determines the coverage and quality of service delivery. This can be characterized as a move from a technocratic ideal in which benevolent governments provided resources to well-intentioned service-delivery organizations and their staff, to recognition that services are provided within a social and political context. This reflects the broader recognition of institutions roles.

A simplified portrayal of key interactions is given in Figure 1.2, that is based on the framework for analyzing service provision developed in World Bank (2003b). This suggests that the design and effectiveness of development action depends on four relationships of accountability and influence.

- Citizen exerts influence over politicians and policymakers in the choice of policies, via elections, the direct expressions of “voice” and a variety of direct influences (often mediated by civil society organizations).
- Policymakers influence public providers or institutions via “compacts” that set the rules for their behavior, and influence private firms via the policy environment and the regulatory framework for private sector behavior.
- *Within* providers there are a range of influences affecting the incentives, work cultures of front-line providers.
- Citizens exert client, or customer power over providers in transactions involving jobs, goods or services.

Figure 1.2. The major actors and relationships of accountability for service delivery



All of these relationships of accountability are infused with the formal rules, power relationships and informal socio-cultural structures that shape inequalities in a society. Most Latin American countries have long histories of relatively weak accountability to their citizens, associated with “weak and unequal” institutional structures, that granted disproportionate influence to elites.¹⁰ This has had a major influence both on the design and implementation of service delivery. The process of democratization at national and local levels that restarted in much of the region in the 1980’s, has of course increased the demands of middle and popular sectors for better services. But the consolidation of democracy is a long-term project, and the legacy of weak institutions, unequal influence and social excluded groups can be strong.

Take two areas of service delivery as examples: provision of infrastructure services and education. Infrastructure services were traditionally provided by public utilities in Latin America, in an approach that was embedded in clientelistic structures.¹¹ Utilities provided jobs for government supporters and subsidized electricity, phone, water or sanitation services to those lucky enough to have access to services. But pressures for efficiency were low, and rationing of services widespread. Fiscal difficulties exacerbated these problems. Privatization was a way of breaking through clientelistic patterns, providing incentives for greater efficiency, and a source of fiscal revenues. In many areas, privatization did yield efficiency and quality gains, with often positive pro-poor effects in terms of service expansion and modest overall distributional impacts

¹⁰ See De Ferranti et al. (2004) for a review of both historical roots and contemporary political and social institutional structures.

¹¹ See Estache, Foster, and Wodon (2002), World Bank (2003b), and De Ferranti et al. (2004) for discussion.

(McKenzie and Mookerjee, 2002). But they typically brought layoffs, and in some cases increased market power to domestic conglomerates and their foreign partners.

Education provides a second example. Most countries in Latin America have a relatively long tradition of social demands for widespread provisioning of basic education, that has been reflected in support from politicians and policymakers. There have been a variety of reforms in the “compact”, especially in the decentralization of provision to the states or lower levels of government, and in some countries experiments in greater client power of parents and communities at the school level. But education has also been a source of patronage in provision of jobs, and of extensive influence of teachers’ unions. While unions have an important role to play in defending the interests of their members, and are sometimes forces for reform (e.g. in Minas Gerais in Brazil), they are more often source of resistance to quality-enhancing reforms (Grindle, 2002). At the tertiary level, much of Latin America still has highly subsidized public universities, despite the fact that these are largely attended by the children of higher income groups, who fiercely resist attempts to reduce these (inequitable) subsidies.

This sketch is intended to illustrate the importance of assessing the importance of how to strengthen service delivery to the poor within a broader institutional context.

On volatility and vulnerability. The third area we emphasize concerns the role of volatility in affecting economic conditions. This is both constitutive of well-being (see above), and has pervasive effects upon other aspects of economic and social behavior. Volatility comes from many sources. This include influences that are specific to individuals or households —“idiosyncratic” shocks in the case of adverse effects— such as the ill-health, death or disability of a breadwinner, loss of a job in normal times, or theft, fire or damage of assets for the self-employed and small-scale entrepreneurs. There are also a range of common of “covariate” shocks that affect whole communities, regions of countries, including poor rainfall, natural disasters and economic recessions. All of these are important in Mexico.

Work on volatility emphasizes that individuals, households and firms adapt to the prospect and occurrence of shocks.¹² This can be through pursuing lower-risk/lower return strategies (e.g. drought resistant crops, pulling children out of school), through risk-diversification (as in household labor allocation strategies including migration), through a variety of approaches to savings —or self-insurance— including building up physical and financial assets that can be liquidized in times of needs, and through reciprocal social relations.

¹² See Deaton (1997), Chapter 6 for a discussion of savings, consumption smoothing and social insurance from the perspective of household behavior and development policy. For recent practical applications to policy see World Bank (2001a) and for a framework and review of Latin American experience see De Ferranti et al. (2000). World Bank (2001a) provides an application to Mexico, which is built upon in the work for this report.

Private mechanisms for managing risk are, however, often sub-optimal, notably because the lack of insurance and credit markets —and especially so in the face of covariate shocks. There is a strong case for public action on social protection. But it is desirable that this be structured around patterns of private behavior and specific problems of market failures and concerns over distribution. This implies paying attention both to areas that can directly help such private behaviors, most of all in facilitating asset accumulation and access to financial markets, as well as the more classic instruments of social insurance, involving transfers in response to the variety of adverse shocks, from natural disasters to unemployment.

Both the capacity to deal with adverse shocks and the reach of public action has a powerful distributional dimension in most developing countries. The poor are typically more vulnerable due to their low asset base and weak access to financial markets to manage volatility. At the same time, the pattern of public provisioning that evolved throughout Latin America took the form of a truncated welfare state, that included relatively well-off households connected to formal work and institutions, and excluded the bulk of poorer and many middle groups. There is a strong case for an expanded, and explicitly pro-poor approach to social protection throughout Latin America; this is likely to involve both a mixture of reform of formal systems and special measures oriented to the poor.

Mexico in transition. How does Mexico fit within these frameworks? It is in the midst of two major, long run transitions. In terms of economic institutions, this involved the radical opening up to external markets and capital, combined with internal privatization and liberalization; this was consolidated under NAFTA. In the political and social sphere, it involved the deepening of democracy, moves to increase accountability of the state to its citizens, and political and administrative decentralization; this started in the 1990's and accelerated under the present administration. These transitions were from a system of economic management and social provisioning that was shaped in the decades following the revolution and the later formation of the corporatist state, in particular in the 1930's under president Lázaro Cárdenas.

The corporatist model had considerable success for several decades leading to high levels of state and private investment and steady expansion of services. But it had run its course in economic terms by the 1970's with a legacy of inefficient patterns of production. Despite commendable goals of social inclusion, it failed to make a major difference to traditionally high levels of inequality. Implementation of basic services was historically far from universal. Given the limitations of the state and the inherited extreme inequality, the result was typically one of partial, unequal and dualistic structures of employment and social provisioning. This affected both patterns of access to services by citizens and the supply of services by public sector workers.

With respect to service access, institutional inequalities took different forms in different realms of social provisioning. In some realms dualistic principles of provision prevailed. This is most marked in the social protection systems for pensions, health and employment —the “truncated” welfare state that is so marked a feature of Latin America (De Ferranti et al., 2004). In others, universal principles took the form of a more gradual process of bringing poorer and excluded groups within the net of service provision —as in the cases of basic education, water, sanitation and electricity (as discussed, for the recent period, in Chapter 3.). The ideology of universal provision of wage-goods also took the form of a costly, untargeted subsidy on tortillas prior to 1982. Despite minimum food prices for surplus producers the net effect was to tax agriculture in this period, because of an overvalued exchange rate. After the 1982-83 crisis and subsequent fiscal adjustment, the tortilla subsidy was gradually phased out and eventually eliminated in 1998.

On the supply side, the corporatist project was associated with provision of public sector jobs to government supporters, notably in the teaching service, in social security administrations and in utilities —a classical form of clientelism in Latin America and elsewhere. This part of the historical legacy remains relevant, in the challenges of achieving quality from service providers, and reducing rents associated with the leverage of organized workers, whether via their market power or connections with political parties.

The two transitions can be viewed as seeking to take Mexico toward a modern, democratic, effective, state, with a dynamic job-creating private sector highly integrated into the global economy, and with broad-based provisioning of social services and social protection. But the transitions are necessarily long and complex, and the legacy of the past remains significant. Future chapters will be exploring this with respect to poverty conditions and government policies.

C. THE GOVERNMENT’S CONTIGO FRAMEWORK FOR POVERTY REDUCTION

CONTIGO is the Mexican government’s strategy to promote human and social development through a better coordination of programs and their responsible institutions. There are two aspects of **CONTIGO** of interest here. The first is as conceptual framework for processes of poverty reduction and social development, and for the role of public action with this. The second concerns program management, which seeks to apply the framework in the complex organizational structure of the Mexican government at central and subnational levels. In this chapter we focus on **CONTIGO** as a conceptual framework; we discuss government strategy in Chapters 4 and 5.

CONTIGO has two stated objectives: (i) to provide basic social benefits to all Mexicans, including quality health care and education, adequate nutrition, housing, employment security and pensions; and (ii) to activate the levers that stimulate human development, that is to provide opportunities for the productive and social integration of individuals through basic education, health, employment and training (*Secretaría Técnica del Gabinete Social*, 2003).¹³ Areas of potential public action are then organized into four areas (see Figure 1.3).

- *Human Development*: ensuring the physical and intellectual development of the population through adequate nutrition and access to health services, education and training.
- *Income Generation*: promoting employment and local development as well as providing credit and technical assistance for productive projects.
- *Asset accumulation*: support for housing, savings and land titling programs that help households secure a base of physical assets.
- *Social Protection*: reducing household vulnerability to shocks and other risks such as low income among the elderly.

These areas are complementary, reinforcing each other to create a virtuous circle for poverty reduction. Healthier and more educated individuals are better equipped to take advantage of income generating opportunities which in turn would facilitate asset accumulation. These, together with adequate social protection policies can promote long-term investments that could break the intergenerational transmission of poverty.

A particularly valuable element of the **CONTIGO** framework is the integration of these areas of public action with the life cycle of individuals and households. The target population ranges from pregnant women to the elderly. This potentially allows programs to be joined around age groups and action areas so as to ensure that individuals needs of government services and assistance are provided at different times in their lives. Figure 1.4 illustrates.

CONTIGO's framework also includes five principles that are intended to cut across all areas of public action.¹⁴

- *Equity* to allocate more resources to disadvantaged groups.

¹³ There is a slight variation in the stated objectives across documents. The **CONTIGO** website, for example, states as objectives: (i) to eradicate poverty and (ii) ensure the full development of the population (see <http://www.contigo.gob.mx/>).

¹⁴ In some documents [environmental] sustainability is included as a sixth principle (see *Secretaría Técnica del Gabinete Social*, 2003).

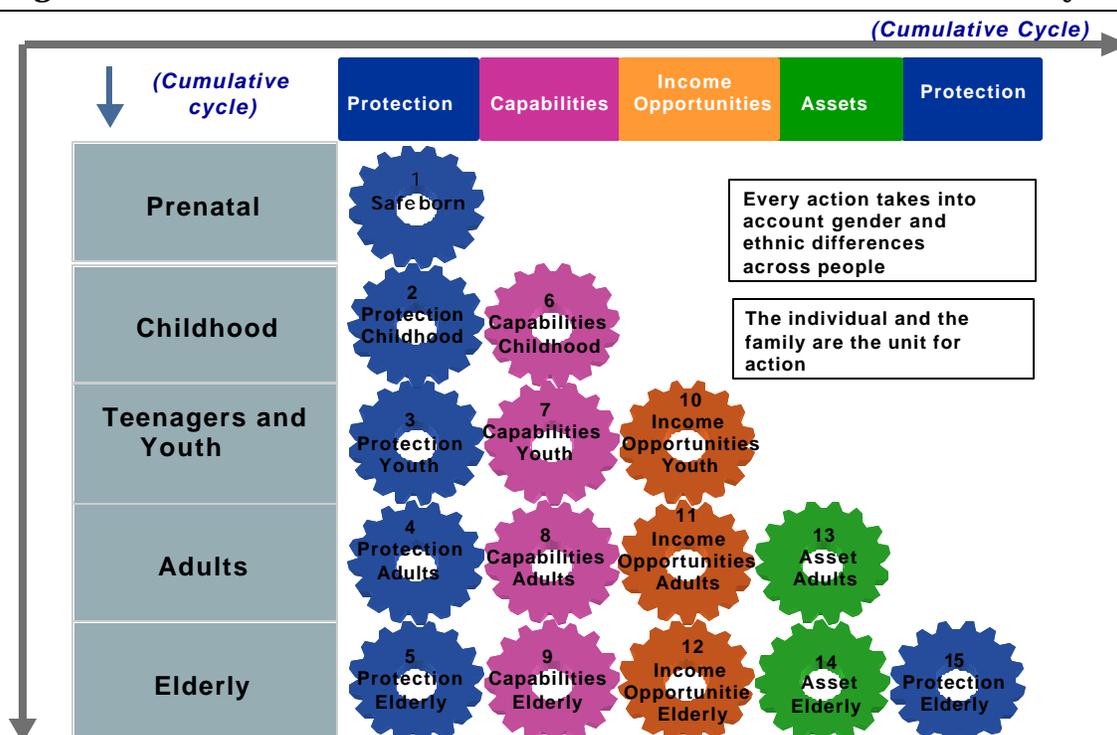
- *Transparency* to avoid the discretionary or political use of resources.
- *Joint responsibility* between the three levels of government and society.
- *Social cohesion* to strengthen the social fabric and foster community development, governance and democracy.
- *Integrity* to encourage efficiency in social spending by exploiting synergies, eliminating duplication and ensuring coherence in different program objectives.

Figure 1.3. CONTIGO’s conceptual organization of areas of public action

AREAS	SUB-AREAS
I. Human Development	<ul style="list-style-type: none"> 1. Education 2. Health and Nutrition 3. Training
II. Income Generation	<ul style="list-style-type: none"> 4. Local Development and Credit Access 5. Generation of Employment
III. Asset Accumulation	<ul style="list-style-type: none"> 6. Housing 7. Savings 8. Property Rights
IV. Social Protection	<ul style="list-style-type: none"> 9. Insurance 10. Social Security 11. Protection against Collective Risks

CONTIGO is an excellent overall framework for poverty reduction and social development. In theory, it recognizes the multi-dimensionality of well-being and the need for multiple categories of public action to raise living standards. The four core areas of public action (Figure 1.3) map on to four of the dimensions of well-being discussed in the preceding section. It also emphasizes the powerful complementarities between areas of public action. Embedding public action in the life-cycle is both useful for designing policies in relation to different categories of needs, and potentially for the more ambitious target of shaping strategies that take account of interactions across different parts of a person’s life-cycle and between generations. The emphasis on issues of transparency, joint responsibility and social cohesion is consistent with the role of these factors in the quality and effectiveness of service provision for the poor (as well as in other areas of development process) discussed in the preceding section.

Figure 1.4 CONTIGO: Interactions Between Public Action Areas and the Life Cycle



Source: **CONTIGO**'s web page and power point presentation, both available at: <http://www.contigo.gob.mx>

The **CONTIGO** framework is probably one of the most properly articulated in an international context. Perhaps ironically, it is in the low-income countries that there has been most extensive action in the past few years in articulating explicit frameworks for poverty reduction. This occurred because of the rising importance of nationally prepared poverty reduction strategies to underpin debt reduction and aid, especially from the international financial institutions. These frameworks typically also have a multi-dimensional concept of well-being, systematic categorization of areas for public action, participative engagement, and aspire to place such action within a systematic results-based framework, with ongoing evaluation (though the last is usually a long-term enterprise). In Latin America, Bolivia has a relatively thorough strategy, but implementation has been ill affected by social conflict. Even well crafted poverty reduction strategies cannot, at least in the short run, deal with profound social divisions and political difficulties, especially in the context of adverse economic shocks. Vietnam's strategy is also of interest, since this is not only providing a framework for national development strategy and underlying analysis, but the process is now being replicated at provincial levels of the country.

At the other end of the income scale, many rich countries have been putting more explicit focus on strategies for poverty reduction, and conceiving this as part of the broader project of combating social exclusion. Member states of the European Union

(EU), for example, developed national plans for social inclusion, in response to an EU-wide agreement to give this priority; this has been associated with work on assessing how to interpret and analyze progress (Atkinson et al. 2000). In the United Kingdom (UK) this is one part of a broader approach that is seeking to tackle historical problems around employment and poor service delivery, which is thoroughly integrated within a results-based approach.

CONTIGO provides a sound general framework. Any specific area of public action will need a framework that is more detailed, taking account of the technical, economic and social issues for that area, whether it is agricultural production or determinants of health. A variety of more specific frameworks will be referred to in this work and in the more in-depth follow up —as is the practice within the government. At the level of a general framework, the one area that we will sometimes depart from in organizing thinking is in making social inclusion a fifth area of public action (in addition to its presence as a cross-cutting principle).¹⁵ This is because this has a direct relation with dimensions of social living that are constitutive of well-being (and poverty reduction) and because there are lines of public action that are specifically aimed at fostering social inclusion, for example in the work of INDESOL.

As an example of putting the considerations of this chapter together and taking the **CONTIGO** (and related) frameworks to one more level of structure, De Janvry and Sadoulet present a structure for linking outcomes and action for the poverty reduction and social development in the rural context. This is illustrated in Figure 1.5.

D. SUMMARY

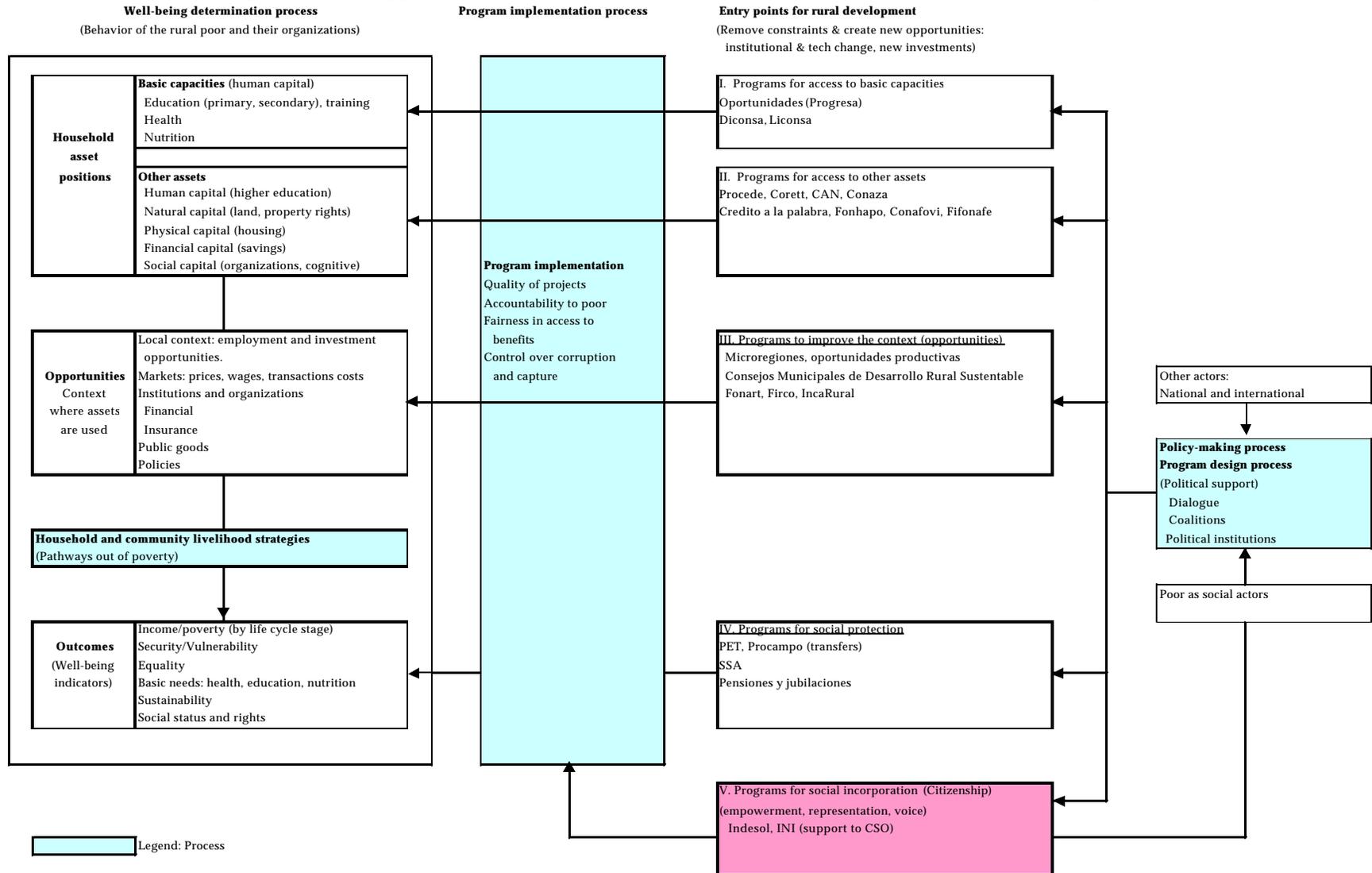
Poverty is a major social concern in Mexico. Poverty has many dimensions, including ill health and lack of basic skills, lack of access to basic services, insufficient income for a decent life, vulnerability and social exclusion and indignity. Recent thinking on the processes that determine the dynamics of poverty emphasize the complex interaction between economic assets and opportunities, and their embeddedness in, typically unequal, formal and informal institutional structures. This applies in particular to the central issue of service delivery to both the poor and the non-poor. There is also recognition of the importance of volatility, and associated insecurities, as an area for public action. Within this context, the government's **CONTIGO** approach is a good, comprehensive framework for organizing approaches to public action (but not for ranking them)¹⁶. More emphasis could be given to determinants of service delivery and to social inclusion as a line of public action—but the framework provides a sound basis for both the design of overall strategy and the more specific approaches that need to be

¹⁵ See also the discussion in De Janvry and Sadoulet (2003b)

¹⁶ Paes de Barros (2003).

developed in individual sectors. It is worth highlighting the valuable initiative to developing an independent committee charged with providing technical advice on official poverty concepts, including on the income poverty line. Finally, it is also laudable the approval of the Social Development Law (2003) which is an important step to institutionalize a state policy for social development. The law institutionalizes social policy in Mexico through a series of bodies to oversee social development policy and implementation, including a board for evaluation, a national commission on social development, an inter-ministerial commission and an advisory committee, that will include members from civil society. It includes a requirement that social development funds not be reduced in real terms in any year.

Figure 1.5. An application of the CONTIGO conceptual framework to rural development



CHAPTER 2. WELL-BEING IN MEXICO IN INTERNACIONAL PERSPECTIVE

In this chapter we present an overview of well-being in Mexico to provide the context for the more detailed analysis of subsequent chapters. We first sketch medium to long-term trends in relation to other countries. Then we examine the extent to which Mexico's current position (around 2000) appears to be relatively good or bad given its incomes level and other structural conditions. The chapter uses indicators for three of the dimensions of well-being (and poverty) introduced in Chapter 1: human capacities, assets/infrastructure and incomes. Cross-country information on vulnerability and social incorporation are not available. However, attention is paid to measures of governance, both as a correlate (and possible cause) of other dimensions of well-being, and as a rough proxy for the extent to which governmental structures reflect societal interests.

To provide the international context, Mexico is, in some cases, placed in relation to the experience of all countries with data. In others Mexico is compared with two regions of particular interest to debates on development in the region: the rest of Latin America and with East Asia. Within the latter, Malaysia is singled out to give a more concrete international comparator of an East Asia "success" case. This country is probably the one in East Asia that is most like Mexico: it is now upper middle income, is relatively unequal, has been passing through a long transition from being natural resource-based to primary reliance on industrial exports, it has significant socio-cultural divisions across ethnic groups, and has had a semi-authoritarian government for much of its recent history. There are also important differences of structure and history, and the comparison should not be over-stretched.

Since this analysis uses information up to around 2000 or so, and covers slow-changing variables (such as child mortality), it can be treated as a snapshot of the current government's inheritance from the accumulated experience of previous decades. It might be considered a schematic baseline for the efforts of the present administration.

A. PATTERNS OF PROGRESS IN WELL-BEING IN INTERNATIONAL PERSPECTIVE

Over the past few decades, Mexico has made substantial progress on many areas of well-being in terms of average indicators for the whole society. Selected variables are shown to illustrate this in Figure 2.1.

In health services there has been a dramatic long-term improvement in both child mortality and life expectancy, with no apparent breaks in the trends across decades. The number of children dying before the age of five per 1000 live births fell from over 140 in

the 1960's to less than 40 in the 1990's, while life expectancy rose from 58 to over 72¹. These large changes were broadly comparable with the Latin American and East Asian averages.

For education, there is a more complex pattern. Years of education amongst adults, that reflect the accumulative effects of earlier decades of education —grew rapidly from a relatively low level in the 1960's, overtaking the Latin American average, and displaying some catch-up with the East Asian average. However, secondary enrollments first show a similar pattern of rapid gains between the 1970's and 1980's, significantly above the Latin American average, but then experienced slower absolute and relative gains in the 1990's.

Average incomes experiences rapid growth until the 1980's, but slower long-run growth since, and somewhat below the Latin American average. The whole of the region experienced a severe recession in the 1980's, but Mexico's growth in the 1990's was worse than average —with the 1994-95 crisis an important contributor to this.

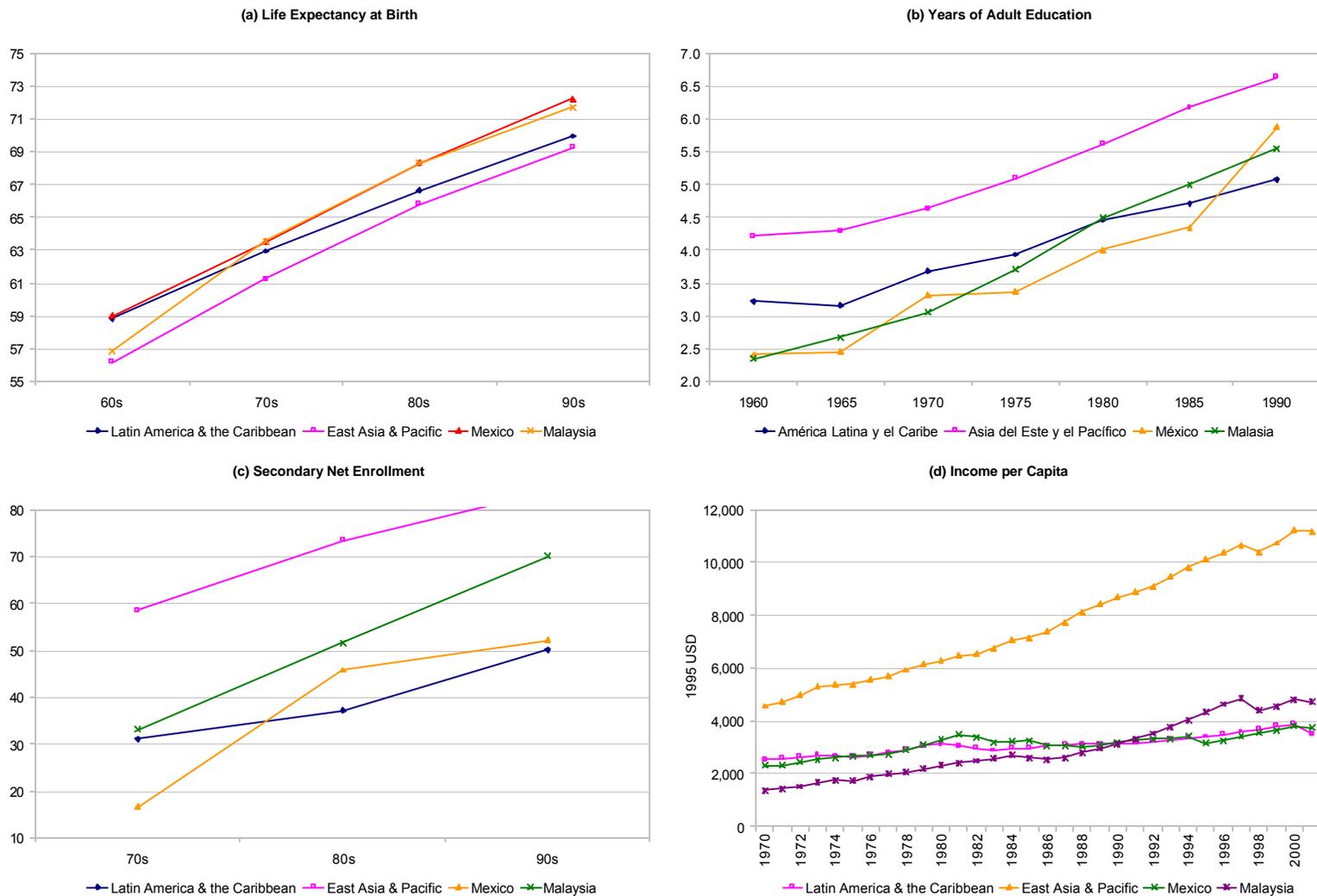
The major contrast with Malaysia is the sustained growth in incomes (despite, like Mexico, facing macroeconomic shocks in the 1980's and 1990's). Malaysia overtook Mexico in the 1990's on this dimension. There is less difference in progress on most human investment indicators, though Malaysia did not experience the slowdown of secondary enrollments in the 1990's relative to the 1980's.

What do these patterns mean for the trends in deprivation? For any dimension of well-being, the pattern of deprivation is a function of the average level of the indicator and its distribution across the population. Mexico, along with most of Latin America, is highly unequal with respect to incomes, and is, to varying degrees, unequal with respect to many other dimensions of inequality. For income, according to the most commonly used synthetic index of inequality, the Gini coefficient, Mexico was in 2000 more unequal than the (high) Latin American average, though less unequal than Brazil, Chile and Colombia (Table 2.1). In terms of the shares of different parts of the distribution, the bottom quintile of households (ranked by per capita household income) accounted for 3.1% of total income while the top decile accounted for 43%. The ratio between the income of the top and bottom decile was 45 times.² An important part of the reason for high levels of poverty in Mexico is the high level of inequality. On average East Asian countries are much more equal, and so have lower levels of poverty for their mean income level. Malaysia has levels of incomes inequality significantly above the East Asian average, and, as shown in Table 2.1, is only somewhat more equal than Mexico, and less equal than Costa Rica and Uruguay.

¹ This chapter uses the World Development Indicators for international comparisons. However, in 2001, national data from CONAPO reports that the child mortality rate was 27.4 per 1,000 born alive and life expectancy was 74.3 years.

² All figures are from De Ferranti et al. (2004), which used comparable methods across countries.

Figure 2.1 Trends in measures of well-being



Source: World Development Indicators and Barro-Lee.

Table 2.1. Incomes inequality in Mexico in international perspective

	<i>Gini coefficient</i>	<i>Share of top 10 percent in total income</i>	<i>Share of bottom 20 percent in total income</i>	<i>Ratio of incomes of 10th to 1st decile</i>
Brazil (2001)	59.0	47.2%	2.6%	54.4
Guatemala (2000)	58.3	46.8%	2.4%	63.3
Colombia (1999)	57.6	46.5%	2.7%	57.8
Chile (2000)	57.1	47.0%	3.4%	40.6
Mexico (2000)	54.6	43.1%	3.1%	45.0
Argentina (2000)	52.2	38.9%	3.1%	39.1
Jamaica (1999)	52.0	40.1%	3.4%	36.5
Dominican Rep. (1997)	49.7	38.6%	4.0%	28.4
Costa Rica (2000)	46.5	34.8%	4.2%	25.1
Uruguay (2000)	44.6	33.5%	4.8%	18.9
Malaysia (1997)	49.2	38.4%	4.4%	22.6
United States (1997)	40.8	30.5%	5.2%	16.9
Italy (1998)	36.0	27.4%	6.0%	14.4

Source: WB staff calculations: for Latin America estimates from micro-data, see De Ferranti et al. (2004), for others World Development Indicators.

Mexico has probably been highly unequal for a very long time, along with most of Latin America. Survey-based evidence for income differences is only available since the early 1970s. Trends over time indicate that the Mexican income distribution has moved in different directions in the last three decades. There was an improvement in income distribution in the 70's, a substantial rise in inequality in the 1980's, and relative stability in the 1990's, despite the major structural changes and economic shocks of the past decade. Together with the pattern of average growth, this implies relative rapid income poverty gains in the 1970's, a large reversal in the 1980's, and little overall gain in the 1990's, but with major fluctuations due to the Tequila crisis³. The 1994-95 crisis was actually associated with a small improvement in inequality (that was partially reversed by 2000⁴), in contrast to the crisis experience of the 1980's, or the substantial worsening of inequality in Argentina during its recent crisis. Finally, estimates for 2002 indicate a further, slightly larger improvement in distribution since 2000, which was an important source of estimated declines in poverty. We review the recent trends in more detail in Chapter 3.

There are significant overlaps between incomes and other dimensions of well-being. The incomes poor tend also to suffer higher child mortality, have lower years of schooling and school enrollments of their children and lower access to services. Nevertheless, respect to service access, expansions typically have a specific distributional dynamic,

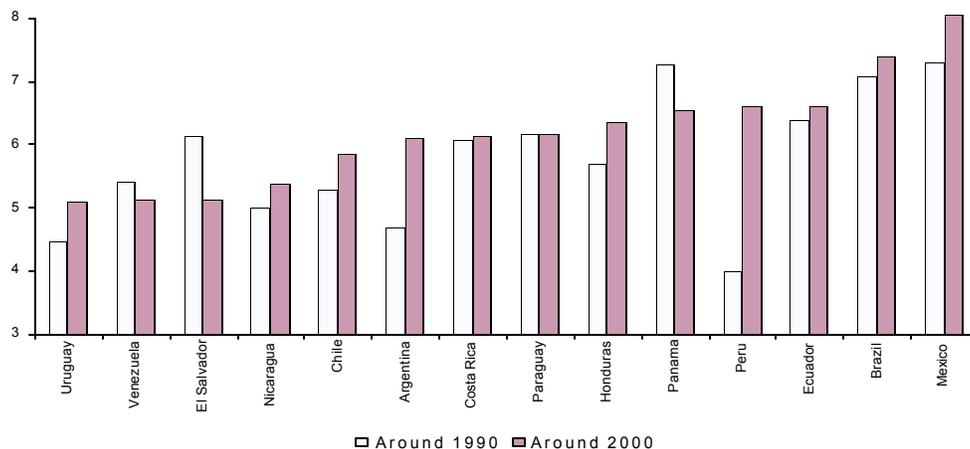
³ See De Ferranti et al. (2004), Morley (2001), Székely (2001).

⁴ Differences between 1996 and 2000 are not statistically significant.

providing for the rich and middle classes first, and then working down the distribution of incomes or wealth, reaching the poorer groups last. This implies that major service expansions start off anti-poor and become more and more pro-poor the closer a country is to universal provisioning.⁵

Detailed information on the structure and dynamic of educational inequality is available for Mexico in relation to other Latin American countries from recent analysis of comparable household surveys. For Mexico the product of the historical dynamics was a high level of inequality in adult educational attainment across incomes groups. In 2000 adults in households in the top quintile had almost eight years more education than those in the bottom quintile. This was the largest difference of the set of countries with comparable data in Latin America, and had actually risen by half a year since 1992 (Figure 2.2a). At the bottom of the distribution one dimension of this is the level of illiteracy. Whereas self-reported illiteracy rates are less than five per cent in the top two quintiles, they were 30% in the bottom quintile in 2000, down from 34% in 1992 (for the second quintile illiteracy was declined from 17% in 1992 to 13% in 2000). The evidence on educational dynamics is mixed. On one hand there was a modest reduction in the educational gap between the top and bottom quintiles of people in their 50's and 30's (Figure 2.2b). There was also a small decline in the differences in enrollment from 13-17 year-olds between poor and rich households in the years spanning from 1992 to 2000. But there was a *rise* in differences in enrollments for 18-23 year-olds (Table 2.2). Since the major divide in Mexico in terms of returns to education is now between those with and without tertiary education, rising inequalities at this level across incomes groups could be a source of further disequalizing pressures in the coming years.

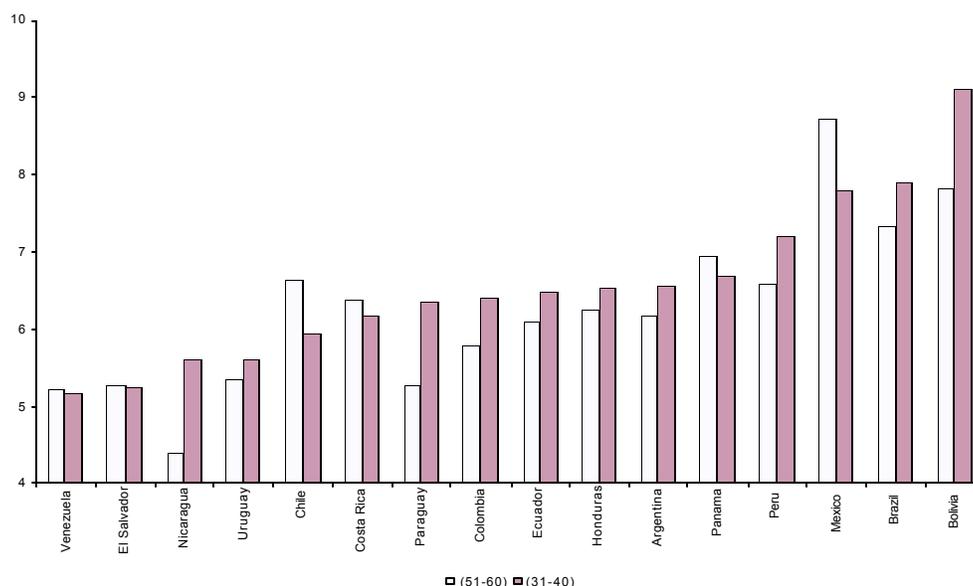
Figure 2.2a. Difference in average years of education between top and bottom quintiles



Source: De Ferranti et al. (2003) based on micro data from household surveys.

⁵ See Lanjouw and Ravallion (1999) for discussion of the issue in an Indian context, and De Ferranti et al. (2004) for a summary of Latin American experiences in the 1990's.

Figure 2.2b. Difference in average years of education between top and bottom quintiles. By age cohort, around year 2000



Source: De Ferranti et al. (2003) based on micro data from household surveys.

Table 2.2. Enrollment rates of young people in poor and rich Mexican households, 1992 and 2000 (in percent)

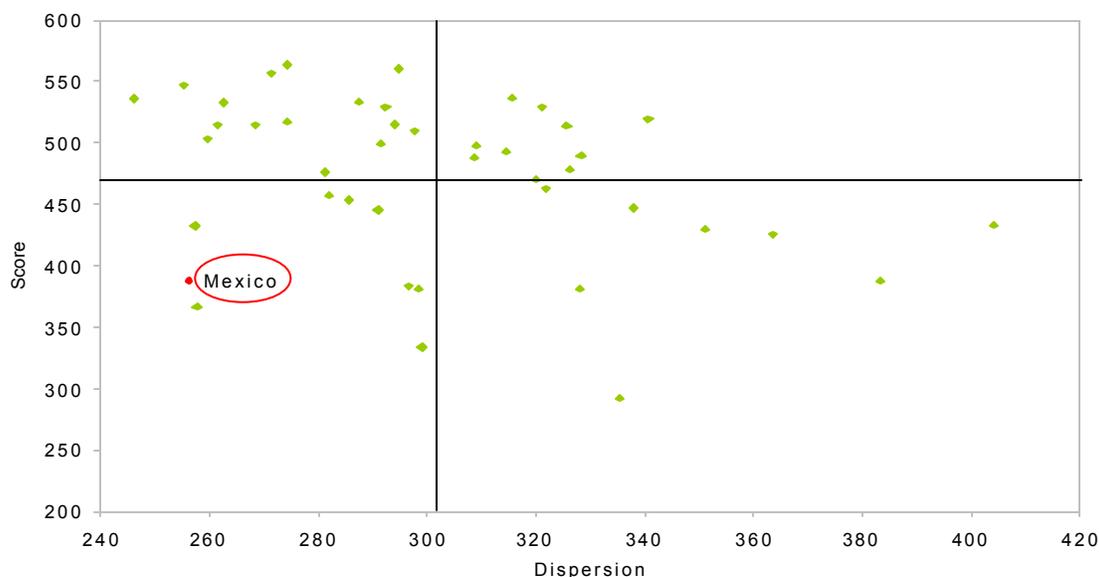
	13-17 year-olds		18-23 year-olds	
	Bottom quintile	Top quintile	Bottom quintile	Top quintile
1992	48	84	12	40
2000	57	90	16	52

Source: ENIGH 1992 and 2000.

Educational quality matters as well as quantity. A recent international testing project (the Program for International Student Assessment, **PISA**) finds that Mexico educational quality falls substantially below that for OECD countries, and is also lower than that for Korea and Thailand. Education quality is comparable to that of Argentina and somewhat better than in Indonesia and Peru, but that may be small comfort. As with all countries there is significant variation in quality –that is correlated with the socio-economic status of the households from which children come. Moreover, this increases differentials in quality-adjusted education across incomes groups. However, the variability of Mexico’s quality is low by international standards, and much lower than Argentina’s. Whether this is due to government efforts to raise quality amongst the poorest, or the relatively consistent (and low) teaching standards that flow from countrywide features of educational supply, including the teachers’ union, is an issue for future work.

Figure 2.3 Mexico has low average quality, but low dispersion, in the quality of education

(Test results for mathematics from the **PISA** international study)



Source: WB staff calculations from background work on educational quality in Mexico, based on the Program for International Student Assessment (**PISA**).

On a brighter note from a distributional perspective, Mexico has made substantial progress toward equalization of educational attainment between genders with respect to education, in common with many Latin American countries. This can be seen by the virtual elimination of gender differences that prevailed between 51-60 year olds compared with 21-30 and 10-20 year-olds, alongside the generalized progress in the 1990's. This is a pattern shared with most Latin American countries.

Table 2.3. Years of education of males and females in Mexico by age group

	10-20 year-olds		21-30 year-olds		51-60 year-olds	
	Female	Male	Female	Male	Female	Male
1992	6.5	6.3	7.6	8.3	3.9	4.6
2000	7.0	6.9	9.0	9.5	4.7	6.2

Source: ENIGH 1992 and 2000.

Lack of data precludes a more comprehensive review of long-run trends in the different dimensions of well-being in international perspective, especially for those dimensions such as vulnerability and social exclusion that do not have established comparable measures. However, the overall pattern is clear. First, there has been major progress on average for health, education and some services, but halting progress on incomes. Second, well-being has been unequally distributed for all dimensions with information, with mixed patterns in the past decade or so —with poorer groups gaining relatively for

some services, losing ground (relatively) on tertiary education, and with a lack of clear trend on incomes differences, but with encouraging recent signs.

B. AN OVERVIEW OF THE RELATIONSHIP BETWEEN WELL-BEING AND INDICATORS OF COUNTRY CONDITIONS

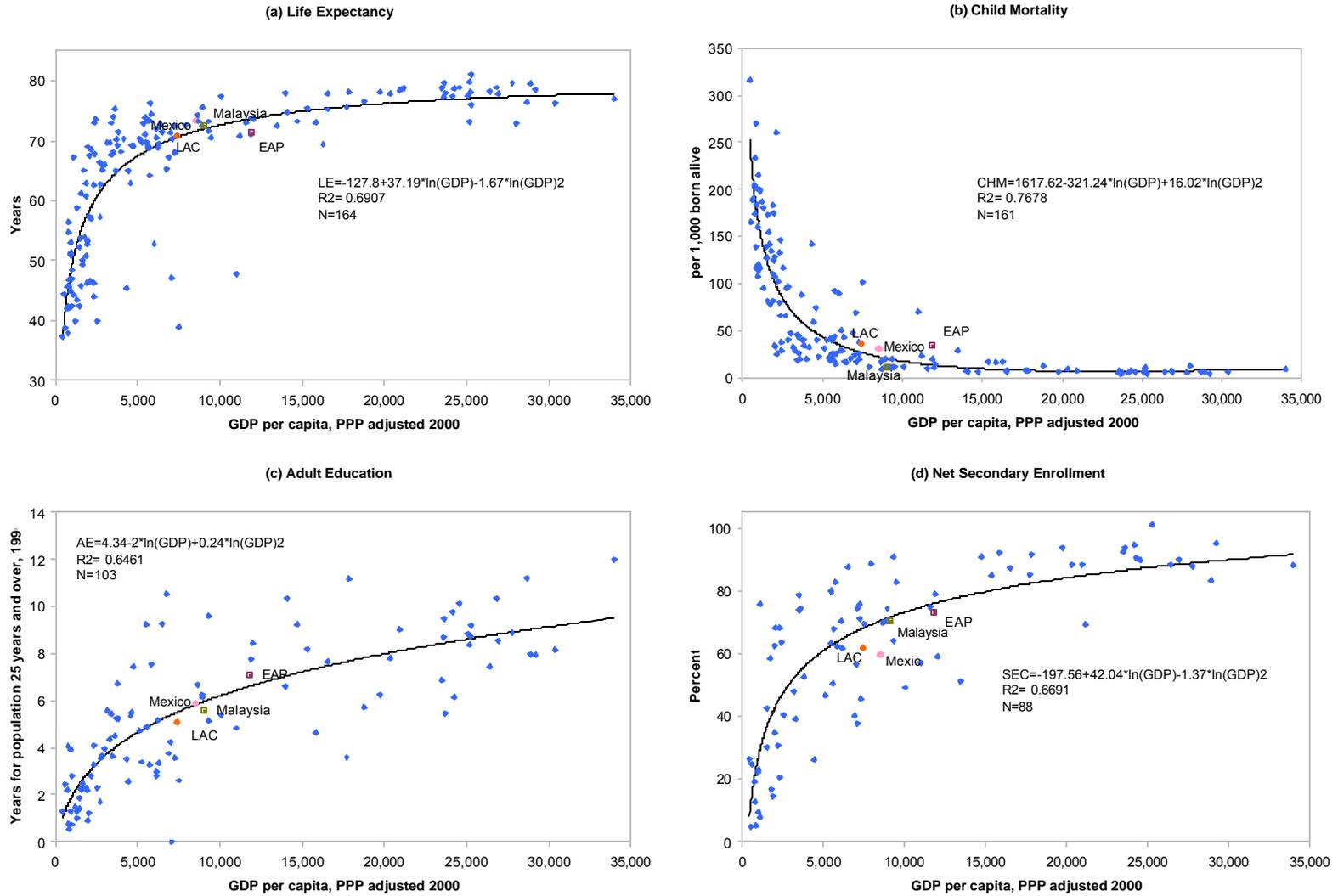
In this section we examine the international pattern of well-being, and Mexico's position in terms of the relationship with other measures of country conditions or performance. In other words, this turns to look at Mexico's performance conditional on its characteristics. The main conditioning variable is the mean level of national income, on the grounds that this is a measure of the level of aggregate resources a society has to support public action to reduce deprivation. For some variables we also use a multivariate analysis that takes a step toward a more complex analysis that allows for interactions between variables. The results should come with an important caveat over causality: while all are interesting on the associations, and many are suggestive of possible causal relations, in *none* of the results do we have the statistical basis to infer causality. This caution is intrinsic to such cross-sectional analysis. More in-depth, within-country analysis is necessary to develop perspectives on causal mechanisms, as is planned for the work on Mexico.

We first show the bivariate relationships between incomes and several measures of human development and assets, using most recent data. These are shown in Figures 2.4a-g, which also presents a regression line of the relationship with mean incomes, and the values for Latin America, East Asia and Malaysia.⁶ For all variables there is a similar overall pattern of observations, that shows two results from this type of comparison: there is indeed a positive association between average incomes and such measures of well-being; but there is also wide variation for any given level of income. The latter illustrates how differences in structures, formal and informal institutions and policy choices may make large differences to health, education or service access for societies with comparable levels of aggregate resources.

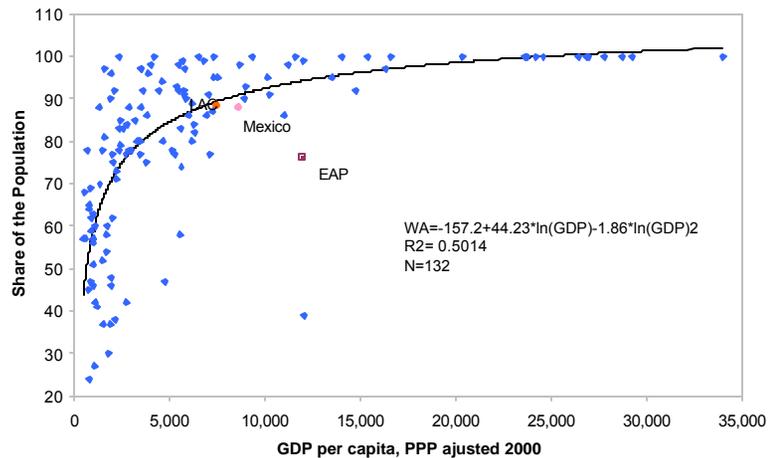
Mexico's position in relation to other countries is generally close to, or somewhat worse than, what would be "expected" from this simple conditional relationship. For health, life expectancy is slightly better than the estimated relationships and child mortality slightly worse. For education, illiteracy is slightly better (reflecting the historical expansion of basic education) but secondary enrollments are worse. Water coverage, and especially improved sanitation, is below the estimated average relationship.

⁶ This uses national income per capita adjusted for price differences across countries using information from the Purchasing Power Parity project. The regression line reported is for OLS with quadratic specification on log incomes: the actual specification is arbitrary but it fits the pattern of data reasonably well. We follow Todd and Hicks (2003).

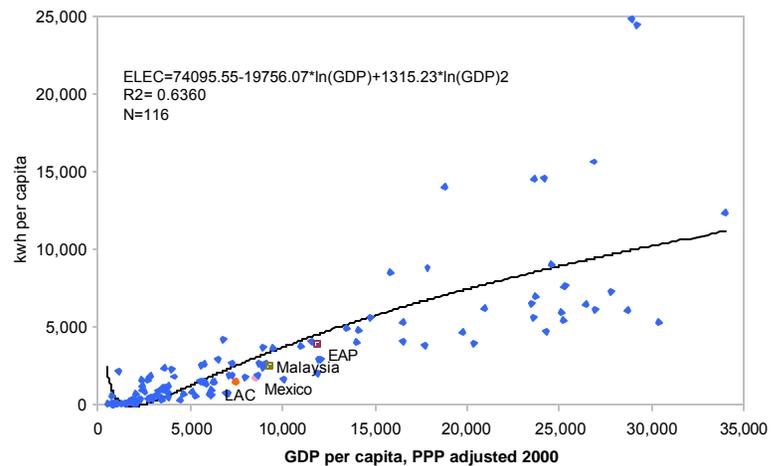
Figure 2.4. The relationship between income and measures of well-being



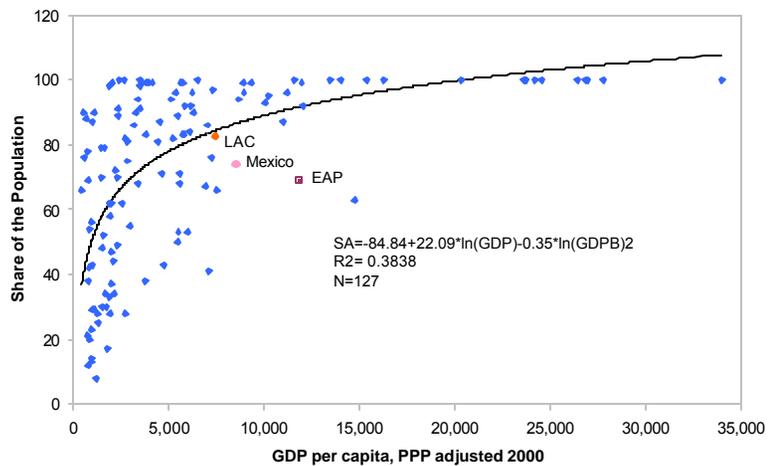
(e) Access to an Improved Water Source



(f) Electricity Power Consumption



(g) Access to Improved Sanitation Facilities

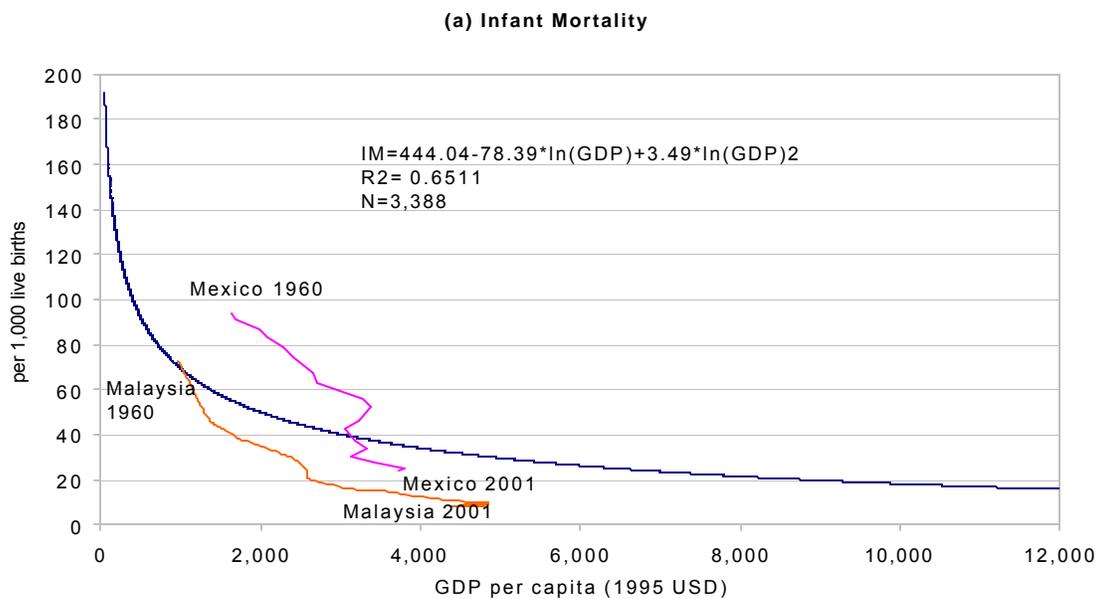


Source: WB staff calculations based on World Development Indicators.

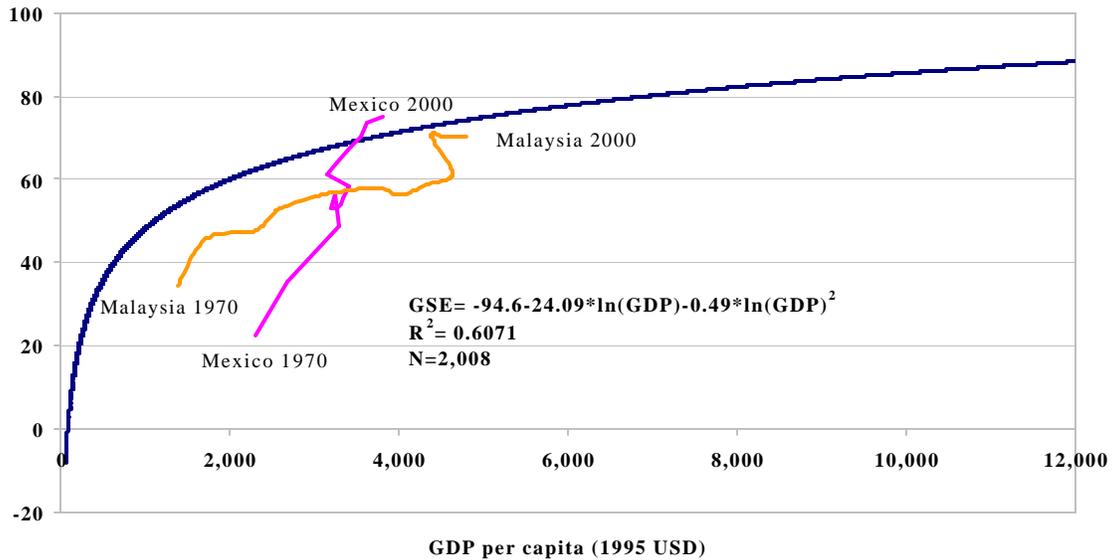
However, it is noteworthy that in all cases there are a large number of countries at either similar or lower income levels that perform better than Mexico: this illustrates the potential for better outcomes.

These figures show the cross-section relationship for the latest period. How has this relationship evolved over time? Figures 2.5a and b explore this. These figures pool cross-section and time series country numbers to estimate the relationship between two indicators of human development, infant mortality and gross secondary enrollments, and incomes. As for the above graphs, they use a quadratic expression for incomes to better fit the relationship in the data. This again shows that, on average, both human development indicators improve with higher income, but at a declining rate. There is of course a lot of variation around this average relationship —as has been extensively discussed in the literature. Some countries have achieved large gains in human development at low incomes, while others have had rapid income growth with relatively modest advances in human development (see Drèze and Sen, 1989, for a seminal discussion). In such a long-run perspective, Mexico experienced major catch-up from a position of large social deficits relative to its income level (the fact that this relationship shows Mexico being better than average, whereas Figures 2.4 shows modest deficits appears to be because the relationship has shifted over time: Figure 2.4 shows the contemporary relationship. Figure 2.5 the pooled relationship for the past 30-40 years). Malaysia also experienced major advances relative to its incomes. Again, the major difference is that Malaysia overtook Mexico in terms of income in this period.

Figure 2.5. The long-run relationships between incomes, infant mortality and secondary enrollments



(b) Gross Secondary Enrollment



Source: WB staff calculations based on World Development Indicators.

We next look at indicators of governance. This is a proxy for the institutional basis for capabilities in a society, both in terms of the formation of human capacities, and the opportunities to convert these into incomes and functionings. The measures of governance come from survey results of subjective assessments various dimensions of governance covering 199 countries and territories. These indicators are based on several hundred individual variables measuring perceptions of governance, drawn from 25 separate data sources constructed by 18 different organizations, developed by the World Bank Institute. These individual measures of governance are assigned to categories capturing key dimensions of governance and use an unobserved components model to construct six aggregate governance indicators. They are generally quite highly correlated with other country-level measures of governance, whether formed by experts (as in the Polity IV data base, see the Appendix for a description of this survey) or the views of a variety of international investors (as in the International Country Risk Guide, ICRG, data base).

There are two reasons for showing this data. First, some of the measures, notably on voice and accountability, government effectiveness, the rule of law, regulatory capability and corruption, will be proxies, albeit imperfect, for important direct measures of well-being, including with respect to social poverty/exclusion. As noted in Chapter 1, poor people across the world place great emphasis on poor government performance and adverse experiences with justice systems as dimensions directly affecting their well-being. Work by social scientists on the rule of law in Latin America also strongly underlines the position that a weak rule of law can exacerbate inequalities in living, with poorer groups suffering greatest risk of abuse (Méndez et al., 1999). Second, issues of

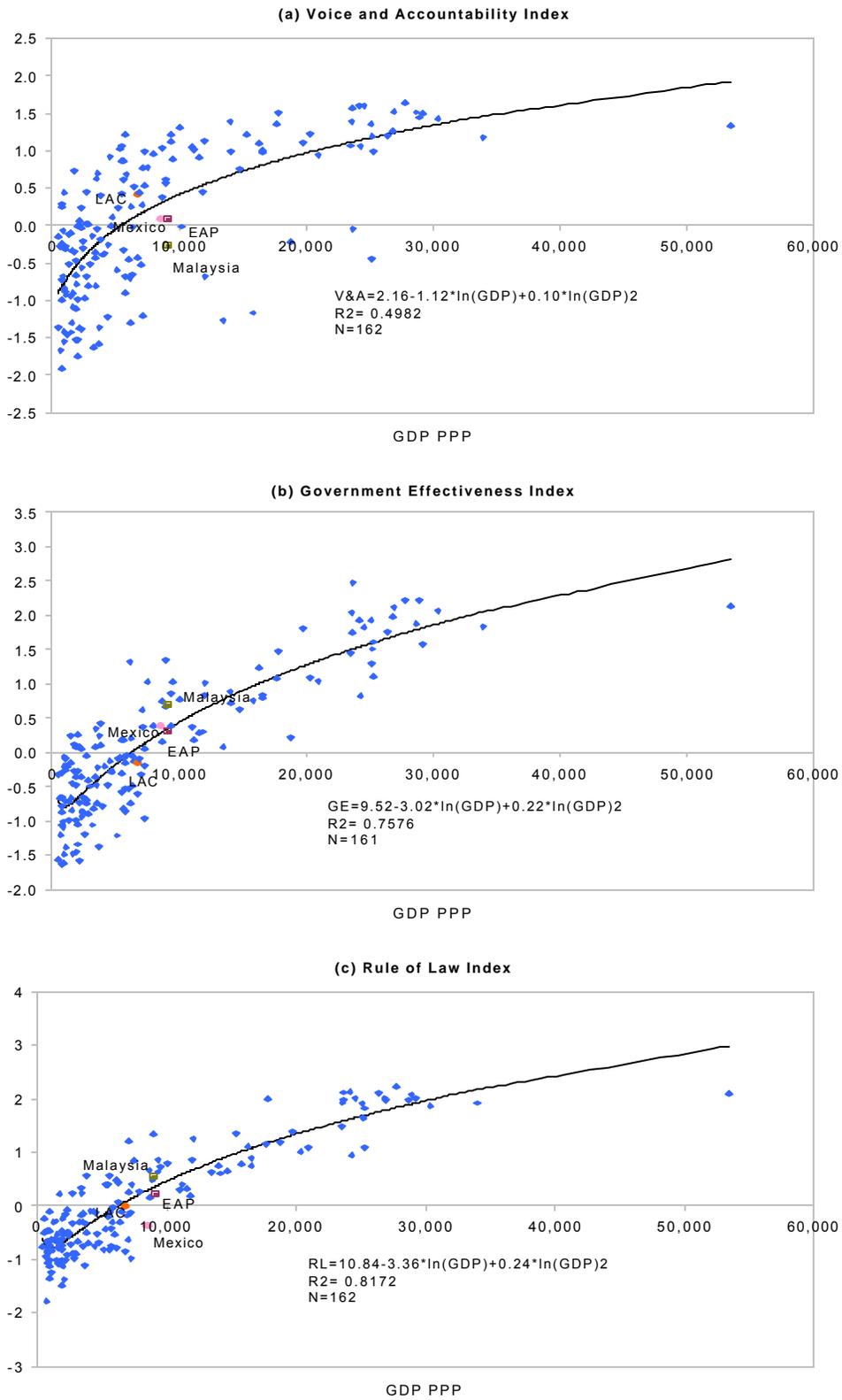
governance and accountability is now recognized to be a central determinant of the effectiveness of service delivery, especially for the poor, as also discussed in Chapter 1 (World Bank, 2003b). Some illustrations of the associations from cross-country work are shown below.

Relative to both its income level and the Latin American average, Mexico has low ratings for voice and accountability, the rule of law and corruption, but has average or slightly better ratings for its income (above the Latin American average) for government effectiveness and regulatory capabilities. Selected graphs of these results are shown in Figure 2.6. Malaysia's ratings are even worse than Mexico's on voice and accountability, but better on government effectiveness and rule of law. While we believe the international evidence supports the view that voice and accountability are important for better services for the poor and non-poor, this simple comparison provides a useful warning on a too simplistic perspective on these issues. Malaysia is a good example of an authoritarian developmental state, also typified by Korea and Taiwan, China in earlier stages of their development. For reasons that lie in social and political history, effective development states have been rare in Latin America. And with the (highly desirable) transition to democracy, this aspect of East Asian experience is not relevant, even if other aspects are.

The description of patterns has so far looked at trends and outcomes conditional on one country-level variable —mean incomes. We finally take a modest step toward a richer account of cross-country patterns by showing some results of multivariate regressions for health and education outcomes. These seek to calculate the partial associations between particular variables and the outcome, after controlling for the influence of other variables. The reader should be reminded that the patterns of influence in the real world are complex, and flow in many directions —coefficients and levels of significance on variables may be picking up such complex effects. The results are nevertheless suggestive.

For health we explored the impact of a variety of country level characteristics on child and infant mortality, following a formulation in Filmer and Pritchett (1999), including average incomes, health spending, female education, measures of social difference (income inequality and ethno-linguistic fractionalization), provision of water, urbanization, dummy for Muslim country and dummy for tropical country. In addition we explored the impact of a variety of governance variables, including those discussed above. For education, a similar approach was followed, using measures of years of education and secondary enrollment. Table 2.4 presents one illustrative result each for the child mortality and secondary education, which are representative of the results.

Figure 2.6 Relationship between income and measures of governance



Source: WB Staff estimates using WBI Governance and World Development Indicators.

Several patterns of association, or its lack, are notable in the results on child mortality. Higher incomes, greater voice and accountability and greater urbanization have highly significant negative associations with child mortality. These are robust across choice of different measures for governance. By contrast, health spending is never significant nor is water access or distance to the equator. Female education is sometimes negatively associated with mortality, but not robustly so. The Gini coefficient is never significant, while higher ethno-linguistic fractionalization is associated with worse mortality in some formulations. Dummies for region are significant, indicating that there are patterns of regional conditions not caught by the other variables. These should be interpreted as effects relative to Africa, which is the excluded regional variable (and also has the worse outcomes). Thus the Latin America effect, while positive for health outcomes relative to Africa, is worse than East Asia, Europe and Central Asia and the Middle East.

How should this be interpreted? This provides further support for the view that income interact with health outcomes, and also that there is stuff going on around the interactions with institutions, social arrangements or government effectiveness, captured in the governance variables. The positive influence of urbanization is likely to reflect both the greater density of service provision, and the large social and environmental changes associated with urban living. The absence of significance of health spending in the cross-section could be for a variety of reasons (Filmer and Pritchett, 1999). We highlight two. First, the factors that influence health are complex, including social behavior, environmental conditions, nutritional status, etc. Health spending is only one of these. In micro studies within countries female education and water and sanitation are typically significant influences, but the patterns of international variation do not capture this. Second, even within those channels of influence potentially influenced by health spending, there are many “links in the chain” between government spending and actual effects, including the distribution of spending across groups, interaction effects with private spending on health, and major variability in the actual front-line interaction between health provider and citizen (Filmer and Pritchett, 1999). The fact that overall institutional arrangements seem to be strongly associated with health status, but health spending is not, provides at least suggestive support for the emphasis on the complexity of causes of outcomes and a central role for formal and informal institutions in the frameworks presented in Chapter 1.

Mexico’s position within this analysis is illustrated by its residual, which is presented along with those of a few other countries of interest. This shows that Mexico’s level of child mortality was somewhat high, after controlling for all the other variables (including the “Latin America” effect). The same applies to Argentina and Brazil, while Chile, China, Korea, and Malaysia all have negative residuals, indicating “good” performance controlling for other factors.

For education, the results were less robust, possibly due to a much more restricted data set for public spending. In contrast to the health patterns, neither incomes nor indicators

of governance have a significant association with secondary enrollments (nor with years of education of the adult population). By contrast, public spending on education is generally significant, as are regional dummies. A sample of one equation is given in Table 2.4. It is perhaps noteworthy that now Mexico has a negative residual —indicating low levels of enrollment after controlling for all the other variables. While we should be careful not to over-interpret this result, it is at least suggestive of poor performance at this level (in contrast with the almost universal enrollments at primary level). This will be examined in more detail in future chapters.

Table 2.4. The relationships between mortality, education and economic and social variables

Regression results of an initial cross-country analysis

Dependent Variable	<i>log of child mortality</i>	<i>log of child mortality</i>	<i>net secondary enrollment</i>
Governance Index	<i>Constraints on the Executive</i>	<i>Voice and Accountability</i>	<i>Voice and Accountability</i>
log of gdp per capita, PPP	-0.51*	-0.47*	7.11
log of health expenditures as share of gdp	-0.03	-0.03	
log of education expenditures as share of gdp			12.39*
Female Education (ages 25 and over)	-0.04*	-0.02	1.18
Gini Index	0.00	0.00	-0.08
Muslim Country	0.30*	0.33*	14.15
Ethno linguistic Fractionalization Index	0.33*	0.36*	6.08
Share of Urban Population	-0.01*	-0.01*	0.27
Tropical Country	0.05	0.01	-10.98
Share of Population with Water Access	0.002*	-	-
Governance Index	-0.06*	-0.21*	1.22
North America	-0.55*	-0.59*	13.37
Western Europe	-0.79*	-0.82*	18.45
South Asia	-0.57*	-0.62*	30.19*
East Asia & Pacific	-0.78*	-0.79*	22.83*
Europe and Central Asia	-0.66*	-0.78*	20.65*
Middle East & North Africa	-0.64*	-0.76*	8.43*
Latin America & Caribbean	-0.29*	-0.39*	19.61*
Constant	8.98*	8.30*	-47.63
R ²	0.9166	0.913	0.8997
Observations	137	154	43
Residuals: Actual minus fitted			
Argentina	0.33	0.31	3.41
Brazil	0.36	0.44	3.29
Chile	-0.4	-0.4	2.28
China	0.02	-0.06	-
Korea	-0.38	-0.41	-1.35
Malaysia	-0.55	-0.62	-2.84
Mexico	0.21	0.18	-10.09

Note: * denotes significant at the ten percent level. All results are OLS; further work will explore robustness and instrumenting for probably endogenous independent variables.

C. CONCLUSION

Mexico has experienced considerable progress in many measurable dimensions of well-being over the past few decades. However, the progress is mixed across indicators: large and consistent in health, but with signs of a deceleration, in education, and more faltering with respect to incomes, in the wake of the economic crises of the 1980's and mid-1990's. These patterns are likely to have been broadly reflected in patterns of deprivation for poorer groups, with large gains in some areas, but a decidedly bumpy ride with respect to income poverty. High levels of inequality remain a major adverse influence on deprivation, as in much of Latin America, and were noted to be salient with respect to both income and education. Despite the substantial progress on human indicators, Mexico's position in an international context was at best average, conditional on its income level —reflecting the adverse historical legacy of poor human conditions that the country has been steadily tackling. Finally there is evidence of the importance of factors associated with governance, that are probably correlated with the depth of social incorporation, and appear to be strongly associated with indicators of well-being. This further supports the attention to issues of institutions as a determinant of the quality of life for poor and non-poor groups.

CHAPTER 3. THE STRUCTURE AND TRENDS IN DEPRIVATION

Chapter 2 reviewed Mexico's progress as a nation in increasing its indicators of well-being in comparison to the rest of Latin America and East Asia. This chapter examines in more detail the current structure of poverty in Mexico, and recent trends. As with other parts of the report, the main organizing principle is along the different dimensions of poverty or well-being. Section 1 looks at dimensions of poverty associated with human investment and assets, analyzing trends in education, health, and basic infrastructure. Section 2 examines income poverty and discusses the structure, correlates and trends in poverty from labor and non-labor income using official poverty lines. Section 3 presents some work on the nature of vulnerability in Mexico. Section 4 then examines Mexico's regional and ethnic differences in indicators of well-being across various dimensions, making use of disaggregated spatial maps of living conditions.

A. TRENDS IN EDUCATION, HEALTH AND BASIC INFRASTRUCTURES SERVICES

Overview

With respect to human investment—in education and health—and access to physical assets, there has been significant progress in Mexico, both over the past decade and in the period since 2000. It is particularly noteworthy that the progress occurred despite the major adverse effects on the economy of the 1994-95 crisis, which constituted a massive setback to income poverty, as will be seen in next section. Despite this progress in human and physical assets, major problems remain. These revolve in particular around questions of inequality and quality. Both education and health status, and access to social services, remain highly unequal. However, there has been a substantial improvement in the participation of the poorest income groups in lower-secondary education and health services for the uninsured, particularly in the 1998-2002 period. In terms of quality, there are still major problems that apply with particular force to poorer groups in the society, exacerbating differences in access. These are most clearly documented for education, but also appear to apply to health. Comparable considerations of unequal access, and low and variable quality apply to access to physical assets, including housing, electricity, water, and sanitation. Problems of low and unequal quality of services appear to have as much to do with institutional functioning and patterns of accountability as with resources.

Education

Education is central to incomes, citizenship, and the capacity to lead a fruitful and satisfying life. In 2000, Mexicans between the ages of 25 and 65 had, on average, over 7 years of education. This average hides major variations. Younger cohorts were much better educated than older ones, with 21-30 year-olds having an average over 9 years of education compared with just over 3 years for the over 60. There is also a steep gradient with respect to income, with 25-65 year-olds living in the top 10% of households having 12 years of education, compared with 3.2 for those in the bottom 10% (Table 3.1). This gap has not been narrowing over the past decade or so. Adults in indigenous households only had just over 2 years of education. While differences in education between men and women were historically significant, they have virtually disappeared for younger cohorts.¹ Parker and Pederzini (2002) find that “the overall gender gap in education in Mexico has diminished to the extent that there are no apparent gender differences in years of completed schooling for individuals under the age of 25” (p.24), although modest gaps remain in the rural sector.

Table 3.1 Steady progress but large gaps in schooling of Mexican adults

Years of education of 25-65 year-olds, by income decile

Decile	1984	1992	2000	2002
1	2.1	2.2	2.8	3.2
2	2.3	3.0	3.7	4.2
3	3.0	3.6	5.0	5.0
4	3.0	4.2	5.6	5.6
5	3.6	4.8	6.2	6.5
6	4.1	5.3	6.9	6.8
7	5.0	6.0	7.4	7.4
8	6.2	6.8	8.3	8.2
9	7.2	8.2	9.5	9.8
10	8.6	10.8	12.1	12.0

Source: WB staff calculations from ENIGH (1984, 1992, 2000, 2002).

The tremendous expansion of the Mexican education system during the past decades can be seen from the growth of gross enrollments, which increased from 1.4 million to 31.5 million students from 1930 to 2003. This has been associated with a large increase in public effort in the 1990's, with education expenditure rising from 4.9% of GDP in 1980 to 6.8% in 2003. The education system is now so extensive that there are over 229 thousand schools (including preschools) staffed with about 1.5 million teachers.

¹ All numbers come from the 2000 ENIGH, except for that for indigenous years of education, that are from the 2000 Census.

Mexico has achieved close to universal primary education and a rapid expansion of lower secondary education. In 2003, there were 14.8 million students attending primary education, up from 14.6 million in 1980: slow growth in numbers is because higher enrollment rates were offset by falling numbers of school-age children, reflecting Mexico's demographic transition. 92% of children are enrolled in public primary schools, with 5% of these in indigenous, bilingual schools and one percent in "community" primary schools, which are multi-grade schools in remote areas. Growth in gross enrollment has been particularly strong in indigenous schools, that increased from 589,000 to 854,000 students, and in community schools, that rose from 82,000 to 145,000 students. These patterns are also borne out by the 2000 Census that found a 93.5% primary net enrollment rate for 6-11 year-olds, up from around 88% in 1990. The number of schools and teachers has increased faster than the number of students. While this is (potentially) good for quality improvements, it has also yielded higher costs.

Rapid progress has been achieved in lower secondary schools. In 2003, 5.6 million students were enrolled in lower secondary, 92% of these in public lower-secondary education, compared to the 3 million in 1980. Progress in the last 13 years is illustrated by a rise of 38% in enrollment, a 42% increase in teachers, and a 60% increase in the number of schools.

There have also been large increases in enrollments in upper secondary and tertiary education, albeit from a much lower base. From 1990 to 2003, upper secondary enrollment increased by 70% and tertiary enrollment by 79%. In upper secondary, there are 68% more teachers and 91% more schools. In tertiary education, there are 84% more teachers, and educational establishments more than doubled.

Table 3.2 There has been major progress in educational indicators, but gaps and problems remain, especially at higher levels

	Dropout	Failure	Terminal Efficiency	Gross Enrollment (Thousands)
<i>1990-1991</i>				
Primary	4.6	10.1	70.1	14,401.6
Lower Secondary	8.8	26.5	73.9	4,190.2
Technical Upper Secondary	25.1	28.3	37.8	378.9
Upper Secondary	17.4	47.6	60.1	1,721.6
Tertiary	10.0	-	-	1,252.0
<i>1995-1996</i>				
Primary	3.1	7.8	80.0	14,623.4
Lower Secondary	8.8	23.7	75.8	4,687.3
Technical Upper Secondary	26.7	29.5	45.5	388.0
Upper Secondary	17.0	44.5	58.1	2,050.7
Tertiary	7.1	-	-	1,532.8

	Dropout	Failure	Terminal Efficiency	Gross Enrollment (Thousands)
<i>2002-2003</i>				
Primary	1.5	5.4	88.0	14,857.2
Lower Secondary	6.9	18.9	78.8	5,660.1
Technical Upper Secondary	23.0	22.8	50.5	359.2
Upper Secondary	15.1	39.2	61.6	2,936.1
Tertiary	7.9	-	-	2,236.8

Source: Anexo del Tercer Informe de Gobierno 2003.

Growth in primary total enrollments has been accompanied by progress in terminal efficiency (the ratio of the number of children completing sixth grade to new enrollments in first grade 6 years earlier) and repetition rates, with a 20 percentage-point gain in the last 13 years, from 70% in 1990 to 90% in 2003, due to reduction in both repetition and dropout rates. However, terminal efficiency rates in lower secondary have not improved beyond 80% and the average estimated dropout rate is 6.9% in 2002–03 (Table 3.2). Upper secondary terminal efficiency, dropout and failure rates² have not significantly improved, especially for technical schooling. This later result is particularly important since technical/technological schooling comprises 40% of the total upper secondary enrollment.

Which groups have benefited from the expansion in enrollments? Table 3.3 shows net enrollment rates by poverty status, educational level, and geographic area. There are quite modest gradients between the extreme poor, moderate poor and non-poor for primary education, reflecting the high overall enrollment rate. However, the difference of net enrollments in relation to income rises with higher levels of education and becomes very steep for upper secondary and tertiary education. Rural-urban differences also become more pronounced. For example, amongst 18-24 year-olds, almost 30% living in urban non-poor households attended university, compared to almost none amongst those living in rural extreme poor households.

² Following the Ministry of Education's (SEP) definitions, terminal efficiency indicates the share of students that finish a given course on time, dropout is the proportion of students that do not continue into the next level of schooling, and failure is the proportion of students that fail/ do not pass the school year.

Table 3.3 Enrollment rates are much lower for poorer groups at higher levels of education

Enrollment rates by poverty status, location and education Level, 2002

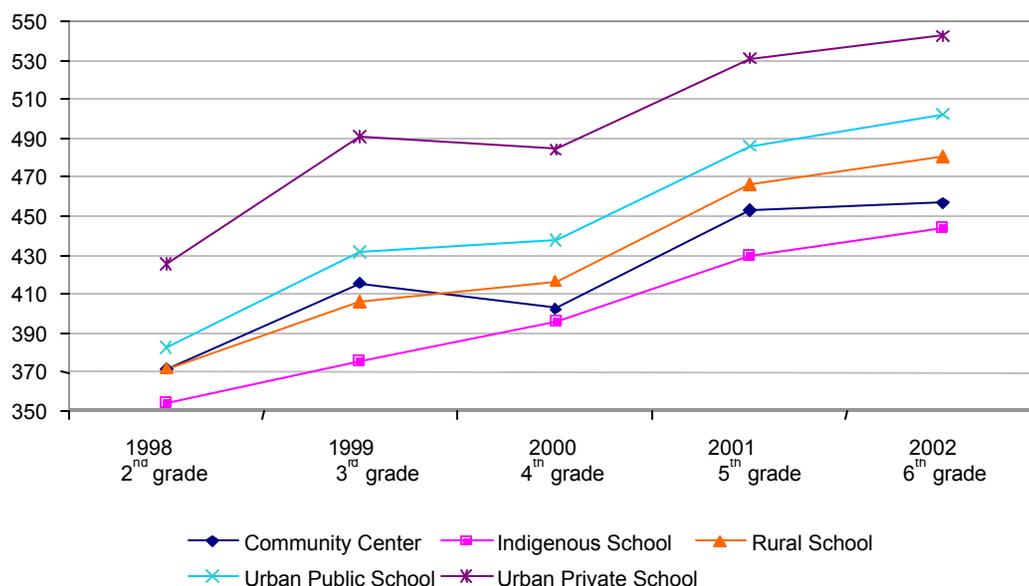
Poverty Status	Urban	Rural	National	Urban	Rural	National
	<i>Primary (6-11)</i>			<i>Lower Secondary (12-14)</i>		
Extreme	87.8	88.1	88.0	54.3	55.0	54.6
Moderate	90.4	90.3	90.3	65.7	55.9	61.9
Non-poor	94.7	93.3	94.4	83.3	73.8	81.8
Total	92.2	90.9	91.8	73.8	59.4	69.6
	<i>Upper Secondary (15-17)</i>			<i>University (18-24)</i>		
Extreme	32.5	16.3	24.0	5.0	0.1	2.8
Moderate	40.8	22.0	34.0	10.2	1.1	7.4
Non-poor	63.8	37.8	59.3	28.5	6.0	25.6
Total	52.3	26.3	45.0	21.6	2.9	17.7

Note: Poverty calculated using SEDESOL's food- and assets-based poverty lines and current income per capita using trimester income as reported by INEGI. Urban areas are those localities with 2,500 inhabitants or more, using INEGI's classification.

Source: WB staff calculations from ENIGH 2002.

Evidence on low and variable quality comes both from international and national testing. Chapter 2 discusses the Program for International Student Assessment (**PISA**) results. The Ministry of Public Education (SEP) also collects data based on national test, collected from all primary and lower secondary schools for the purpose of assessing the skills of their students over time. There is only modest variation in average test scores by geographic region, despite much larger regional income differences. There are larger differences across category of schools, with urban private schools scoring significantly higher and indigenous schools scoring worst of all categories. Evidence from following a cohort of average results from schools shows that there is learning over time for all schools, with neither strong divergence nor convergence (Figure 3.1).

Figure 3.1 There have been steady gains in test scores across all school types
Estándares Nacionales global test scores



Source: WB staff estimates using *Estándares Nacionales*, SEP.

Using a data set from SEP, López-Acevedo (1999) analyzed inequality in learning achievement focusing on differences among individual children. This data set, which covers Mexico's five poorest states, was collected for the purpose of monitoring and evaluating a compensatory education program (**PARE**). Estimates of the standard deviations for the full sample and the various types of schools covered showed that the dispersion of test scores in Language and Mathematics is large, which seems consistent with the **PISA** results in Chapter 2.³ Moreover, some groups of children were clearly lagging way behind others in learning achievement. As with school participation, these children come disproportionately from poor, rural, and indigenous families.

Health

Mexico's many achievements in the health sector over the past decades have led to significant improvements in the health status of the population, a broadening of access to basic services, and growing public support for important public health measures. Rising prosperity has brought an increase in life expectancy, reductions in infant mortality, and a decline in the death rate (Figure 3.2). Infant mortality decreased from 50.9 in 1980 to 20.5 in 2003⁴, immunization among children has become nearly universal

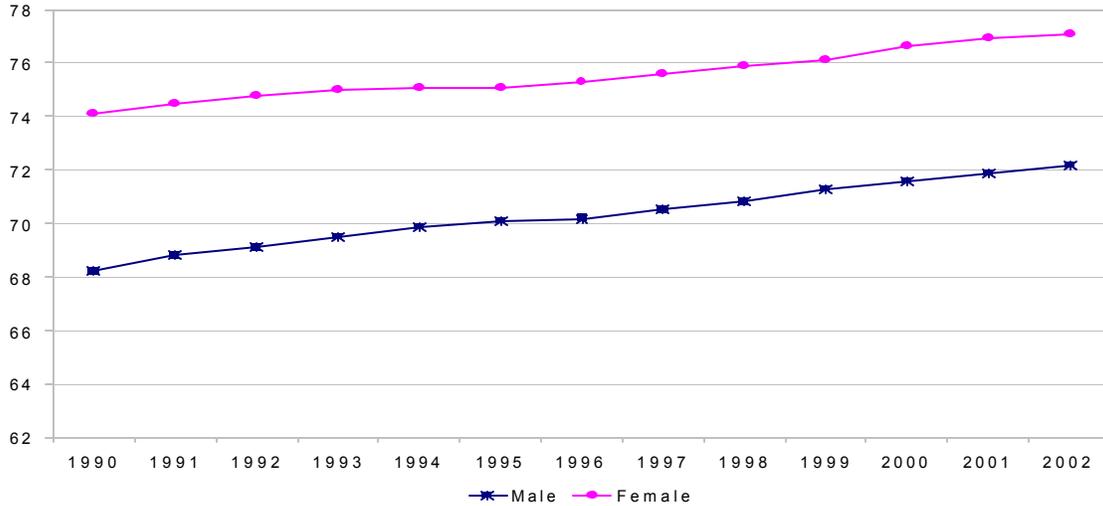
³ The **PISA** results find significant variation, but less than in other countries such as Argentina.

⁴ Salud: México 2002. Infant mortality is the proportion of deaths under one age per thousand live births.

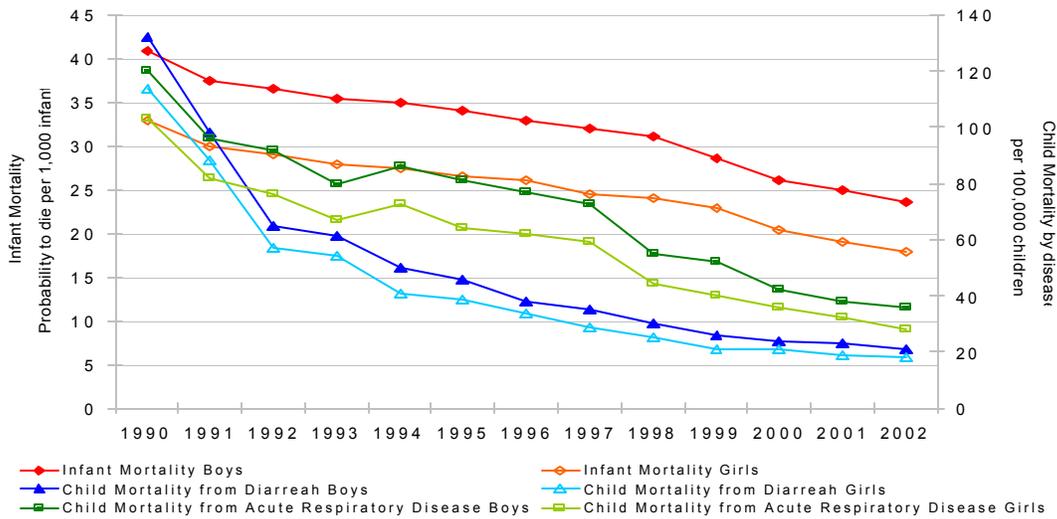
(97.7) and gains have been achieved in maternal mortality —from 15.6 in 1980 to 7.3 in 2003. Life expectancy has increased from 66.8 years in 1980 to 74.9 years in 2003.

Figure 3.2 There have been large improvements in health indicators, including those related to diseases of the poor

a) Life Expectancy



b) Infant Mortality



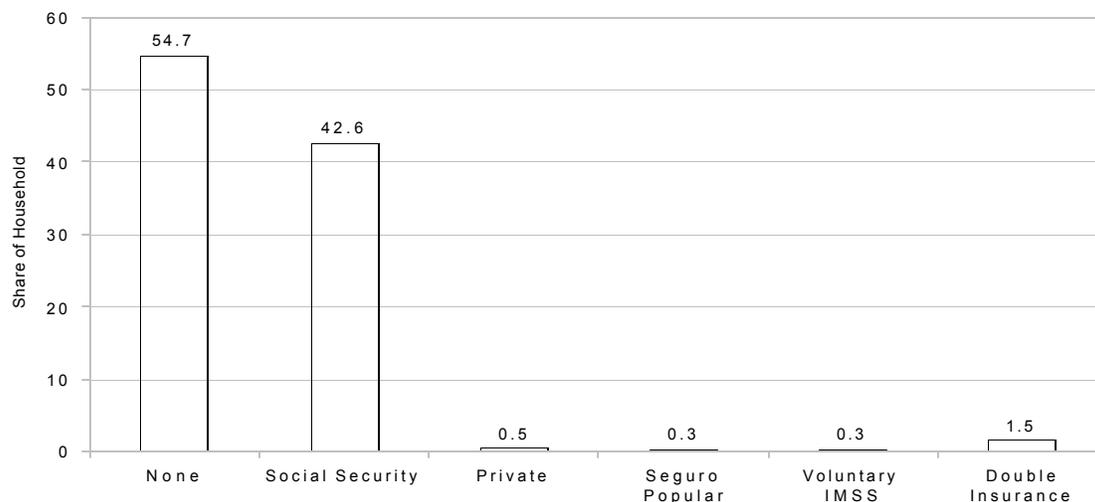
Source: Salud: México 2002.

Over the last decade, the mortality rate for children under age 5 fell around 20%, and mortality from diarrhea and pneumonia fell by more than 70% (Figure 3.2). These diseases are more prevalent among the poor rural population. Vaccine-preventable diseases have declined drastically, with no cases of polio since 1990 or diphtheria since

1980. There is not data on health status in the ENIGH survey, so there is not directly comparable information on how health varies with income category.⁵

Despite substantial progress in basic health indicators, that appears to be partly due to centralized programs, the health system has many weaknesses from the perspective of poverty reduction. Coverage of the formal insurance system remains limited, especially for the poor. It appears to be particularly inequitable in the quality of provisioning for catastrophic health risks. Much of the population remains without access to social security. Households with workers engaged in the formal labor market benefit from health insurance through either IMSS or ISSSTE. The share of households with at least one rights holder member in the social security system is almost 50% and has remained constant since 1992. Figure 3.3 shows household insurance by institution. According to SSA (Salud: México 2002), the majority of households are uninsured. While in principle covered by the SSA's health services, only 15% of the uninsured population who used any services made use of the public system.⁶

Figure 3.3 Household Insurance by Institution



Source: Salud: México 2002

For the poor living in rural areas, poor states, and marginal urban areas, access to basic care remains limited and of low quality. As a result the children of women living in extreme poverty are 2.5 times more likely to die before the age of one than the children of women who are not poor (World Bank, 2003c). Children mortality rates from

⁵ The *Encuesta Nacional de Salud* (ENSA) has a much simpler, and less reliable income question: preliminary analysis finds implausibly small differences across income categories. They are not quoted here, since this will require further analysis.

⁶ Private health services account for almost 60 of expenditures of those households reporting any health expenditure in the ENIGH 2002.

infectious diseases are over three times the national average in Chiapas⁷, and 2.5 times in Oaxaca. Health inequalities are also manifest in the adult population. For example, Chiapas, Oaxaca, and Guerrero (COG)'s health outcome indicators continue to lag behind the national average. They are at the bottom of the list of states ranked by life expectancy at birth and disability-free life expectancy at birth, though differences seem quite small relative to income differences (Table 3.4). However, the gap in life expectancy between the national average and each of the COG states has not been significantly narrowed down (World Bank, 2003c).

Table 3.4 Comparative Health Outcome Indicators: Chiapas, Oaxaca, and Guerrero versus National

	Life expectancy at birth: 2000 (years)		Disability-free life expectancy at birth: 1998 (years)	
	Male	Female	Male	Female
National	71.5	76.5	61.1	66.9
Chiapas	69.6	75.0	56.7	62.3
Oaxaca	69.9	75.2	56.6	63.3
Guerrero	69.9	75.3	55.2	65.7
Highest-Lowest (not COG)	75.1-71.7	79.4-76.3	63-1-58.7	66.8-63.3

Source: México Plan Nacional de Salud 2001-2006.

Despite some recent improvements in medical access and technology, the quality of basic health services continues to be low. A study by Bobadilla (1998) found that a baby born in an SSA hospital was three times more likely to die in its first seven days of life than a baby of the same weight born in an IMSS hospital. While it is possible that the SSA-attended children are predisposed to higher levels of illness, it is clear that the overall quality of the two systems varies considerably with regards to obtaining satisfactory outcomes.

Dissatisfaction is shown through consumer behavior. In 2000, the National Medical Arbitration Commission (CONAMED) received nearly 774 official complaints regarding the quality of care. Many of these complaints dealt with ISSSTE, that could reflect the greater likelihood of complaining of better off households, rather than differences in quality. However, dissatisfaction is common among public institutions. World Bank (2001c) reports that in 1994 59% of Mexicans thought that the current system “has some positive aspects but requires fundamental changes”. Half of the users of SSA services were dissatisfied. Their principal reasons were (a) poor service; (b) lack of resources such as drugs and well-trained personnel; (c) lack of access; and (d) high costs. In addition, the survey revealed that quality issues were not limited to the lack of resources, personnel, and technical problems —40% of patients felt they were not treated

⁷ Section 3.4 analyzes regional differences in basic social indicators.

adequately, 61% considered services too bureaucratic, and 8% did not receive medical treatment when needed. Surveys carried out in 1999 by SSA showed that only 18 out of the 36 essential drugs were available in surveyed urban and rural clinics. Basic drugs were lacking in more than 50% of the SSA units (Gomez-Dantes, 1999). According to the National Survey of Performance (ENED, 2002), there are substantial delays in getting medical attention in public institutions such as IMSS and ISSSTE. The ENSA 2000 reported that 82.8% of the population perceived that the service provided was either good or very good. The Red Cross and private hospitals had the highest rating, whereas IMSS and Federal District Department (DDF) had the lowest.

Housing and Infrastructure

Over the past decade, there have been major improvements in access to electricity, improved water source and sanitation, particularly in rural areas (Table 3.5). However, in 2002, 10% of all households in Mexico did not have access to an improved water source and 19.1% did not have any kind of sewerage.

Table 3.5 Many basic infrastructure services are reaching the bulk of the population

Housing indicators: electricity, water, floor and sanitation, 1992-2002

		National			Urban			Rural		
		1992	1994	2002	1992	1994	2002	1992	1994	2002
Electricity	Yes	92.4	95.0	98.0	98.5	99.3	99.5	76.2	83.5	93.5
	No	7.6	5.0	2.0	1.5	0.7	0.5	23.8	16.5	6.5
Water	Improved water source	80.7	84.7	89.9	92.2	95.6	96.2	50.3	55.8	70.6
	Non-improved water source	19.3	15.3	10.1	7.8	4.4	3.8	49.7	44.2	29.4
Floor	Slab or finished floor	26.4	30.5	34.0	34.1	39.0	42.8	5.8	7.9	7.4
	Cement	55.1	54.5	55.4	57.6	54.3	53.1	48.4	55.0	62.3
	Dirt floor	18.5	15.0	10.6	8.2	6.8	4.1	45.8	37.1	30.3
Sewerage	Improved sewerage	65.4	69.8	77.0	81.6	86.0	91.1	22.5	26.2	34.2
	Non-improved sewerage	6.0	2.4	3.9	4.0	1.6	1.9	11.3	4.3	9.8
	No sewerage	28.6	27.9	19.1	14.4	12.4	7.0	66.2	69.4	56.0

Source: WB staff estimation using ENIGH surveys.

The expansion of basic infrastructure services has included the poor. This is particularly notable for the gains in water and electricity for the extreme poor in rural areas. Progress in sanitation has improved much less for this group, by contrast (Table 3.6).

Despite this progress, there continue to be gaps in basic housing services for both the rural and urban extreme poor. In 2002, *in rural areas*, 53% of the extreme poor (those living below the food poverty line) lived in houses with a dirt floor and 11% lacked

access to electricity. In 2002, in urban areas 18% of the extreme poor had dirt floor and 2.6 did not have access to electricity.

Table 3.6 There has been large progress in access to water and electricity amongst the rural extreme poor, but not in sanitation

Housing characteristics amongst the extreme poor and non-poor, Rural

		Extreme Poor		Non-Poor	
		1992	2002	1992	2002
Electricity	Yes	63.4	89.5	88.1	97.7
	No	36.6	10.5	11.9	2.3
Water	Improved water source	38.4	57.5	64.7	86.0
	Non-improved water source	61.6	42.5	35.3	14.0
Floor	Slab or finished floor	2.4	1.6	11.9	18.4
	Cement	33.7	45.5	67.4	72.4
	Dirt Floor	63.9	52.9	20.7	9.3
Sewerage	Improved sewerage	12.8	13.9	37.8	59.9
	Non-improved sewerage	9.0	11.4	15.3	8.9
	No sewerage	78.2	74.7	47.0	31.2

Note: The extreme poor are those under the food poverty line and the non-poor are those above the assets poverty line.

Source: WB staff estimation using ENIGH1992 and 2002.

Another source of information, the *Encuesta Nacional de Características Socioeconómicas de los Hogares* (ENCASEH, 1997), also indicates that rural and marginalized communities in Mexico continues to lack access to a wide range of basic services (Table 3.7). In the group made up of the smallest communities with less than 20 households, only 40% of the locations have electricity. Forty percent of the smallest villages still do not have a primary school. Sewerage, public phones, and post offices are virtually nonexistent. Mobile health units serve a majority of the smallest towns, but 30% are not served. Access to services improves with the size of the community, especially for schooling, but even in the larger communities there are gaps, for example, in health care.

Table 3.7 Marginalized rural communities have low access to public services

Percent of households without access by service

	<i>Community Size</i>		
	<i>(Number of Households)</i>		
	<i>Up to 20</i>	<i>21 to 60</i>	<i>61 or more</i>
Electricity	59	40	20
Sewerage	90	87	84
Public phone	97	90	52
Post office	98	98	95
Preschool	68	28	6
Primary school	40	13	2
Telesecondary school	99	95	69
Secondary school	100	100	95
SSA clinic	98	93	76
IMSS– <i>Solidaridad</i>	100	98	90
Local health auxiliaries	72	47	41
Health mobile unit	30	25	25

Source: ENCASEH.

B. THE STRUCTURE, CORRELATES AND TRENDS IN INCOME POVERTY

Overview

Income poverty remains both broad and deep in 2002, according to official definitions of poverty, with a fifth of the population living in extreme poverty and half in moderate poverty. This reflects high levels of inequality, with the bottom 20% of the population receiving just over 3% of total income, while the top 10% receives over 40 percent⁸. While there is considerable heterogeneity amongst the poor, the extreme poor (those living below the food-based poverty line) are more likely to live in rural households in which the breadwinner's main occupation is agriculture (on small farms or as laborers), and have primary education or less. Indigenous groups suffer disproportionately from extreme poverty—an issue taken up in the last section of the chapter. The relatively small proportion of extreme poor who live in urban areas—especially in the medium or smaller cities and towns—also typically have low education and are most likely to depend on informal wage work. Those who live in moderate poverty (between the food-based poverty line and one that allows for acquisition of basic assets) are more likely to

⁸ This is calculated from the ENIGH, the household income and spending survey. This is probably particularly weak at capturing capital incomes, which are typically more unequally distributed. The true distribution may be even more unequal.

be urban, with primary education and depend on informal wage work, though a significant portion of formal workers in unskilled work also live below the poverty line.

The persistence of high levels of income poverty reflects both the continued extreme income inequality in Mexico, and slow growth in average incomes over the past two decades. In the past decade this was largely due to the massive setback for poverty caused by the 1994-96 crisis, which led to sharp increases in moderate and extreme poverty in both rural and urban areas. Mexico has only recently brought poverty levels down below the levels prevailing in the early 1990s. The results of the 2002 household survey (ENIGH, 2002) suggest a significant reduction in extreme poverty since 2000 despite stagnant overall growth. This is attributable to an apparent surge in income growth in rural areas, and equalizing patterns of income growth in urban areas, where poorer groups experienced steady growth, while richer groups suffered income declines. While questionnaires changed in 2002, review of different sources and robustness tests undertaken for this report supports the view that the surveys are sufficiently comparable to draw conclusions, and that reductions in extreme poverty were statistically significant. This was associated with rapid wage increases for the low-paid and, for rural areas, large gains from remittances and transfers. This is broadly in line with the conclusions of the Technical Committee on Poverty Measurement.

The Structure of Income Poverty

As with non-monetary poverty indicators, monetary extreme poverty is especially severe in rural areas, where some 35% of individuals live in households with less than the food-based poverty line, compared with 11% in urban areas. Around 65% of the extreme poor live in rural areas⁹. It is disproportionately a feature of households whose heads main job is in the agricultural sector, whether as a self-employed farmer or rural laborer, and has at most primary education. In urban areas, extreme poverty is associated with household heads working in agriculture, manufacturing, construction and services; and also with low levels of education. The composition of the poor is summarized in Tables 3.8 and 3.9. It is useful to compare the characteristics of the extreme poor with those of the moderate poor, treating people who have incomes between the food-based and assets-based lines as falling in the latter group. These are somewhat arbitrary categories, since there is a continuum of welfare levels across poverty lines, and heterogeneity within groups. However, the typical characteristics have a useful illustrative value.

⁹ Table 1 in Box 1.1 shows the SEDESOL official poverty lines, which are also in Table A.3.4 in the Annex.

Table 3.8 The Composition of the Extreme Poor in 1992 and 2002 by Household Head Characteristics

	1992			2002		
	<i>National</i>	<i>Urban</i>	<i>Rural</i>	<i>National</i>	<i>Urban</i>	<i>Rural</i>
Proportion of extreme poor in the population	22.4	13.3	35.6	20.3	11.4	34.8
Rural-urban composition ¹⁰	100.0	35.0	65.0	100.0	35.0	65.0
Profile by education						
No Education—Primary Incomplete	74.3	58.2	82.9	65.3	51.3	72.9
Primary Complete	20.8	32.8	14.4	23.2	27.0	21.1
Lower Secondary Complete	4.2	7.1	2.7	9.5	17.6	5.2
Upper Secondary Complete	0.7	1.8	0.1	1.6	3.3	0.7
University Complete	0.0	0.0	0.0	0.4	0.8	0.2
Total	100.0	100.0	100.0	100.0	100.0	100.0
Profile by employment						
Agricultural Laborer	22.7	6.5	31.2	24.3	10.1	31.0
Non-agricultural Laborer	35.3	64.3	20.1	29.6	55.9	17.0
Employer (under 5 employees)	4.3	2.8	5.0	2.5	1.5	3.0
Employer (5 or + employees)	0.8	0.2	1.1	0.3	0.0	0.4
Self-Employed	36.0	24.2	42.2	42.9	32.1	48.0
Non-remunerated workers	0.9	2.0	0.4	0.5	0.3	0.5
Total	100.0	100.0	100.0	100.0	100.0	100.0
Profile by sector of activity						
Agriculture	49.6	11.7	69.1	52.7	12.7	71.7
Extraction	1.5	3.1	0.6	0.1	0.1	0.1
Manufacturing	11.8	24.0	5.4	8.6	17.4	4.4
Utilities	0.0	0.0	0.0	0.1	0.3	0.1
Construction	13.3	21.3	9.1	12.4	17.6	10.0
Commerce	7.9	11.3	6.2	8.8	17.7	4.6
Transportation	2.4	4.5	1.3	3.6	7.9	1.5
Financial Services	0.1	0.3	0.0	0.2	0.2	0.2
Services	13.6	23.9	8.2	13.5	26.1	7.5
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: WB staff estimates using ENIGH 1992, 2002. Following SEDESOL's urban/rural definition and the official poverty measurement.

¹⁰ The 1992 and 2002 figures are not equal, but are the same when rounded to one decimal place.

**Table 3.9 The Composition of the Moderate Poor by Household Head Characteristics
(Excluding the Extreme Poor) in 1992 and 2002**

	1992			2002		
	<i>National</i>	<i>Urban</i>	<i>Rural</i>	<i>National</i>	<i>Urban</i>	<i>Rural</i>
Proportion of moderate poor in the population	30.1	30.6	29.4	31.4	30.6	32.7
Rural-urban composition	100.0	60.0	40.0	100.0	60.6	39.4
Profile by education						
No Education—Primary Incomplete	57.3	42.3	79.9	44.7	33.3	62.2
Primary Complete	27.5	35.3	15.8	27.8	30.1	24.1
Lower Secondary Complete	11.5	16.7	3.7	21.1	27.1	11.9
Upper Secondary Complete	3.0	4.5	0.7	5.5	8.1	1.5
University Complete	0.8	1.3	0.0	1.0	1.4	0.3
Total	100.0	100.0	100.0	100.0	100.0	100.0
Profile by employment						
Agricultural Laborer	8.5	1.4	18.8	9.3	1.8	21.0
Non-agricultural Laborer	59.5	75.5	36.5	57.3	69.7	37.8
Employer (under 5 employees)	4.5	3.4	6.2	3.4	3.2	3.8
Employer (5 or + employees)	0.9	0.1	2.2	0.1	0.1	0.1
Self-Employed	26.4	19.6	36.3	29.3	24.7	36.6
Non-remunerated workers	0.1	0.2	0.1	0.6	0.5	0.7
Total	100.0	100.0	100.0	100.0	100.0	100.0
Profile by sector of activity						
Agriculture	23.2	2.4	52.5	20.4	3.3	47.2
Extraction	0.5	0.3	0.7	0.5	0.3	0.9
Manufacturing	17.0	20.8	11.6	15.9	18.7	11.6
Utilities	0.6	0.9	0.4	0.5	0.8	0.1
Construction	13.1	14.3	11.4	13.4	13.7	13.0
Commerce	14.8	18.8	9.1	16.5	22.6	6.9
Transportation	4.2	6.6	0.7	7.3	8.3	5.8
Financial Services	0.1	0.1	0.0	0.6	0.9	0.0
Services	26.5	35.7	13.5	24.8	31.4	14.5
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: WB staff estimates using ENIGH 1992, 2002. Following SEDESOL's urban/rural definition and the official poverty measurement.

While the broad pattern of extreme poverty is similar in 2002 to the situation ten years earlier, there has been a notable rise in the educational status of household heads living in poverty and in extreme poverty —education failed to pay off in higher incomes because the lack of expansion in earnings opportunities. There was a slight urbanization of extreme poverty and an increase in the concentration of such poverty amongst the self-employed. With respect to sector of activity, the composition of extreme poverty has

remained unchanged in the last decade. Table 3.9 shows that the extreme poor rural-urban composition has not changed in the last ten years, 35% live in urban areas and 65% in rural areas. The moderate poor are much more urbanized: 61% live in urban areas and 39% in rural areas. Compared with the extreme poor, the moderate poor are more educated, more likely to be in non-agricultural work (notably services, manufacturing, construction, and commerce), and more likely to be urban workers. There has been an increase in the proportion of moderate poor in rural areas in the last decade, reflecting a more rapid transition from extreme into moderate poverty, than out of moderate poverty.

“Determinants” analysis 2002-demographic, education, and sector

Tabulations of the incidence of poverty among various household categories do not take into account the correlations between the household’s characteristics. To assess the impact of various characteristics on the probability of being poor, probit models were estimated nationally (Table A.3.1). These results clearly show that education is associated with a lower probability of being poor after controlling for other factors. In terms of household head education, completed primary education is associated with a 31% lower probability of being poor, and lower secondary education a 34% lower probability, compared with households whose heads did not complete primary education. This is a statistical analysis of conditional probabilities, that does not imply causation: indeed there are likely to be two-way directions of causation, with lower education reducing earnings and lower income reducing the capacity to invest in education.

In a similar spirit to the analysis of the probability of being poor, regressions were also estimated to analyze the marginal contribution to income of household characteristics and location. The results of such regressions are provided in Table A.3.2, and give the marginal percentage gains in per capita income associated with various characteristics and location, after controlling for all other characteristics. The following summarizes key results (all are significant at the 5% confidence level).

Demographics: the larger the family, the lower the level of per capita income and consumption; however, the extent of this effect is highly sensitive to assumptions over equivalence scales across the needs of different household members and economies of scale. There is also a nonlinear relationship between the age of the household head and per capita income with households where older heads enjoy higher income.

Gender: there is evidence that households with female heads have slightly lower per capita income levels than households with a male head (holding the number of adults constant).

Access to social security: households with access to public social security have 22% higher per capita income levels than households without access to public social security, reflecting the fact that this is associated with higher-paying jobs.

Education: the gains from education are large and have increased over time for heads and for spouses. Households with a head who has completed secondary education have an income close to 43% higher than a household with a head who does not have any education —after controlling for other factors. The gain from some form of higher education is twice as large.

Employment: having a head employed outside agriculture improves the household's living standards for most industrial sectors, relative to being employed in the agricultural sector. This evidence, however, is less clear for younger workers. Agricultural workers and self-employed individuals fare less well than do other workers and employees, while business owners fare better.

Location: households in urban areas have an average 20% higher per capita income compared to those in rural areas (after controlling for all other observable factors —this is explored further below).

Indigenous populations: the regression results in Table A.3.2 are based on data from the ENIGH surveys, which do not have information on indigenous peoples. Results obtained using the Census 2000 indicate that being indigenous reduces per capita income by 15% in rural areas and has no significant impact in urban areas after controlling for other factors.

Explaining Rural-Urban per capita differences

In light of the salience of rural-urban per capita difference a particular focus was on analyzing the contribution of households characteristics to this difference. Such differences in income may come from differences in characteristics (say, a lower level of education for the household head and the spouse in rural areas) or from differences in the returns to characteristic (say, a lower impact of education on earnings and thereby a lower per capita income in rural areas). In some cases, the differences in characteristics and in the returns to characteristics reinforce each other, but in other cases they partially offset each other. This was analyzed using the Oaxaca-Blinder decomposition of the income gap between assets and returns (Blinder 1973 and Oaxaca 1973).

Box 3.1 Using the Oaxaca-Blinder Method for Rural-Urban Decompositions

Regressions are estimated for both urban and rural areas:

$$\log(Y_U) = \mathbf{b}_U \cdot X_U + \mathbf{e}_U \quad (1)$$

$$\log(Y_R) = \mathbf{b}_R \cdot X_R + \mathbf{e}_R \quad (2)$$

Where Y_U is the income per capita in rural areas, \mathbf{b}_U represents the regression coefficients in rural areas, X_U represents the vectors of independent variables. \mathbf{e}_U is the error term. By simple algebra we come to equation (3):

$$\log(Y_U) - \log(Y_R) = \mathbf{b}_U \cdot (X_U - X_R) + (\mathbf{b}_U - \mathbf{b}_R) \cdot X_R + \mathbf{e}_U - \mathbf{e}_R \quad (3)$$

The first term on the right hand side of the equation is interpreted as the share of the difference in income due to difference in “assets” or characteristics. The second term represents the shares of the difference in income due to differences in the marginal influence of the assets/characteristics on household income. In some cases this can be interpreted as differences in a “return” in the market, for example in wage rates. In other cases (such as the number of children), they may reflect more complex influences on household incomes.

The shares of the difference in per capita income due to characteristics and returns are given in Table 3.10.

Table 3.10 Decomposition of Rural-Urban Differences in per Capita Income

	Share of difference in per capita income due to:		Total Difference
	Assets	Returns	
Total infants and children characteristics	8.2	-4.7	3.5
Total adults demographic characteristics	-0.8	14.7	13.9
Total education of adults	33.4	1.4	34.7
Total employment characteristics	30.5	18.0	48.5
Total			100.0

Notes: Infants and children characteristics: are number and number squared of children and infants. Adult characteristics: number of adults, the age of the household head, if the head is a female, if there is no spouse in the household and the employment and underemployment conditions of the household head and spouse. Education: education levels of the household head and the spouse. Employment characteristics: sector of activity and position of employment in the firm by head and spouse. These results are obtained from determinants of income regressions in the rural and urban areas.

Source: WB Staff estimates using ENIGH, 2002. Current income per capita as reported by INEGI.

Differences in numbers of children explain very little of the rural-urban difference, despite higher family sizes (on average rural families have 1.8 children while urban families have 1.3.). This would probably decline further if allowance were made for equivalence scales and economies of scale (see above).

Differences in the demographic characteristics of the adults and in their labor force participation account for 14% the difference in per capita income between rural and urban areas entirely due to differences in returns. This appears to be due to a number of effects: households without spouses have lower per capita income; and adult underemployment rates are higher in rural areas, rural household heads are older on average.

The education of the household head and their spouse accounts for 35% rural-urban differences, almost entirely due to differences in educational endowments rather than differences in returns. Additionally, the returns to the education of the household head tend to be larger in urban areas, possibly because they reflect the relative scarcity of well-educated labor.

Finally, almost 50% of the difference is due to employment characteristics of the household head and their spouse, with important “asset” effects (a higher proportion in jobs of a worse category) and return effects (lower returns to jobs in the same sector.) This is due primarily to the higher proportion of employment in agriculture and in small firms in rural areas as well as lower productivity in these activities. For example, a household with a head employed in manufacturing in urban areas has an expected level of per capita income 30% higher than an otherwise similar household with a head working in agriculture. This is consistent with the lower return to individual characteristics—especially education—in rural areas.

Trends in income and spending poverty

As noted above, poverty trends suggest a pattern of slow long-run progress in the reduction of income poverty, overlaid with the dramatic impact of 1994-95 macroeconomic crisis.¹¹ The evolution of poverty mirrors Mexico’s macroeconomic performance well, except for the period 2000-2002. It is interesting to note that although the proportion of poor individuals fell between 1996 and 1998, the depth and severity of poverty increased, indicating that the poorest individuals did not benefit initially from the economic expansion in this period (see Table A.3.3 for the information on the series for the poverty gap and poverty gap squared). However, significant gains in terms of the depth and severity of poverty are observed since 1998. The ENIGH 2002 results suggest a statistically significant reduction in extreme poverty since 2000 for the rural and national level, despite stagnant overall income growth. We now turn to examine these trends with particular attention to the recent period.

¹¹ Mexico’s economy recovered quickly from the peso crisis and from 1996 to 2000 average growth was higher than 5 percent per year. However, Mexico’s economic performance faltered again in 2001 as a consequence of the United States economic recession. In 2002, Mexico’s economy was basically stagnated even though some sectors, like commercial agriculture, grew importantly from 2000 to 2002.

We should note that there have been questions raised in public debate in Mexico as to whether the recent changes are (partly) due to measurement issues. The ENIGH survey was changed between 2000 and 2002, with amongst other changes, more detailed income questions. This could theoretically have led to changes in the degree of under-reporting of incomes. The CTPM has recently reported that they judge the surveys to be comparable with the improvements in 2002 providing greater precision to the estimates (*Comunicado 3*, CTPM). However, for some specific categories of income (notably some transfers), there may not be comparability. This report concurs with this assessment.

Box 3.2: Poverty trends in 2000-2002

From 2000 to 2002, real GDP per capita income decreased by 1.8%. In this context, many observers expected poverty to increase assuming no change in inequality. However, analysis of the household survey by SEDESOL that largely followed the CTPM methodology found that poverty decreased, particularly respect to extreme poverty.

At the same time, the ENIGH 2002 experienced significant changes that could, theoretically, have affected the comparability with earlier rounds of the ENIGH, including that of 2000. The major changes of relevance were as follows. First, the ENIGH 2002 questionnaire included more questions on both incomes and expenditures compared to the ENIGH 2000. Second, the poor were over-represented in the ENIGH 2002 sampling design.

In December 2003, after an initial statistical evaluation, the CTPM (2004) concluded that the 2002 survey is in general a superior and more accurate survey instrument, and that it is in general comparable with the 2000 survey at least for aggregate measures. They also concluded that there was a statistically significant fall in food-based poverty at both the national level and in rural areas¹², plus a statistically significant decline in capacities poverty in urban areas. Other poverty changes are not statistically significant (measured declines may be indicative of a real decline but is not sufficiently precisely measured for this to be statistically different from no change). However, they concluded that individual components of income would often not be statistically comparable. Work on comparing any effects of changes in the survey on expenditures was not complete at the time of writing.

The above conclusions are based on two categories of internal evidence from comparing the two ENIGH surveys (Rivera Vences, 2003; Cortés, 2003). First, Cortés shows that there is no statistical evidence for an atypical increase in total income due to the increase in the number of questions in the ENIGH. Categories or subcategories of income that did not change between the surveys account for 99.1% of total income, in the majority of the cases the cells of the new categories of income were empty. However, in some cases the changed questionnaire appears to have led to implausible changes in the composition of income (for example between corporate and cooperative income) without making a statistical difference in the income aggregate for households and individuals. Second, with respect to the sampling framework, he concluded that the over-representation of the poor led to more accurate measurement but that this did not produce abnormal changes in the distribution of household characteristics amongst the poor (that

¹² Rivera Vences (2003).

would have occurred if the ENIGH 2002 and 2000 were effectively drawn from different samples).

This report concurs with the broad conclusions of the committee on the superiority of the 2002 survey and the comparability with 2000 for total household (and per capita) income. It also provides estimated confidence intervals for poverty comparisons where feasible. The conclusion is further supported by comparison with independent evidence on trends, especially from the series of labor force surveys, for which the survey instrument did not change. The interpretation of trends is discussed in the text.

In this report, we undertook a number of exercises to assess the robustness of population poverty trends. First, we estimated the statistical significance of the 2000-2002 changes in poverty for both income and consumption.

Income poverty was estimated using the SEDESOL official poverty lines. As discussed in Box 1.1, we also re-calculate poverty lines in order to apply a constant 2000 Engel coefficient and Banco de México price indices for non-food items of the poor — compared with SEDESOL's analysis that uses a variable Engel coefficient. (The Engel coefficient refers to the food share used). These are reported in the Annex (Table A.3.5 and A.3.6). The overall pattern of changes in poverty in 2000-02 remains robust to different poverty lines. We found that poverty estimates for 2002 are slightly lower using a fixed Engel coefficient. Therefore, SEDESOL's approach of using a variable Engel coefficient in 2002 is more conservative.

We also estimated consumption poverty rates fixing these for one year to yield the same poverty rates as the official poverty line (2000 was chosen, but the choice is arbitrary).¹³

Consumption is a superior measure of well-being than income and is less likely to be subject to reporting errors —or changes in reporting errors on the income side. Of course, improvements in the survey of consumption may also have led to a reduction in under-reporting for consumption but it provides an initial crosscheck. Table 3.11 shows the income and consumption poverty trends. The overall consumption pattern is close to that for income poverty. For the recent period, national extreme poverty rates significantly decreased from 2000 to 2002. In rural areas there were significant extreme poverty declines for both expenditure and income-based trends whereas for urban areas the measured declines were not statistically significant.¹⁴ From 2000-02, consumption moderate poverty declined significantly nationally and in rural areas.

¹³ For 2000, we calculated the income poverty rates based on SEDESOL official poverty lines. We fixed this poverty rate and calculated the corresponding consumption poverty line for the same year. The poverty line then projected to other years using a food and non-food CPI (constructed from Banco de México's CPIs on goods and using consumption weights from ENIGH 2000), and consumption poverty rates were calculated. Consumption poverty lines are shown in Table A.3.7 and the constructed CPIs are shown in Table A.3.8 in the Annex.

¹⁴ These results are consistent with Rivera Vences (2003)

Table 3.11 Overview of Poverty Trends for Extreme and Moderate Poverty with Income and Consumption

		1992	1994	1996	1998	2000	2002	Significance of change 2000-2002
<i>Income</i>								
	<i>National</i>	22.4	21.4	37.1	34.0	24.2	20.3	***
Extreme	<i>Rural</i>	35.6	37.0	52.4	52.4	42.4	34.8	***
	<i>Urban</i>	13.3	10.1	26.5	21.2	12.6	11.4	
	<i>National</i>	52.5	55.8	69.6	63.7	53.7	51.7	
Moderate	<i>Rural</i>	65.0	72.3	80.8	75.1	69.3	67.5	
	<i>Urban</i>	43.8	43.7	61.9	55.7	43.7	42.0	
<i>Consumption</i>								
	<i>National</i>	24.8	22.0	36.1	33.4	24.2	21.0	**
Extreme	<i>Rural</i>	41.8	38.7	52.9	52.0	42.4	37.2	**
	<i>Urban</i>	13.0	9.8	24.5	20.5	12.5	11.1	
	<i>National</i>	51.2	50.4	64.0	60.6	53.7	51.3	*
Moderate	<i>Rural</i>	69.3	68.7	76.5	75.8	69.3	66.1	*
	<i>Urban</i>	38.7	37.0	55.3	50.1	43.7	42.2	

Note: *** Significance at 1 percent level. ** Significance at 5 percent level. * Significance at 10 percent level.

Source: WB Staff estimates based on ENIGH, using SEDESOL's poverty lines for income measure and consumption poverty lines in Table A.3.7.

Second, we computed poverty trends for both income and consumption excluding transfers and imputed rent. We did not find a change in poverty trends when excluding either one of these two categories.¹⁵

Third, we examined the changes in the distribution of total household expenditure per capita for several years (Figure A.3.1). This is useful for assessing whether changes in poverty are sensitive to the choice of poverty line. We found dominance of first and second order from 2000 to 2002 up to the 50th percentile indicating that the measured changes in poverty were robust to the choice of poverty line.

Fourth, we looked at income trends from an independent survey source —the labor surveys. This has a more limited concept of income but to our knowledge there were not changes in survey design in this period. As reported below, measured incomes from this source also increased significantly for poorer households.

These results support the view that the observed changes were mainly due to real developments. We now turn to the interpretation of these changes. We first examine the

¹⁵ Results are available upon request.

relationship between growth, inequality and poverty. We then look at the different sources of income, looking at the trends in labor income (that account for a significant share of total income), and for the most recent period, patterns of transfers and remittances.

Growth, inequality and poverty. An overview of the relationship between growth and poverty is provided in Figure 3.4, for both income and private consumption. This includes information from national accounts sources, the survey mean and the average income of the bottom 20% (as a proxy for income of the extreme poor) for three periods: the 1994-96 years of crisis; 1996-2000 years of recovery; and 2000-02 years of stagnation. Two patterns are evident.

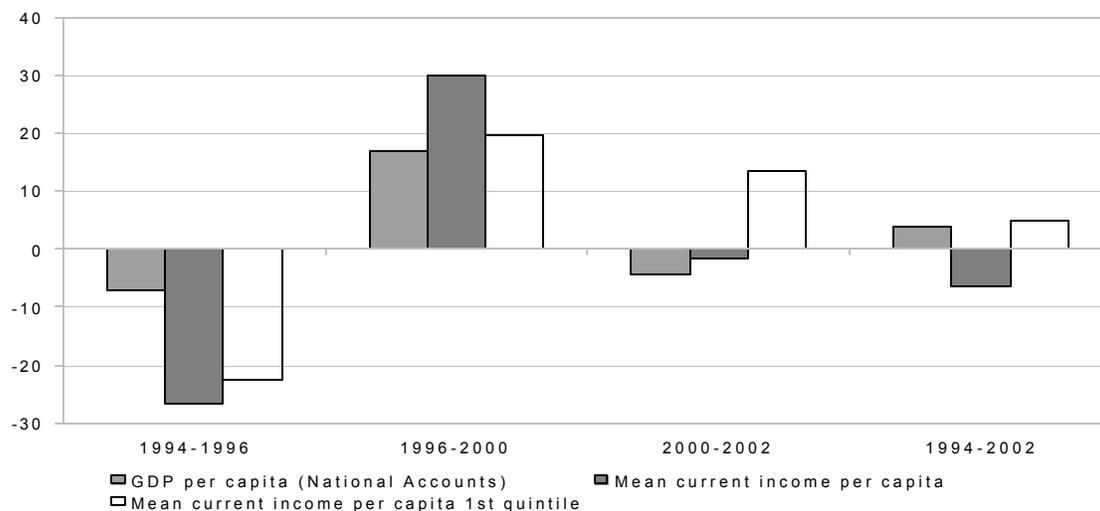
First, there are sharp differences between the evolution of national accounts-based growth and survey-based incomes in both the crisis and recovery. There is no difference for 2000-02. Although the differences are of opposite signs, the net effect for 1994-2002 is still notable: national accounts information suggest growth in real per capita incomes, while households surveys show a modest decline. These contrasts also exist, if in more muted form, for the series on consumption. While there are different views on the reliability of the different sources of information, for the purposes of assessing trends in household welfare we prefer the household survey information.¹⁶

Second, there are differences between changes in average income and income of the bottom quintile. The crisis was mildly equalizing —with large falls at the mean and slightly smaller declines for the bottom 20%. This is consistent with other analyses that find relatively large declines at the top of the income distribution (López-Acevedo and Salinas, 2000). The recovery period was then disequalizing while the recent 2000-02 period quite strongly equalizing with respect to the parts of the distribution captured by these summary statistics. This is consistent with the result of poverty decline despite stagnation.

¹⁶ There has been discussion of these issues in debates on global poverty trends, and especially on interpretation of Indian data. See Ravallion (2001), Bhalla (2002), Deaton and Drèze (2002) and Deaton (2001) for discussion.

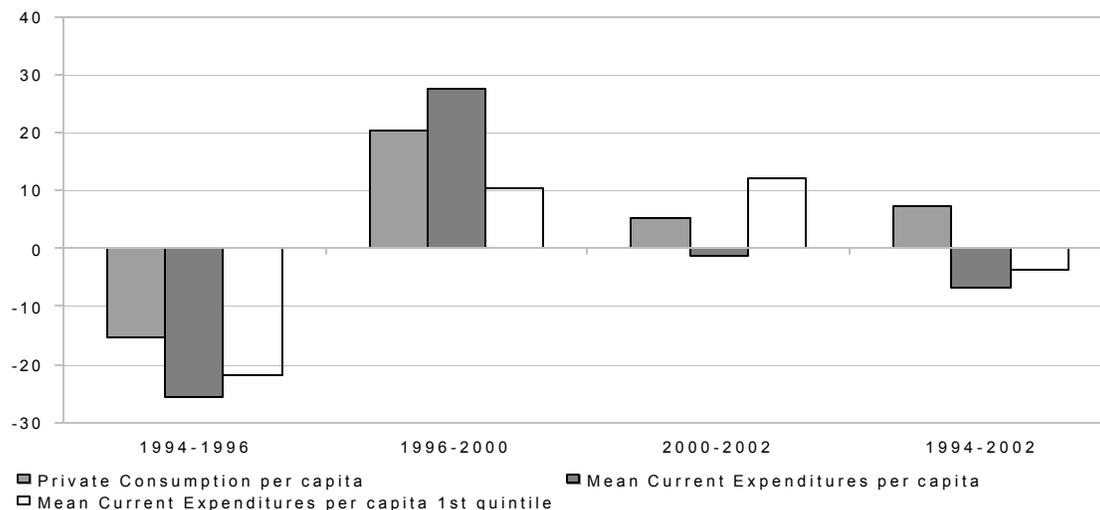
Figure 3.4 Patterns of Growth for National Accounts, Survey Mean, and Bottom Quintile, 1994-2002

a) Income



Source: WB Staff estimates using ENIGH, and National Accounts.

b) Private Consumption



Source: WB staff calculations using ENIGH and National Accounts.

Broader measures of inequality are consistent with these patterns. In the past decade, there was a slight equalization at the national level after the crisis —more so for spending than income measures— then a widening back to 1994 levels between 1998 and 2000, and finally a significant equalization between 2000 and 2002. This is based both on the Gini coefficient and also on the frequency distributions of per capita income. Behind the trends there were quite divergent patterns between urban and rural areas (Table 3.13). In particular, measured rural inequality has experienced a very large increase between 1994 and 2000, especially when measured in terms of spending,

followed by a fall in 2002. This widening included the period of the crisis which also corresponds to the implementation of NAFTA and the recent period of aggregate stagnation. Rising rural inequality is consistent with overall equalization in these periods because of equalizing within-urban trends, and especially for 2000-02, a reduction in the urban-rural differential (Table 3.12). Annex Tables A.3.9 and 10 shows accumulated income per capita by population percentile, national, urban, and rural.

Table 3.12 Inequality has declined at national but risen in rural areas over the past decade, 1992-2002

Gini coefficients

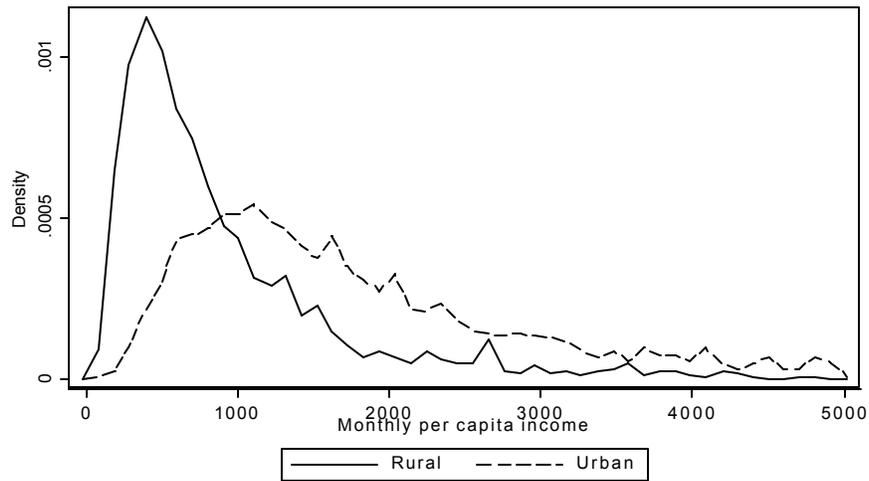
	Income			Expenditure		
	<i>National</i>	<i>Urban</i>	<i>Rural</i>	<i>National</i>	<i>Urban</i>	<i>Rural</i>
1992	0.53	0.49	0.47	0.51	0.47	0.41
1994	0.54	0.50	0.44	0.52	0.48	0.40
1996	0.52	0.49	0.45	0.48	0.45	0.42
1998	0.54	0.49	0.49	0.49	0.45	0.44
2000	0.54	0.48	0.53	0.52	0.45	0.56
2002	0.51	0.46	0.49	0.50	0.45	0.48

Source: WB Staff estimates using the approved methodology of CTPM for the calculation of per capita income and expenditure variables.

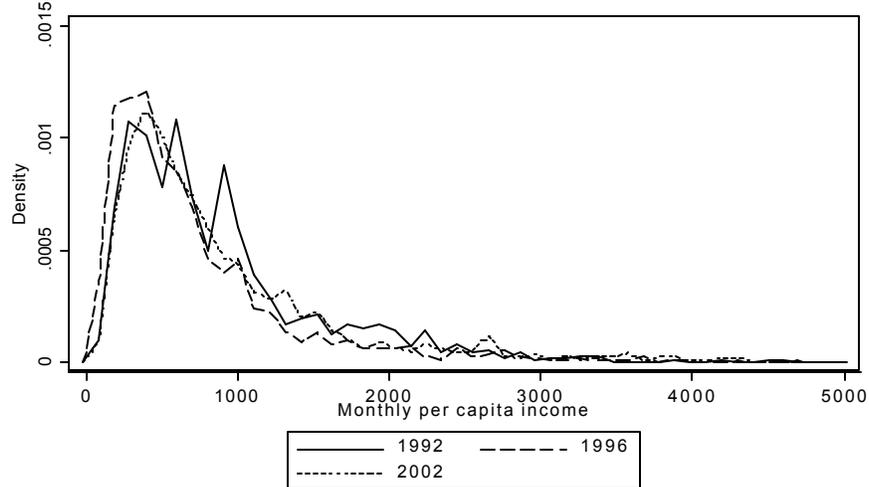
The frequency distributions of per capita income show large disparities between urban and rural areas (Figure 3.5). The rural distribution is more concentrated around low per capita income while the urban distribution is more evenly spread. From 1992 to 1996, the rural per capita income distribution shifted to the left, meaning that the per capita income distribution was more concentrated around the lower part of the per capita income distribution. From 1996 to 2002 this trend was reversed making the 2002 distribution more similar to the 1992 distribution. The same happened in urban areas but the shift from 1996 to 2002 was even larger.

Figure 3.5 Frequency Distributions of per Capita Income

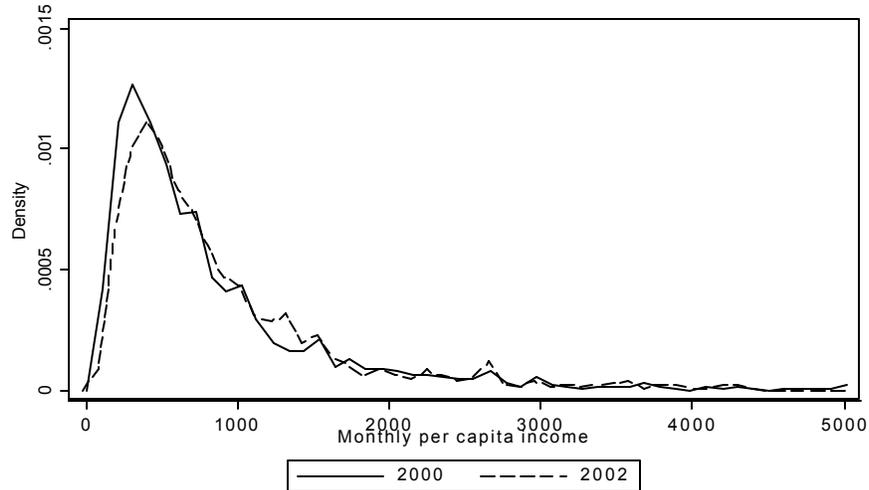
a) 2002



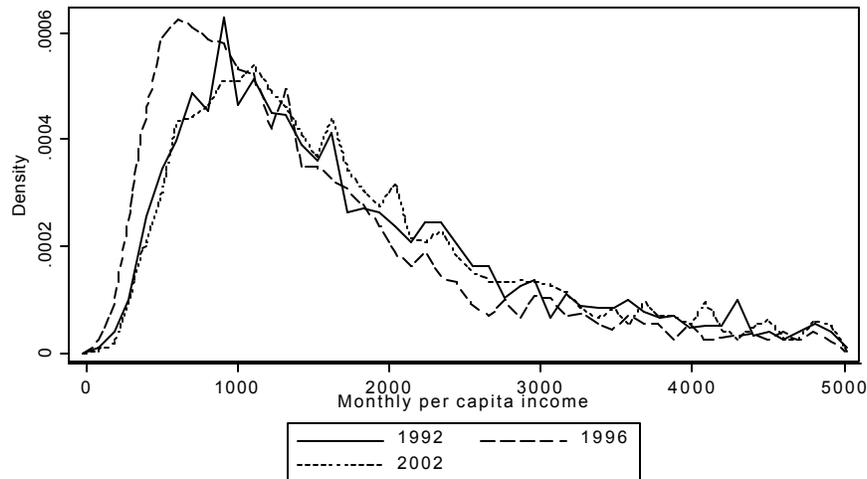
b) Rural 1992, 1996, and 2002



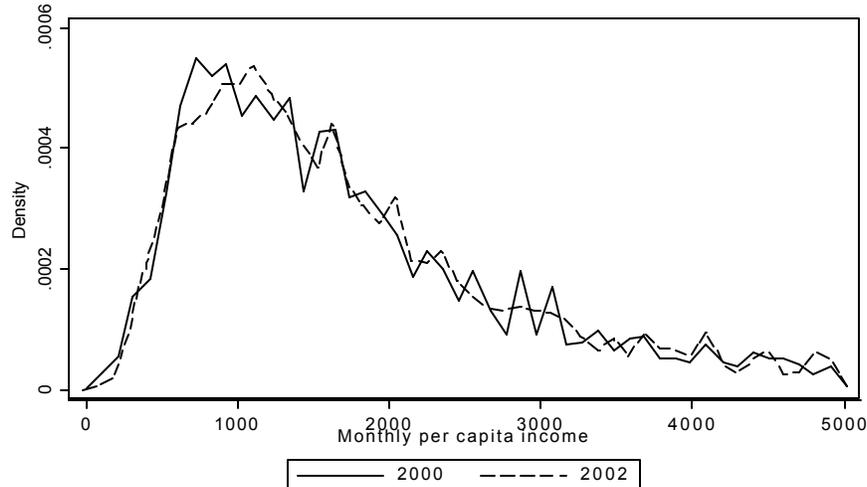
c) Rural 2000 and 2002



d) Urban 1992, 1996, and 2002



e) Urban 2000 and 2002



The pattern of changes in inequality is further illustrated in Table 3.13 which shows both income and spending growth by quintile for the 2000-02 period. The strongly equalizing national pattern was composed of high growth in rural incomes for the bottom four quintiles but declines for the top quintile and more modest and equalizing growth in urban incomes. Both measured income and spending significantly declined for the top urban and top rural quintiles.¹⁷ It is also noteworthy that changes in consumption were often not significant, even when income changes were significant; this is consistent with consumption smoothing of households.

¹⁷ It might be noted that there is not an obvious change in measurement practices that would lead to this pattern of declines at the top and rises at the bottom of the distribution. Note also that the quintiles are calculated separately for each distribution: thus the bottom two to three rural quintiles are disproportionately represented in the bottom national quintile —thus the high growth for the latter.

Table 3.13 Patterns of income and spending growth, 2000-2002

Total percentage increase over the two-year period in real terms

Income Group	National		Urban		Rural	
	Current Income	Current Expenditure	Current Income	Current Expenditure	Current Income	Current Expenditure
1st Quintile	9.7 ***	8.2 **	5	5.1 **	6.8 **	10.5 *
2nd Quintile	7.6 ***	5.4 ***	3 ***	1.5	11.4 ***	5.9
3rd Quintile	3.7 ***	1.3	2.5 ***	0.9	8.9 ***	3.6
4th Quintile	2.1 **	1.7	1.4	2	5 ***	1.8
5th Quintile	-7.2	-3.4	-9.2 **	-1.5	-6.4	-12.9
Total	-1.8 ***	-0.1	-3.4 ***	0.4	0.2	-4.4 ***

Note: Current income and spending refers to all transactions on the current account of households; total spending also includes capital account transactions (sale and purchases of financial capital).

*** Significant at 1 percent level ** Significant at 5 percent level. * Significant at 10 percent level.

Source: WB staff calculations using ENIGH with income and expenditure calculated as recommended by CTMP.

Following Datt and Ravallion (1993), the changes in poverty rates are decomposed into growth and redistributive components between 2000 and 2002 (Table A.3.12 in the Annex). The results further confirm that in the period under consideration national extreme poverty, rural poverty, and urban poverty declined primarily due to the redistribution effect.¹⁸ The economic slowdown disproportionately affected the top decile so income distribution became more even.¹⁹

Income sources. To explore further the interpretation of the trends we look at the composition of incomes for 2000 and 2002. As Table A.3.13 in the Annex shows, labor earnings represent half of total income, when the latter includes the imputed value of non-monetary income. This Table includes the estimates and the corresponding standard errors. There are some classification changes (due to changes in the questionnaire) so we have aggregated “business” and “cooperative income”, that otherwise show implausible shifts into cooperative incomes. There are also likely to be overlaps between these and labor income, both conceptually (since for self-employed activities part of the income is a return to labor) and in the ways in which questions were answered and classified. The large shift from business and cooperative into labor income in rural areas between 2000 and 2002 probably reflects such a classification issue.²⁰ Combined labor and business income accounted for 70% of urban and 63% of

¹⁸ The results remain robust either using income or consumption.

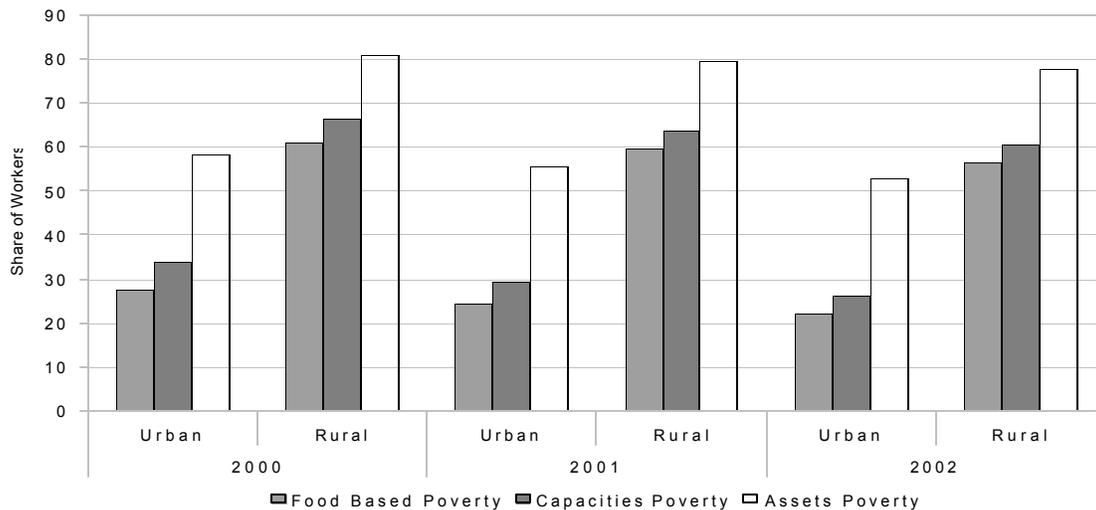
¹⁹ The change in poverty rates decomposition exercise for the period 1992-2002 also shows that national poverty declined due to the redistribution effect

²⁰ Cortés (2004) also supports this as a classification issue.

rural income. We turn to these next and then look at transfers and remittances, that were of greater importance to rural households.

Labor market developments. The pattern of change in labor incomes will clearly have a powerful influence on household welfare. Mexico is going through structural changes in terms of geographic composition, the skills of the labor force and the returns to those skills. Overlaid on these are the strong impacts of the macroeconomic cycle. For labor market developments we have the benefit of an independent survey of labor market characteristics which has covered urban areas for some two decades and was extended to rural areas in 2000. This includes questions on labor incomes but not on spending or other categories of incomes. To draw the link with poverty we calculated the proportion of workers earning wages below the various income poverty lines —based on labor income earnings of individuals in households in the neighborhood of these poverty lines from the ENIGH.). As Figure 3.6 shows, the direction of changes in the proportion earning below such poverty-wages in urban and rural areas is the same as for the estimates of household poverty incidence though the pace of reduction is somewhat smaller.

Figure 3. 6 The Proportion of Workers Earning Wages below Levels Corresponding to Different Poverty Lines; Rural and Urban 2000-2002



Note: Subsistence wage represents the average wage per hour of workers in the households in the line of poverty. This was calculated using the ENIGH 2002 and SEDESOL’s poverty lines (2002).

Source: WB staff calculations using ENET, several years.

Urban and rural labor markets are considered separately. For the urban sector, the dramatic effects of the cycle are vividly shown in Table 3.14: labor earnings collapsed across the board in 1994-96 and recovered significantly (though remain below 1994 levels in 2002). Particularly noteworthy is continued strong growth in informal and formal wages in 2000-2002 while self-employed and employer’s earnings declined on average.

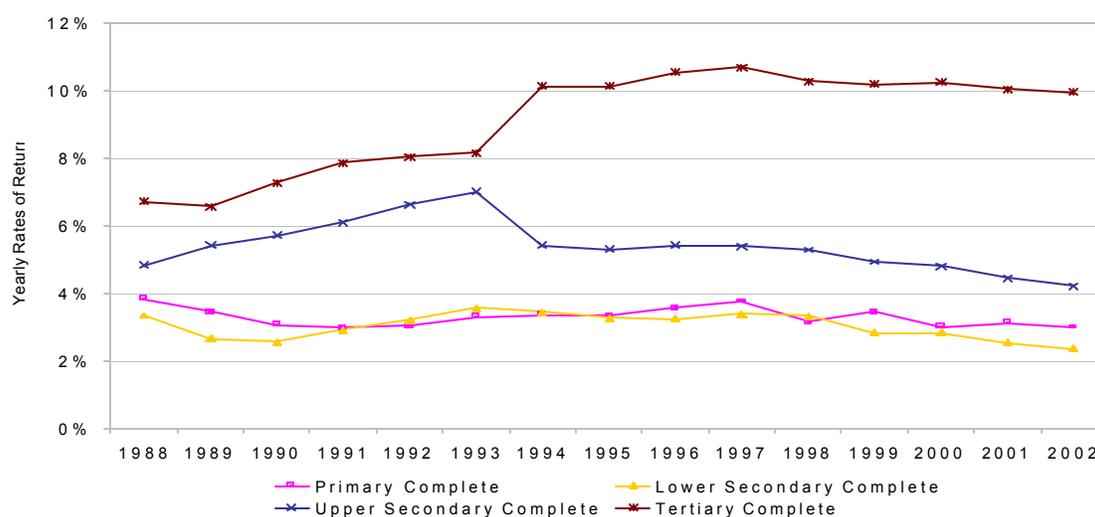
Table 3.14 The evolution of real wages for different groups in the urban labor force, 1994-2002

Labor force structure	Change in real wages							
	2002		1994-96		1996-2000		2000-2002	
	Male	Female	Male	Female	Male	Female	Male	Female
Employer	5.5	1.9	-41.9	-52.9	24.5	18.0	-11.8	-12.2
Self Employed	27.2	25.7	-38.6	-48.0	25.6	24.0	-1.6	8.2
Informal Salaried	14.3	15.9	-32.1	-46.7	17.3	13.2	20.9	17.5
Formal Salaried	50.1	53.2	-21.4	-24.8	7.6	10.6	5.2	6.2

Source: WB staff calculations from ENET.

The structural changes associated with this pattern are illustrated in the Figure 3.7, which shows the partial effects of education along the income distribution. Returns for upper secondary rose sharply in the late 1980's and early 1990's and then fell after 1993. Returns to tertiary education continued to rise until 1997, before falling to levels that remained much higher than in the early 1990s (Figure 3.7).²¹

Figure 3.7 Yearly Rates of Return to Education Level
Mexico Urban Areas, 1988-2002



Note: The yearly rate of return represents the additional contribution to wages from an additional year of a certain level of education. All the coefficients are statistically significant at the 5 percent level and conditioned on age, squared age, gender, region (North, Center, South, and Mexico City).

Source: WB staff calculations using third quarter of the National Urban Employment Survey (ENEU) from 1988 to 2001 and third quarter and urban section of ENET 2002.

²¹ The results took into account the change in the ENEU 94 questionnaire. These results are consistent with De Ferranti et. al.(2003) and World Bank (2000a) rate of return patterns, as well as with estimates using the ENIGH.

A more complex pattern of changes in rewards to education is illustrated by an analysis that looks at different parts of the distribution (using quantile regression techniques — see Table 3.15). Returns are “convex” and become more so throughout the distribution until 1997 —that is they increased at a rising rate for higher levels of education. In 1988, when estimated at the median of the conditional earnings distribution tertiary education was associated with on average 52% more income compared to a person with upper secondary complete education. By 1997, the premium to tertiary education had risen to 95%. However, when estimated at the top of the distribution the premium to tertiary education “only” rose from 34 to 67% (implying higher relative as well as absolute, returns to upper secondary in the upper reaches of the income distribution.) Moreover, while the premium to tertiary fell somewhat between 1997 and 2002 throughout most of the earnings distribution, they continued to rise at the top.²²

Table 3.15 Marginal Value of Education by Level along the Conditional Earnings Distribution, Mexico 1988-2002

	1988					1992				
	0.1	0.25	0.5	0.75	0.9	0.1	0.25	0.5	0.75	0.9
<i>Primary Complete</i>	1.11	1.09	1.06	0.95	0.85	1.02	1.01	0.95	0.81	0.67
<i>Lower Secondary Complete</i>	1.21	1.18	1.19	1.24	1.27	1.15	1.18	1.21	1.25	1.3
<i>Upper Secondary Complete</i>	1.11	1.18	1.24	1.25	1.37	1.17	1.2	1.25	1.32	1.38
<i>Tertiary</i>	1.43	1.5	1.52	1.47	1.34	1.61	1.68	1.75	1.7	1.6
	1997					2002				
Quantile	0.1	0.25	0.5	0.75	0.9	0.1	0.25	0.5	0.75	0.9
<i>Primary Complete</i>	1.12	1.13	1.13	1.11	1.05	1.14	1.1	1.1	1.08	1.04
<i>Lower Secondary Complete</i>	1.19	1.21	1.26	1.32	1.39	1.15	1.15	1.16	1.21	1.25
<i>Upper Secondary Complete</i>	1.15	1.22	1.27	1.35	1.42	1.13	1.15	1.21	1.28	1.34
<i>Tertiary</i>	1.75	1.91	1.95	1.83	1.67	1.67	1.82	1.91	1.87	1.73

Note: The marginal value is with respect to the previous education level. The asymptotic covariance matrix of the estimated coefficient vector in quantile regression is computed using the bootstrap method. All the coefficients are statistically significant at 5 percent level and conditioned to age, squared age, gender, region (North, Center, South, and Mexico City).

Source: WB Staff estimates using third quarter of ENEU 1997 to third quarter and urban section of ENET 2002.

With respect to gender and geographic area the results show that rates of return to tertiary education are higher for both urban and rural men compared to women, particularly in the upper tail of the conditional earnings distribution.

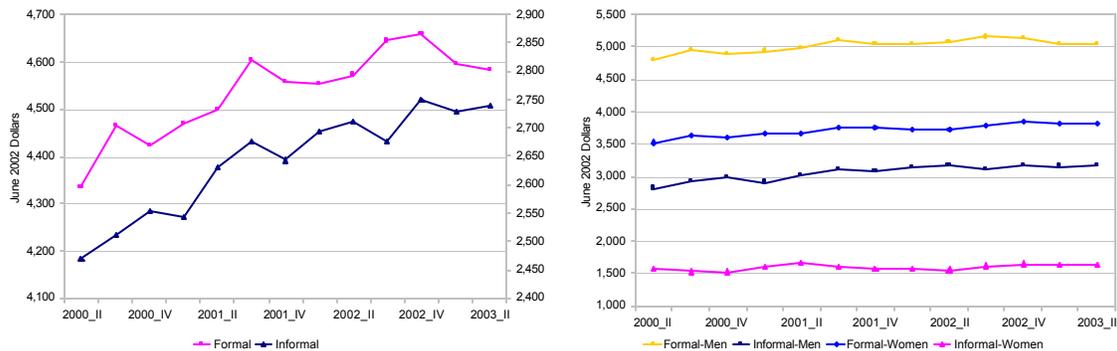
²² To test the robustness of these trends we estimated the following models: the basic model only included age, squared age, and gender, the second model was the basic model plus region, the third model was the second plus status in the labor market, and the last model included all these variables plus sector of activity.

In sum, the returns to education increased in Mexico from 1988 to 1997 especially for higher levels of education and in the upper tail of the conditional earnings distribution. However, there was a reversal to this trend after 1997, especially for higher levels of education and in the middle and lower tail of the conditional earnings distribution. This may reflect a structural development, if expanding relative supplies of school leavers are offsetting the secular tendency for rising relative demand for skills —especially at tertiary level (see De Ferranti et al. 2003). Alternatively it may reflect a cyclical fall in education premia in times of recession which has also been observed in the data for Latin America (ibid). This issue is taken up in Chapter 5. But for the present, the labor force patterns by labor force status and education are fully consistent with the equalizing patterns of urban household income growth in the 2000-02 period.

In terms of employment category (not shown), there was a significant widening in differentials for the self-employed, informal wage-workers and contract workers relative to formal wage-earners until 1999, followed by a closing of differences for the last two (lower income) categories.

Finally, patterns of formal and informal wage growth for this recent period are shown in Figure 3.8.²³ This shows increases for both categories between 2000 to 2002 followed by a flattening of informal and a fall in formal wages in early 2003. Along with the increase in unemployment (not shown here) this suggests a leveling off or partial reversal in income gains for some of the poor in the period after the ENIGH, 2002.

Figure 3.8 Real Urban Wages by Informality



Source: WB staff calculations using ENEU.

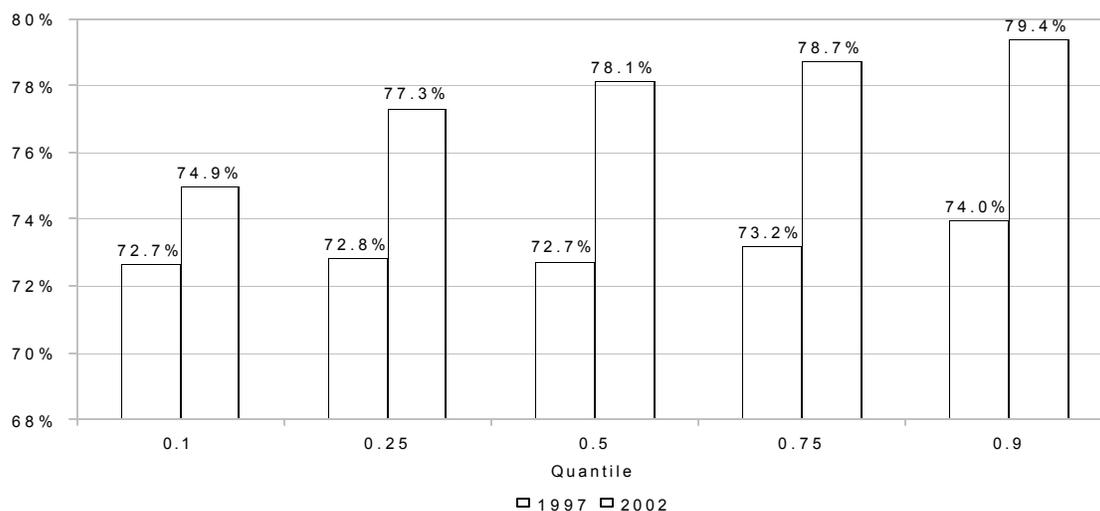
Controlling for relevant characteristics, the results in Figure 3.9 show that the wage gap between informal and formal workers increased along the conditional earnings

²³ In this report, we use the term ‘informal’ to refer to those unprotected by labor law and in turn this category is divided into two. First, owners of firms with fewer than 16 employees who do not have social security or medical benefits are identified as informal self-employed. In fact, less than one percent of these firms have more than 5 employees. Second, employees in those small firms are identified as informal salaried workers.

distribution. However, since 1997 there has been a reduction in this wage gap particularly in the lower tail of the conditional distribution which is consistent with the results shown in Table 3.16.

Figure 3.9 Wage Gap between Informal and Formal Workers, 1997-2002

Informal Wage as a proportion of Formal Wage



Source: WB staff calculations using third quarter of ENEU 1997 to third quarter and urban section of ENET 2002. Based on World Bank 2000a.

Turning to the rural sector, for which there is information for 2000-2002, the most striking result is the vigorous growth in informal wages in this period (Table 3.16). This too is consistent with the growth in household incomes noted above. Measured growth in self-employed incomes is low to negative. But this category —that largely covers peasant farmers— is likely to be poorly measured in a labor force survey compared to a household income survey. The forces behind these changes will be explored in future work on rural poverty.

Table 3.16 The evolution of real wages for different groups in the rural labor force, 2000-2002

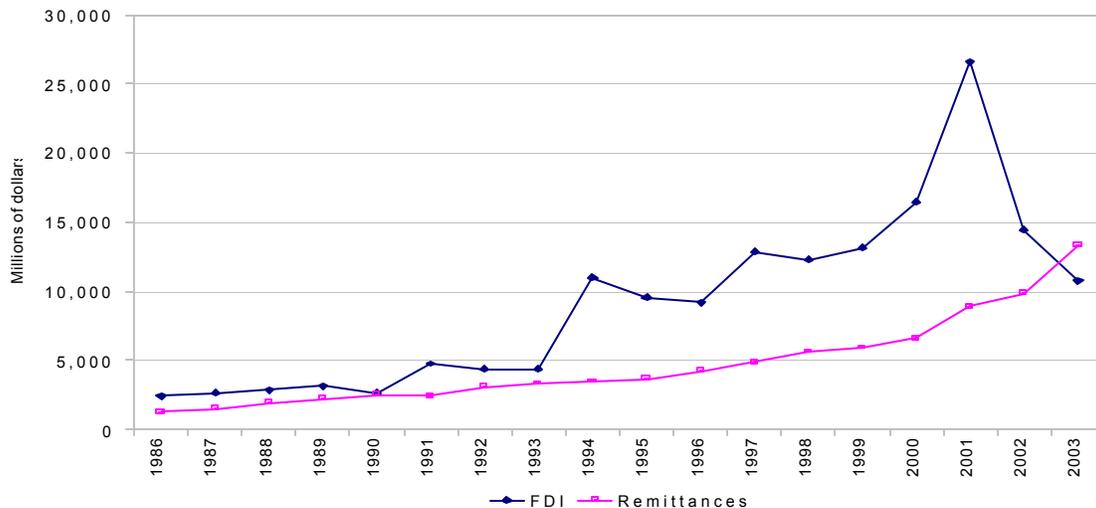
	Labor force structure		Real hourly wages (constant 2002 pesos)				Change in real wages (in percent)	
	2002		2000		2002		2000-2002	
	Male	Female	Male	Female	Male	Female	Male	Female
Employer	4.5	1.6	28.8	36.4	30.4	38.2	5.8	5.2
Self Employed	30.5	29.6	10.7	11.3	10.4	11.8	-2.6	4.2
Informal Salaried	26.6	20.3	9.5	7.9	11.5	10.1	21.8	27.5
Formal Salaried	20.9	24.5	18.6	18.1	20.7	20.6	11.3	14.1
Contract	5.3	4.4	15.0	10.4	16.3	11.3	8.7	9.4

Source: WB staff calculations from ENET.

Transfers and remittances

The stream of remittances pouring into Mexico is growing year by year. In 2002, remittances amounted to some US\$9,815 million —or about 1.5 percent of Gross National Product and more than the US\$4,224 million they comprised just six years ago. As indicated in Figure 3.10, remittances increased steadily —growing by 50% from 2000 through 2002 while foreign direct investment decreased 12%.²⁴

Figure 3.10 Remittances overtook foreign direct investment in 2003



Source: Banco de México, and World Development Indicators for Remittances 1986-1995.

Total transfers —remittances, **OPORTUNIDADES**, and **PROCAMPO** account for an important share of total transfers for all income quintiles, but particularly for the bottom 20% of the national income distribution, and even more so for rural areas (Table 3.17). Note that for this analysis households are ranked by their pre-transfer income since the effects of transfers are in many cases so large as to cause large re-rankings for the post-transfer income (that is used in the rest of the analysis in this chapter).

²⁴ While some of the increase may reflect better measurement, most observers consider there has been substantial real growth.

Table 3.17 Contribution of Transfer Income to the Level in Overall Income, 2002

National					
Income Group	<i>Remittances</i>	<i>Oportunidades</i>	<i>Procampo</i>	<i>Other Transfers</i>	<i>Total Transfers</i>
1st Quintile	11.2	5.9	2.4	24.4	38.0
2nd Quintile	2.5	1.8	0.8	9.5	12.8
3rd Quintile	1.0	0.5	0.2	6.8	8.0
4th Quintile	0.9	0.1	0.2	4.5	5.6
5th Quintile	0.1	0.0	0.2	2.5	2.8
Total	1.2	0.6	0.4	5.4	7.0

Urban					
Income Group	<i>Remittances</i>	<i>Oportunidades</i>	<i>Procampo</i>	<i>Other Transfers</i>	<i>Total Transfers</i>
1st Quintile	4.0	0.2	0.0	19.6	23.6
2nd Quintile	0.8	0.1	0.0	8.4	9.2
3rd Quintile	0.7	0.0	0.0	5.8	6.5
4th Quintile	0.4	0.0	0.0	3.4	3.8
5th Quintile	0.0	0.0	0.0	2.6	2.7
Total	0.5	0.0	0.0	4.9	5.5

Rural					
Income Group	<i>Remittances</i>	<i>Oportunidades</i>	<i>Procampo</i>	<i>Other Transfers</i>	<i>Total Transfers</i>
1st Quintile	19.5	10.2	3.8	29.7	53.0
2nd Quintile	6.8	6.8	3.1	12.6	22.5
3rd Quintile	4.2	3.8	1.7	9.3	15.3
4th Quintile	1.7	2.2	0.9	5.5	8.1
5th Quintile	1.0	0.3	1.1	2.2	4.3
Total	3.5	2.5	1.5	6.8	11.8

Note: The other transfers category includes pensions, severance payments, scholarships, and gifts from other households.

Source: WB staff calculations using ENIGH, 2002.

The most striking feature of the table is the tremendous importance of remittances and other transfers (scholarships, pensions, transfers from other families) for the poorest rural households. In rural areas remittances accounted for 19.5% of average incomes of the poorest quintile and it is judged to be an important source of income growth since 2002 (Inter-American Dialogue, 2004). We do not show results of the contribution to changes in income by quintile and income source because the ENIGH is not representative at that level of disaggregation and measurement errors are expected to be large. When all other transfers are added to remittances they account close to 36% of the income of the poorest quintile in rural areas (again ranked by pre-transfer income). **OPORTUNIDADES** and remittances are the most important identified transfer in 2002.

For urban areas, the contribution of remittances and transfers is both smaller and more volatile. A sharp fall in remittances occurred for the bottom quintile. This may be due to greater measurement error given the much smaller number of households receiving remittances.

While both remittances and other transfers are of great importance to the level and change of incomes —especially for the rural poor— their coverage is very different. Remittances from abroad are received by 13% of all rural households and less than 4% of urban households. However, for the poorest quintile of rural households this proportion rises to over 20%. Average amounts received are much larger than other sources of income for these households. There is anecdotal evidence that some remittances are also used for community projects. The strongly progressive character of remittances is of particular note in light of the international experience that finds that migrants tend not to come from the poorest groups. By contrast, the reach of **OPORTUNIDADES** was extensive in rural areas in 2002 with over 40% of all rural households and 65% of the poorest quintile receiving transfers from this source —albeit with smaller amounts per households.²⁵ This is an impressive coverage. The urban coverage was much less —some 4% of households on average and 13% for the bottom quintile reflecting the only recent expansion of this program into urban areas. Administrative data suggests large further extensions in coverage since 2002.

In this section we have looked at the structure and trends in incomes. The analysis showed the importance of a number of factors for incomes of the poor, including location between rural and urban areas, education, labor force status, and remittances and transfers. The recent rapid growth in incomes of the poor (and all rural groups) found in ENIGH appears to be consistent with strong growth in wages in the bottom parts of the distribution and the expansion of remittances and transfers, especially in rural areas. However, the observed growth in wages is only the beginning of the story: future work will examine in greater detail the forces behind both urban and rural trends in labor earnings.

C. VULNERABILITY²⁶

Overview

The vulnerability of individuals and households to adverse shocks is an intrinsic aspect of poverty (Chapter 1). Vulnerability can apply to many dimensions of living —to incomes, nutrition, health, social status and so on. It is important to distinguish between

²⁵ **OPORTUNIDADES** increased its coverage of beneficiary families by 45 percent in the rural area and 232 percent in urban areas.

²⁶ This section draws extensively on Maloney et al. (2003).

covariate (aggregate, economy-wide, common) and idiosyncratic (individual) shocks. The former affects everybody in a particular community/region/country while the latter only affects a particular individual. In practice, even within well-defined areas, few shocks are purely idiosyncratic or covariate. In this section we present the results of a quantitative analysis of patterns of variation in incomes and consumption for the same households, drawing on two panel surveys (ENET and ENCEL²⁷) —that followed the same households for a year or more. Ideally, we would like a map of Mexican vulnerability to know not only who is poorer but also who is likely to become poor or become poorer and why. This can then form a basis for the policy question of how to shape public action to reduce the adverse costs of such vulnerability in a way that takes account of both sources and behavioral responses. Limitations imposed by data availability have constrained our efforts of constructing such a vulnerability map. In this section we present the results of some initial steps in that direction. There are always questions of measurement error for this kind of panel data, and for this reason an interpreting the results in this section needs to keep this in mind.²⁸

First, we study how income shocks affect different groups of the urban population. We find that the less educated experience relatively less income variation than college educated, while informal self-employed and workers relatively more than their formal counterparts. Households with single men or women experience more variation but single mothers less than households with married couples and children. We then ask whether estimates of income variability in normal times are good predictors of income variability during aggregate shocks as the Tequila crisis in 1995, and find that relative patterns do not change significantly with the exception of disproportionately large falls amongst the college-educated.²⁹ Next, taking advantage of the introduction of rural households in the ENEU (renamed as ENET) from the 2nd quarter of 2000 we compare estimates of income variance for rural and urban households. We find quite similar patterns across these groups. Finally, we analyze the consumption variance of poor rural households and its relationship with income variance using the ENCEL. This finds substantial variance for these households but significantly less for consumption than

²⁷ For a description of this survey see the Appendix.

²⁸ One source of error is due to attrition bias: recent work on US panel data by Neumark and Kawaguchi (2001) supports the view that the magnitude of attrition biases is not large. However, there remain questions of whether this result applies generally —including to the Mexican surveys— and there are other sources of measurement error.

²⁹ Several authors have examined the effect of the peso crisis on households' income, consumption, health, and education. For a comprehensive review of these results see McKenzie (2003) and Tolentino et al. (2003). McKenzie (2003) found that the peso crisis had an extremely widespread impact, lowering income and consumption for all age groups and education levels. However, the less-educated, rural and agricultural workers experienced the smallest falls in income. In contrast, households living in metropolitan areas, highly educated household heads and workers in financial services and construction suffered the greatest declines.

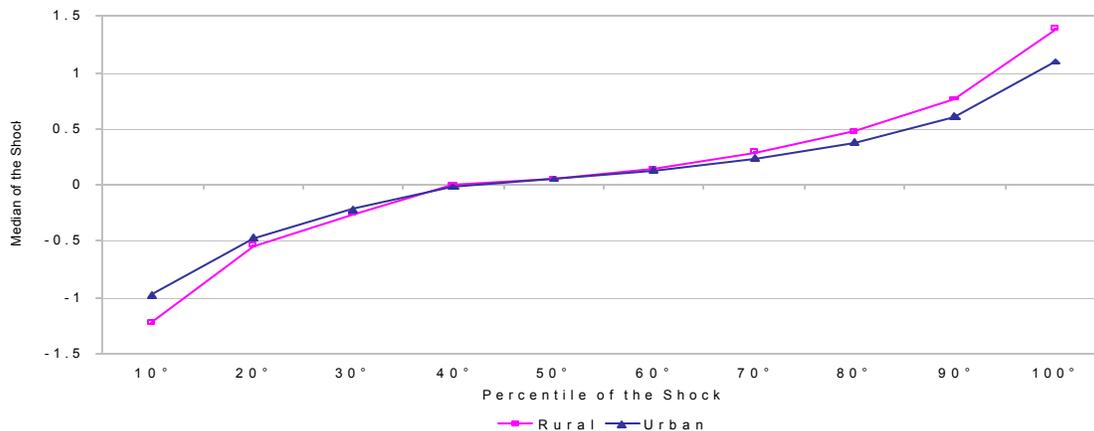
income —suggesting that even very poor households are able to smooth consumption, which is consistent with McKenzie (2003) findings.

Patterns of income change

To illustrate the types of results obtained Figure 3.11 graphically portrays the overall pattern of changes in incomes for rural and urban households for 2000-03 with Table 3.18 providing the specific numbers. The quantities are changes in the log of incomes (that are close to percentage changes). Households were ranked according to this change in income from the largest negative change to largest positive change. Thus this shows that the median (middle) household experiences on average a very modest increase in income between one quarter and the same quarter the following year in both rural and urban areas. But this hides a lot of variation. At the bottom of the shock distribution (20th percentile), households experienced an income fall of about 50%, while at the top of the shock distribution (80th percentile) households experienced an income increase of close to 50%.³⁰ Such changes reflect a combination of purely temporary shocks, long-term changes in incomes that happened to occur in the period and, indeed, measurement error. While this cannot be sorted out from data this nevertheless provides valuable information especially when combined with analysis of patterns of variation in incomes across households with different characteristics. For example, even this summary analysis shows that short-run income changes are significant in both rural and urban areas but slightly higher in rural areas in this period.

Figure 3.11 The Pattern of Annual Change in Incomes in a Panel of Rural and Urban Mexican Households 2000-03

(Size of changes for different percentiles of the distribution of *changes* in log incomes)



Source: WB staff calculations using ENET.

³⁰ Figure A.3.2 shows that in 2000-2002 poor households experienced positive shocks with a very low probability (high dispersion), while rich households experienced negative shocks with a very high probability (low dispersion). However, this result is not controlling for permanent income.

Table 3.18 The Pattern of Annual Change in Incomes in a Panel of Rural and Urban Mexican Households 2000-03

	Average	Std. Dev.	Median within shocks									
			10 th	20 th	30 th	40 th	50 th	60 th	70 th	80 th	90 th	100 th
ALL	0.078	0.678	-1.03	-0.48	-0.22	-0.01	0.05	0.13	0.25	0.41	0.68	1.17
RURAL	0.094	0.776	-1.23	-0.54	-0.26	0.00	0.05	0.14	0.29	0.47	0.76	1.39
URBAN	0.072	0.636	-0.98	-0.47	-0.22	-0.02	0.05	0.13	0.24	0.38	0.61	1.10

A Profile of Vulnerability in Urban Areas in Normal and Crisis Periods

Patterns of income shocks vary with the characteristics of households analyzed. Do younger or older, formal or informal, more or less educated groups experience higher variation in income? This is done by investigating how such variables influence the patterns of variation. It explores how income variations are influenced by such characteristics *relative to* baseline patterns. A base category of households (or reference group) is (arbitrarily) chosen and then binary variables (dummies) introduced for characteristics that differ from these. In the analysis, the reference group selected was families headed by married, middle-age college-educated males working in the formal sector, with less than the mean number of children.³¹ Then binary variables were introduced for the education level of the head (primary incomplete, primary complete, secondary incomplete, secondary complete) for his or her age (one for those under 25 and one for those over 45); for more than the mean number of children (1.3) in the household, and for household structure (single mothers with children, single women without children, and single men without children). There are also binary variables for labor market status of the household head —informal self-employed, informal salaried— and a residual category that includes the head being out of the labor force, unemployed or otherwise not earning an income.³²

Since we were interested in comparing normal and crisis conditions the analysis was undertaken for the pre-crisis period of the fourth quarter of 1992 to the third quarter of 1994 and compared with the crisis period between 1994 and 1995. Results are given in Table A.3.15 in the Annex. We use the convention of quoting results as “percentage” to give a clearer flavor of the results to the reader.

The key findings in normal times (columns a-c in Table A.3.15) were as follows:

³¹ Under 0.7 percent of the sample were single men with children whom we include in the base category.

³² We use the term ‘informal’ to refer to those unprotected by labor law and in turn this category is divided into two. First, owners of firms with fewer than 16 employees who do not have social security or medical benefits are identified as informal self-employed --less than one percent of these firms have more than 5 employees.

First, less educated households —at least up to secondary incomplete— generally have lower dispersion in patterns of household income change. This may reflect lower possibilities for income growth. It may also reflect fewer opportunities to smooth income through credit markets or savings, so that families take measures to reduce or offset adverse income shocks, for example through putting additional workers in the labor market if the head loses his/her job.

Second, there is significantly higher variation in income changes for the informal self-employed, the informal salaried and those households whose heads are not remunerated, on both the upside and downside. The self-employed also have a median income change below that of the reference group chosen (lower-than-base). Note that informal self-employed and workers also have lower average incomes than formal workers —as illustrated in Figure 3.14 in the previous section. Taken together, this seems consistent with the standard dynamics of a small firm sector: in any period some firms do exceptionally well and some less well than their salaried counterparts and, as is the case in many countries, firm mortality rates are very high.³³ This could be argued to reflect a greater precariousness. But at least for the self-employed, other evidence finds that almost 70 percent of workers entering the sector from salaried work report do so voluntarily.

Third, the same lower-than-base case growth in median incomes occurs for families headed by older workers. This may reflect a tendency towards declining income with retirement. The reverse logic may hold for families whose head shows no earnings at the beginning of the period. On average, many of those “unemployed” will find jobs so we would expect what we see, namely that the tendency of this group is to increase their incomes above the median of the reference group.

Fourth, households headed by single women do worse along the income distribution, and a similar pattern is visible for single men. This may suggest that jobs that young people hold in general are those with fewer possibilities for big gains, greater possibilities for lay offs and mediocre performance at the median.

Fifth, single mothers appear to have the same distribution of shocks as the reference group. While surprising at first sight, this finding is consistent with anthropological studies of Mexican families. Selby, Murphy and Lorenzen (1990) find matrifocal families have higher per capita incomes, proportionally more family members in the work force, lower dependency ratios, and that these families generally do as well as non-matrifocal households.³⁴ In fact, Chant (1985) finds that “despite major structural constraints of the

³³ See Levenson and Maloney (1998), Fajnzylber, Maloney and Montes (2003) find that the rate of micro firm owners returning to formal employment, one measure of mortality rates, is roughly equivalent in Mexico to that found in the US.

³⁴ Matrifocal households are not worse off because of the absence of a man, despite discrimination against women in the work force and the difficulties that women have getting well-paid

economic and social potential of matrifocal families, single parent units frequently fare better than male headed households” (p. 650).

Let’s now turn to the crisis period. There were, of course, large downward falls for all groups in the 1994-95 crisis with huge adverse effects on welfare —as reflected in the increases in average levels of poverty discussed in the preceding section. But here we are concerned with whether the pattern of relative income variability between different groups is different in crisis periods. This is relevant to the design of safety nets designed to be used during crisis.

The key findings in times of crisis (columns d-f in Table A.3.15) were as follows:

Table A.3.15 (columns d-f) presents the estimates and significance levels of the same variables discussed above (schooling, status in the labor market, marriage status, age, and etc) but during the crisis period. The interpretation of these coefficients is “compared to how a given group did relative to the base in ‘normal’ periods, how did it do relative to how the given group did during the crisis?”

The change in the constant captures the shift for the reference group described above. Not surprisingly, what the findings reveal is a large shifting down of the distribution for this group with the median and the top tail (captured by the 80th quantile) following roughly equivalently, while the lower tail captured by the 20th quantile elongates significantly, meaning that some families suffered much larger declines probably reflecting the unusually large increase in unemployment in Mexico in the crisis.

There are no significant changes in the *pattern* of changes for the self-employed (though they shared in the much larger *average* fall in income). In other words, the large shocks for the self-employed were in line with the reference group. This group experienced higher highs, lower medians and much lower lows in both good times and bad. The same can be said for the informal salaried who work for them.

Similarly, the distributions of the old and young, of those with above average sized families, single mothers and single men track the base case suggesting that they also do not appear to have suffered any more or less in either median or variance of income than the base case. The performance of single mothers is again somewhat surprising, yet consistent with Glewwe and Hall’s findings for Peru (Glewwe and Hall, 1998).

The same cannot be said of those families with heads who earned no income. Their income fell sharply relative to the reference group in the crisis period. Before the crisis, it

employment. Although median household income is 14% lower than non-matrifocal households since they average one less member in the household their per capita incomes are 8.2% higher. They put almost as many members into the paid work force (1.38 vs. 1.4) and the ratio of dependent to members in the work force is lower than the non-matrifocal.

could be that both median and the top tail of the conditional distribution were previously higher than the reference group, perhaps reflecting that the head often got a job across the sample period. During the crisis this effect is reversed at the median and sharply attenuated at the top tail of the distribution perhaps reflecting the increased difficulty of getting a job.

Most striking are the results of less educated household heads compared to the educated ones during the crisis.³⁵ For primary incomplete and primary education, income falls only 23% compared to 30% for the base case. The less well-educated indeed appear to do better than they did in normal periods *relative* to the college educated, experiencing lower lows, higher highs and, in the case of primary complete, a higher median. The premium at the median found for this group in Table A.3.15 is, in fact, a feature of the crisis. There are two potential explanations for this. First, the premium to tertiary education tends to fall in crisis (Schady and Sánchez-Páramo, 2003) and in Mexico in particular (McKenzie, 2003b and Chapter 5). There appears to have been a downward adjustment from the surge in high-end salaries before the crisis, for example in the financial sector. Second, there may be a greater propensity for poorer families to put extra workers in the labor force during crisis (Skoufias and Parker, 2003). The same effect appears although diminished in magnitude and statistical significance for secondary educated workers.

Urban vs. Rural Income Vulnerability

In terms of designing safety nets it is of great importance to know whether the shock patterns affecting urban areas are applicable to rural areas too. In order to explore this issue we take advantage of the modifications in the ENEU from the second quarter 2000, which explicitly introduces rural areas³⁶. Table A.3.16 presents a similar exercise to that undertaken in previous section, in this case, for both urban and rural households for the period 2000 to 2002 (which comprises a period of high growth in 2000 and stagnation in 2001 and 2002). This allows us to compare income variance in the rural areas with what

³⁵ Several authors have examined the effect of the peso crisis on households' income, consumption, health, and education for a comprehensive review see McKenzie (2003a, b) and Tolentino et al. (2003). McKenzie (2003a) found that the peso crisis had an extremely widespread impact, lowering income and consumption for all age groups and education levels. However, the less-educated, rural and agricultural workers experienced the smallest falls in income. In contrast, households living in metropolitan areas, highly educated household heads and workers in financial services and construction suffered the greatest declines.

³⁶ Although the introduction of rural households in the ENEU, renamed ENET, is an improvement important deficiencies are to be mentioned in the collection of the data. The most important being that rural income does not include self-consumption which should be accounted as income too. This casts some doubts over the validity of rural income as well as its comparability with urban income.

we know about the urban areas. The results for the urban population are very similar to those of the previous sections suggesting that those findings are robust.

The main message of Table A.3.16 is that results for rural areas are broadly similar to the urban areas. Several findings merit attention. First, the overall shocks for the base group are strikingly similar. At the median of the distribution the base group shows increases of income around 6-7%. Those households experiencing the largest negative income shocks saw a fall in income of 31% and 24% for urban and rural areas respectively. At the top of the distribution, both urban and rural areas presented an increase in incomes of around 42%.³⁷

Second, informal and self-employed workers seem to show similar patterns. The lower lows of the self employed, and the higher highs of both are present in both samples. Hence the higher variance in the incomes of the self-employed and informal worker with respect to their formal counterparts is not unique to the urban world.

Finally, we also found similar patterns, although with some differences, in the role that education plays on income shocks. In both urban and rural samples less educated household heads seem to present higher income increases in the median, which is consistent with what we found above for the tequila crisis period. However, urban less well educated headed families seem to have lower income variance than the base group whereas the educational variables in rural areas behave pretty much like the self-employed and informal workers, indicating higher variance than the base group. Indeed when we run both samples together including interactive dummies for the urban households (not shown) we find the only significant differences are among the less well educated. And the message is that rural households with less educated household heads have higher income variation with respect to the base group than their urban counterparts.

Income and Consumption Vulnerability In Poor Rural Areas

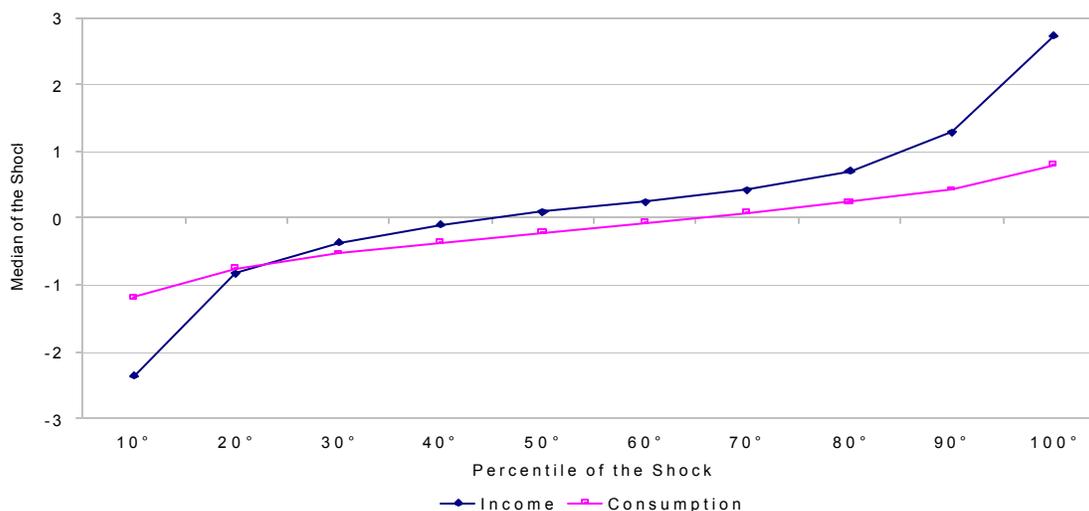
Inferring conclusions about household vulnerability based on income data has major limitations for welfare analysis. If households are able to smooth consumption through borrowing or savings, income shocks do not necessarily reflect changes in the well-being of the household. In Mexico, the only panel survey with both income and consumption data is the ENCEL survey of a subset of rural households. This was developed for the analysis and monitoring of **PROGRESA** in the 1990's, and so covers especially poor rural areas. This roughly corresponds to the lower parts of the rural distribution analyzed above. Where the ENET measured changes across a five-quarter period, here we follow families from October 1998 to November 2000. Two sets of results are

³⁷ The magnitudes of the coefficients should be taken as suggestive as we have not yet applied Kennedy's correction for semi-logarithmic equations.

presented. The first uses the entire sample of both control and **PROGRESA** treated groups, putting dummies for those observations that change status either in number of children, structure of the household and usage/ownership of land. An overview of the average patterns is provided in Figure 3.12, with the data provided in Table 3.19. There is again significant variation in experiences. Two features are noteworthy. First, the range of consumption changes is less than income changes (shocks) —especially for largest falls and rises. This is consistent with households consumption smoothing especially for large negative and positive shocks. Second, the profile of income changes lies above that of consumption changes everywhere above around the 20th percentile of changes. This may be because incomes were systematically above expectations across the whole range so that households did not spend all the increases.

Figure 3.12 The Pattern of Annual Change in Incomes in a Panel of Households in Poor Rural Areas, 1998-2000

(Size of changes for different percentiles of the distribution of *changes* in incomes)



Source: WB staff calculations using ENCEL Survey (October 1998 and November 2000).

Table 3.19 The Pattern of Annual Change in Incomes in a Panel of Mexican Households in Poor Rural Areas, 1998-2000

	Average	Std. Dev.	Median within percentiles									
			10 th	20 th	30 th	40 th	50 th	60 th	70 th	80 th	90 th	100 th
INCOME	0.19	1.46	-2.35	-0.83	-0.37	-0.1	0.09	0.24	0.42	0.71	1.28	2.72
CONSUMPTION	-0.16	0.64	-1.19	-0.75	-0.52	-0.36	-0.21	-0.07	0.08	0.24	0.43	0.8

Source: WB staff calculations using ENCEL Survey (October 1998 and November 2000).

The analysis of the effects of household characteristics finds for both models evidence that the less educated tend to suffer *greater shocks in consumption* across the board. At the median the least well educated appear to have experienced a fall of consumption of about 10 percentage points. At the bottom of the distribution of changes the base category experienced falls in consumption of 45% and those less well educated of the

order of 55%. Similar magnitudes at the top of the distribution of changes were found for single men and single women. Households headed by older workers also experienced negative effects compared to the base group with about a 5-percentage point larger fall in consumption at the 20th percentile. These would be the groups that could be considered most exposed to consumption falls. Since they also broadly correspond to lower income groups they would, indeed, be the more vulnerable. This qualifies the results from analysis of incomes in the previous sections that found that lower educated groups were less vulnerable to income declines than others, and likely to experience larger increases in the median and in the top of the distribution. The same is true for older household heads whose results did not differ from the base group. For the sample of households in poor rural areas, younger, better-educated workers seem to have better mechanisms to smooth consumption.

Also striking are the groups who showed differences in *income* shocks with respect to the base group but do not present significant deviations in the *consumption* regression. This is the case for informal salaried workers who appear to be slightly better at the lower tails than the base and the informal self-employed show exactly the same pattern of consumption shocks as the base or reference group. *That is, the higher variance in incomes that we find in both the rural and urban areas does not appear to translate into higher consumption variance.* Again, consumption-smoothing mechanisms seem to be at play for informal workers. Finally, single mothers are not particularly adversely affected with respect to the base case.

This section provided quantitative information on patterns of income variation which is one input to assessing how important vulnerability is for the poor and for those at risk of falling into poverty. This represents a significant fleshing out of the profile of well-being, but is only the beginning of the work. In sum, the results suggests (i) that the impact of macroeconomic shocks —which by and large hit urban areas hardest— have been relatively equally distributed across the urban population, and (ii) that in rural and even in poor areas there is at least some smoothing of consumption in the face of idiosyncratic income shocks. These results are consistent with McKenzie (2003).

Several caveats are important to bear in mind. First, and perhaps most importantly, just because Mexico adjusted through evenly distributed income reductions in 1994 through broad wage reductions across all households and not via unemployment, this does not mean that future shocks will be transmitted the same way in Mexico. In fact, given today's macroeconomic circumstances and prevailing low inflation rates in Mexico which would preclude broad, real wage adjustment via price increases, Colombia and Argentina may be good examples of how Mexicans might manage shocks in the future, with very different implications for social protection policy. For instance, now that Mexico has single digit rates of inflation will the economy adjust more to shocks through unemployment than real wages, as has been the case in the past? If so, will that unemployment be concentrated more in the poor or in the well off? Another problem is

that, even though we find that income falls are not always larger for the poor, welfare falls are richer households can afford income declines better than poor households. For example, even if we found that in the crisis the poor lost 15% and the rich 25%, there is still an argument for aiding the poor.

Second, future work will need to include a mapping of the changes in consumption and income on to relative positions in the consumption or income distribution. Even if income shocks led to identical consumption losses, poor families may be less able to tolerate these than the better off particularly if they are close to subsistence. Then there is need to relate this to categories of shocks and how this relates to both existing and possible alternative categories of public action that can reduce adverse effects of vulnerability in an efficient fashion.

D. REGIONAL AND ETHNIC DIFFERENCES IN WELL-BEING

Overview

The distribution of well-being in a population is not only about the economic characteristics of individuals and households. There is extensive literature—in economics and other disciplines—concerning the relevance of group-based characteristics to the determination of incomes and other dimensions of well-being. Two salient aspects of this concern geography and ethnicity. Living in a poor area or membership of a different ethnic group can make a difference—sometimes a profound difference—to life prospects. History matters to this with current patterns of physical and human assets, as well as institutional structures, reflecting the past evolution of social interactions, political and economic developments. This is perhaps especially the case where current social difference flow from histories of domination and subordination as is the case of indigenous groups in Latin America.

In this section we present the results of a spatial analysis both of the pattern of well-being and changes in the past decade or so. The principal instruments of analysis for spatial conditions and developments are disaggregated maps of conditions at the municipal level built primarily from the 1990 and 2000 censuses.³⁸ While geography and ethnicity are distinct dimensions, there are overlaps. The greatest concentration of indigenous groups identified by language spoken at home is in rural areas in the Southern states of Mexico and the Yucatán peninsula with more specific other concentrations in other parts of the Mexico, for example in parts of the Northwest. This only provides a sketch of the issues that is intended to show that both geography and ethnicity matter for well-being and need to be taken account of in policy diagnosis and

³⁸ These databases were prepared by Caridad Araujo.

design. It also shows that this is only part of the story. In terms of numbers there are more of the extreme poor living outside the poorer Southern states and who do not speak an indigenous language at home. For more in-depth analysis of conditions in the three poorest states of Mexico (Chiapas, Guerrero and Oaxaca) the reader is referred to the World Bank's report on the Southern States (World Bank, 2003c). There is a wealth of work on indigenous issues in Mexico; for a perspective from the World Bank see the Indigenous Peoples Profile (World Bank 1999a).

Spatial heterogeneity and well-being

Mexico is characterized by great diversity within and across regions and states in its socioeconomic outcomes, assets and ethnicity. There is a generalized gradient from North to South, but this is combined with considerable heterogeneity within any region or state. The high level of deprivation in the South is also confirmed with both CONAPO's index of marginality (based on access to basic infrastructure services, housing conditions, education attainment, and wage earnings) and the UNDP's Human Development Index (based on per capita GDP, educational achievement and enrollment, and life expectancy). For both indices, the three Southern states have the lowest rankings of among all states (World Bank, 2002a).

Before turning to the more disaggregated analysis we illustrate the pattern at the level of regions following CONAPO's categorization, using measures of income poverty that are directly comparable with those discussed at the national level in Section 3.3, drawn from the ENIGH 2002. However, since the ENIGH series is not designed to be representative at the regional level the numbers are approximate and standard errors are presented. The regional estimates can be interpreted as approximate measures of the true poverty incidence; state-level estimates are, by contrast, too unreliable to be meaningful (see López Calva and Rodríguez Chamussy, 2003). The highest poverty incidence is in the rural areas of the South Pacific states —Chiapas, Guerrero and Oaxaca— where still close to 50% of the population lives in extreme poverty, followed by the South Gulf and Caribbean region, where around 35% of the population are extremely poor (Table 3.20). This compares with 19% in the Center, 10% in the North and 4% in Mexico City. In terms of absolute numbers it is important to note that there are large groups of the extreme poor living outside these South regions. For example, over a quarter of all the extreme poor in Mexico lives in urban areas in the Center states.

Note that poverty estimates include large standard deviations, particularly in the South-Pacific. This means that South-Pacific poverty estimates are around 41 to 52% with a 95% confidence. However, the standard errors do not change the ranking of the regions in terms of poverty headcounts.

From 2000 to 2002, extreme poverty fell significantly in the South Pacific (6 percentage points), the Center (5 percentage points), and in the South Gulf (5 percentage points). The North and Mexico City did not experience a significant change. Moderate poverty fell significantly only in the Center (five percentage points) and rose slightly in Mexico City (2 percentage points). However, it is premature to assess whether or not these poverty trends will continue.

Table 3.20 Poverty by region with Standard Deviations

Region	2000		2002		2000-2002 Change in Poverty
	Poverty Headcount	Standard Deviation	Poverty Headcount	Standard Deviation	
Extreme Poverty					
<i>South-Gulf</i>	39.6	2.9	34.7	2.1	-4.942**
<i>South-Pacific</i>	52.5	4.0	46.4	3.3	-6.050***
<i>Center</i>	23.8	1.7	18.6	2.3	-5.174***
<i>North</i>	10.5	1.1	9.7	1.7	-0.780
<i>Mexico City</i>	4.8	1.4	4.2	3.1	-0.616
Moderate Poverty					
<i>South-Gulf</i>	68.4	3.0	68.4	2.3	-0.005
<i>South-Pacific</i>	74.3	2.3	75.9	1.7	1.565
<i>Center</i>	58.5	1.0	53.0	1.6	-5.410***
<i>North</i>	36.8	0.8	37.6	1.4	0.846
<i>Mexico City</i>	25.8	0.8	27.9	2.5	2.043*

Note: This follows CONAPO's (*Consejo Nacional de Población*) classifications of Mexico into four regions, plus Mexico City: North (Baja California, Baja California Sur, Coahuila, Chihuahua, Durango, Nuevo León, Sinaloa, Sonora, Tamaulipas, and Zacatecas); Center (Aguascalientes, Colima, Guanajuato, Hidalgo, Jalisco, Edo. de México, Michoacán, Morelos, Nayarit, Puebla, Querétaro, San Luis Potosí and Tlaxcala); South-Pacific (Chiapas, Guerrero, and Oaxaca), and South-Gulf and Caribbean (Campeche, Quintana Roo, Tabasco, Veracruz and Yucatán). The ENIGH is not designed to be representative at the regional level and so these numbers should be treated as indicative.

*** Significant at the 1 percent level. ** Significant at the 5 percent level. * Significant at the 10 percent level.

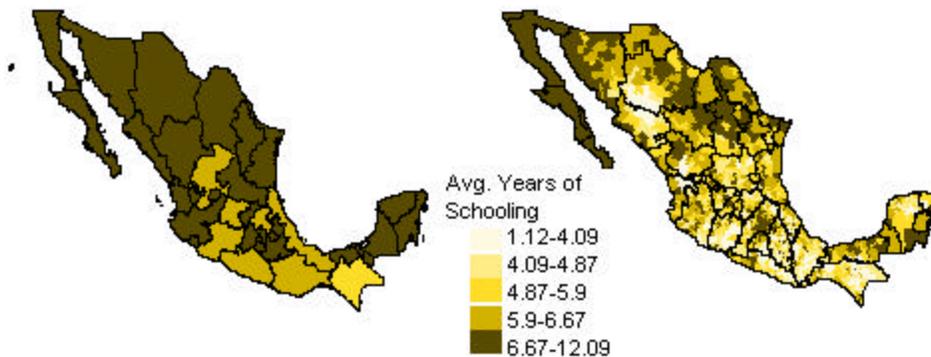
Source: WB staff calculations using ENIGH.

A much richer and more complex picture appears when we turn to lower levels of disaggregation. Figures 3.13-3.16 illustrate such diversity. They depict the spatial distribution of four socioeconomic variables across states and municipalities. Data comes from the 2000 population census. Colors/shading were defined based on quintiles of the distribution of the variable in question for municipality-level variables. The same color scale was kept for the state-level maps.

Figures 3.13-3.16 show that these outcomes present more variation within states than between them. Moreover, they also illustrate the presence of clusters of contiguous municipalities with similar socioeconomic outcomes that do not correspond to the states administrative borders.

Figure 3.13 depicts the distribution of schooling as measured by the average grade completed by adults across the Mexican territory. The state-level map shows a clear-cut divide between Northern and Central Mexico —where schooling is high— and the South of the country where it is low. However, as we move to a lower disaggregation, we find large heterogeneity throughout. While the municipalities that are on the US-Mexico border seem to exhibit, on average, higher schooling of between 7-12 years of schooling, there are also places with comparably high schooling outcomes to Central Mexico and the Yucatán peninsula. The more disaggregated map also shows that there are many municipalities with very low average levels of education (below 4 years), especially in the South, but also in the Center and parts of the North.

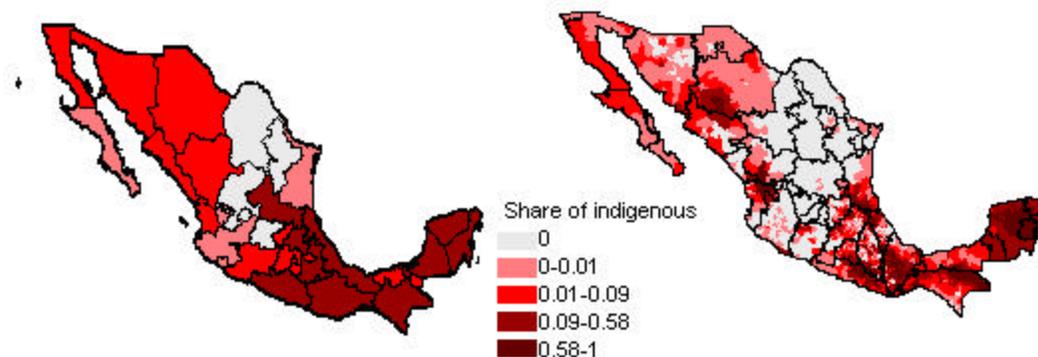
Figure 3.13 Average grades of schooling at the state (left) and municipality (right) level (among those age 15 and older)



Source: WB staff calculations from a municipal database from Census and other sources.

Figure 3.14 illustrates the proportion of indigenous population. Although the state-level figure suggests a relatively modest presence of indigenous peoples throughout the Northwest, South, and Center of the country, the municipal-level disaggregation shows the presence of across-the-state-border-clusters where the presence of indigenous is high. These are mainly in the South, but also with clusters in Chihuahua, Durango, and Nayarit.

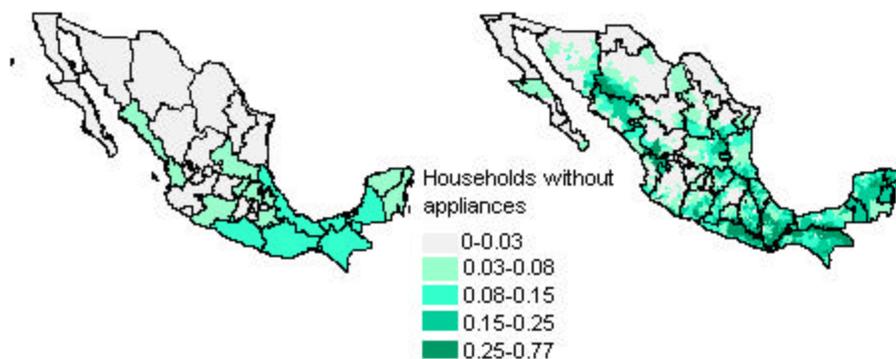
Figure 3.14 Proportion of population ages 5 and older that speaks an indigenous language at the state (left) and municipality (right) level



Source: WB staff calculations from a municipal database from Census and other sources.

Figure 3.15, in turn, portrays the distribution of household durables ownership across states and municipalities. While the state-level map looks like the one for the distribution of schooling in Figure 3.18 in that it has a North-South divide, at the municipality level we see similarities with the map in Figure 3.19 suggesting that regions with a high presence of indigenous population are also places where households own less durable goods.

Figure 3.15 Proportion of households who own no appliances at the state (left) and municipality (right) level

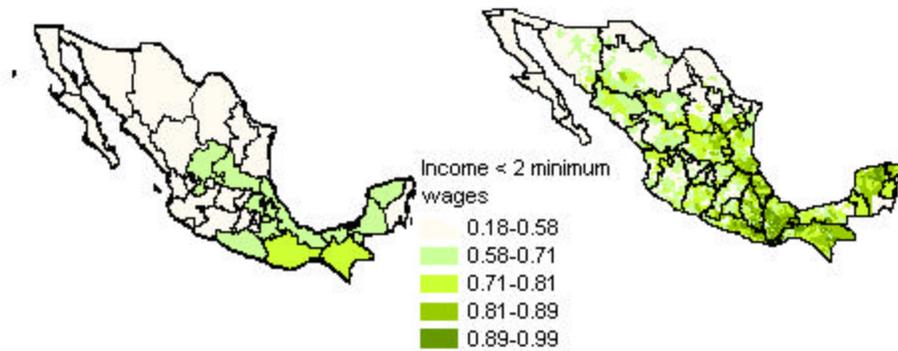


Note: Appliances include a radio, a TV, a VCR, a blender, a fridge, a washer, a phone, a water heater, a car or pickup truck and a computer.

Source: WB staff calculations from a municipal database from Census and other sources.

Finally, Figure 3.16 represents the percentage of workers earning less than two minimum wages both at the state and municipal level. In this case, both maps show a clear regional pattern as the concentration of workers with low wages is increasingly denser in the South of the country as well as in the Yucatán peninsula.

Figure 3.16 Proportion of employed who earn less than two minimum wages at the state (left) and municipality (right) level

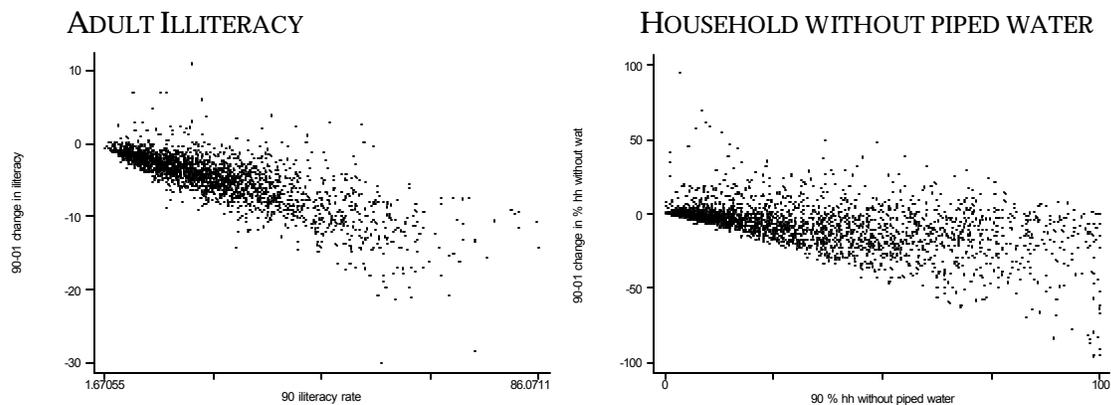


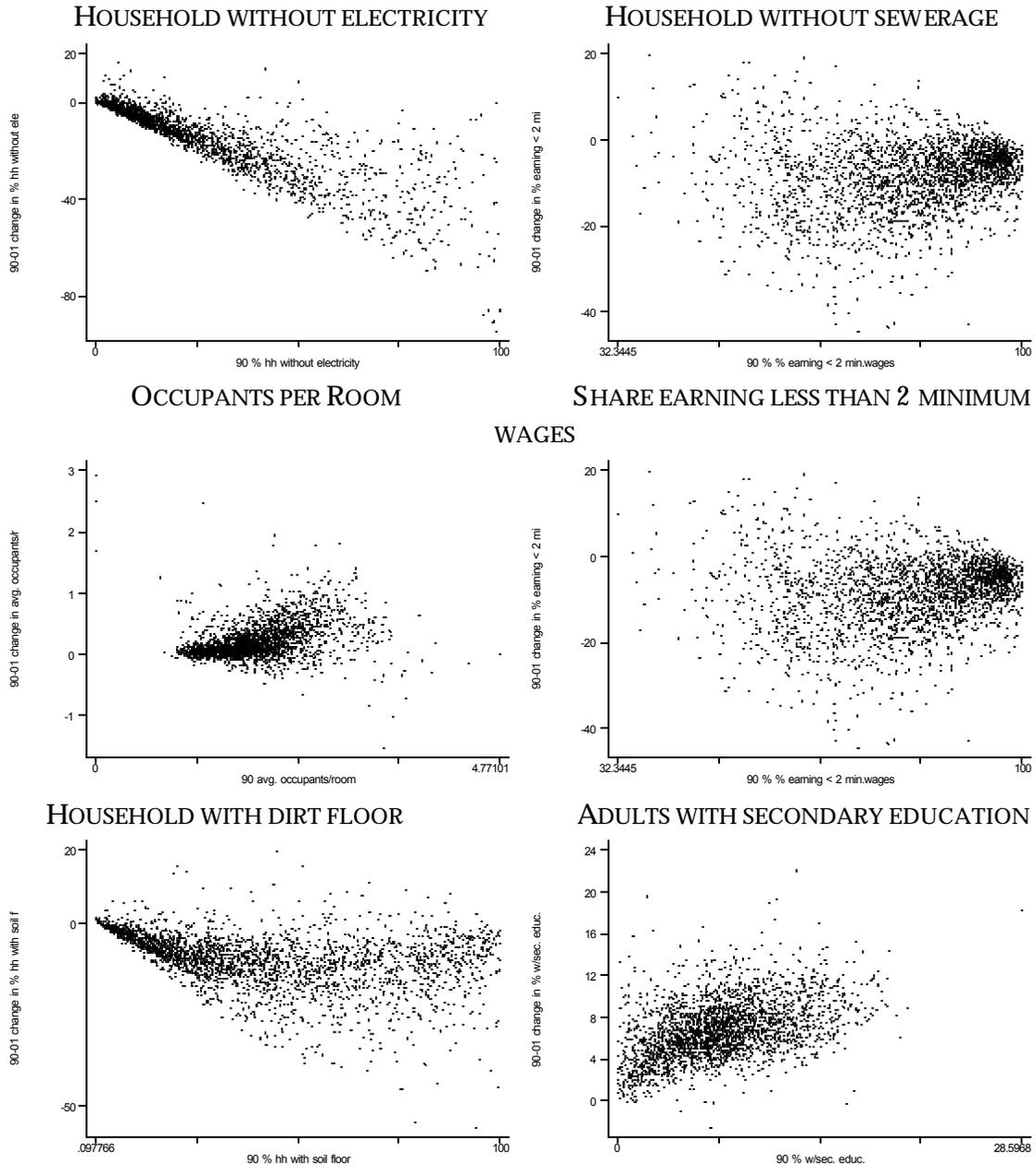
Source: WB staff calculations from a municipal database from Census and other sources.

Spatial heterogeneity over time

We next turn to the question of change through time. Of particular interest is the question of whether poorer areas are catching up with or converging with richer areas. In the past decade the picture is quite varied depending on the indicator. This is illustrated by Figure 3.17 that uses municipal-level census data on each of the seven components of the CONAPO marginality index plus the percentage of adults (15 and older) who completed secondary school (i.e. a total of nine years in Mexico). It plots changes on each of the variables between 2000 and 1990 (in the vertical axis) and their initial level in 1990 (in the horizontal axis). All of the variables (except the percentage with secondary education) can be thought of as dimensions of poverty and thus a decrease represents an improvement on average well-being in each municipality.

Figure 3.17 Changes on socioeconomic variables over the 90's in Mexican municipalities





Source: WB staff calculations from a municipal database from Census and other sources.

Figure 3.17 suggests a negative correlation between changes in illiteracy and the initial level. This means that improvements in well-being were relatively larger in places that were initially worse-off. A similar pattern is observed for lack of water and lack of electricity while there is no clear pattern to changes in sewerage relative to initial levels. These patterns are consistent with convergence for those publicly provided services in which initial access was high (as with water and electricity) but an ambiguous pattern where coverage was relatively low (sewerage). This is consistent with other evidence that public services typically work down the distribution, crowding in relatively disadvantaged groups as access approaches universality (see De Ferranti et al., 2004).

By contrast, the pattern for completion of secondary schooling is clearly divergent. In this case, bigger increases occurred in places where the initial level of the variable was also larger. However, the pattern is less clear for other variables such as the percentage of the employed population making less than two minimum wages or the average number of occupants per room in a dwelling. In these two cases no clear pattern of association between changes in the variables and their initial level can be detected in the figures. One last variable that doesn't have an obvious pattern is the percentage of dwellings with dirt floor. While a negative association is observed for localities with very low initial levels of prevalence of this type of dwellings, the relationship is attenuated and even reverses among the municipalities that are less well-off in this dimension. Interestingly, of all the components of the CONAPO index, these three are variables represent assets which are, for the most part, not provided by the government.

These findings can be complemented with those of authors who have explored the presence of convergence in different socioeconomic outcomes across Mexican states. Esquivel (1999) looks at per capita income across states and finds the presence of convergence between 1940 and 1980 followed by a period of stability during the 80's and divergence in the 90's. Esquivel's findings are consistent with those of Messmacher (2000).

García-Verdú (2002a) in an analysis for 1940-2000 finds considerable persistence over time in the ranking of states with respect to the distribution of per capita income, much less so for the distributions of infant mortality and adult literacy. Of these three variables there is convergence across Mexican states only in terms of adult literacy.

Finally, a series of studies have looked at questions of whether the spatial distribution of wages has converged or diverged. These mostly find a pattern of divergence after the period of trade and foreign investment liberalization which started in the late 1980's and was consolidated under the NAFTA agreement. In particular, a recent analysis by Hansen (2003) finds patterns of divergence associated with skill levels, foreign direct investment and geographic location.

Correlates of changes in well-being

To explore the correlates of changes in well-being we reproduced the CONAPO marginality index at the municipality level using only three of its components, the ones that can directly be associated to private —as opposed to public— provision: employed adults earning less than two minimum wages, households with a dirt floor and average number of occupants per room. We computed this index of marginality using principal-components for 1990 and 2000. The difference between the values of the index between the two years is what we refer to as “changes in marginality” or “changes in well-being”.

We first compare a series of characteristics across municipalities of different sizes: urban (2000 population greater than 15,000); semi urban (2000 population between 2,501-15,000); and rural (2000 population of 2,500 or less) in Table 3.21.³⁹

Table 3.21 Municipal characteristics, by 2000 classification of municipalities according to population

	Urban	Semiurban	Rural	U=S	S=R	U=R
Marginality Decrease	-7.48	-7.77	-7.81	*		
Population in 2000	86,873	7,597	1,362	***	***	***
Per capita municipal expenditures ³	677.80	795.60	1,306.00	***	***	***
Share of illiterate adults ¹	19.80	25.50	25.40	***		***
Share who speak indigenous language ¹	12.21	26.33	34.07	***	***	***
Share of employment in manufacturing ¹	14.79	11.68	10.35	**		**
Share of employment in services ¹	37.84	24.14	19.96	***		***
Share of population served by state road ²	57.12	44.11	25.03	***	***	***
Km to closest economic center	93.95	127.85	188.22	***	***	***
Coastal dummy	0.12	0.06	0.03	***	***	***
Northern border dummy	0.02	0.01	0.01	**	**	
Observations	1,018	998	381			

1. In 1990

2. In 1995

3. In 1999, with respect to 2000 population

Significant at: *** 1%, ** 5%, * 10%

Source: WB staff calculations from a municipal database from Census and other sources.

Table 3.21 shows that based on our index, the average change in marginality during the decade did not diverge significantly across municipalities of different sizes. Based on their size, Mexican municipalities differ in several aspects. The more rural a municipality, the more likely it is to have larger per capita municipal expenditures⁴⁰, more illiteracy, higher percentage of indigenous population, less employment in the

³⁹ According to the municipal-level data used in this exercise in 1990 at the national level 22% of the population was indigenous and the 2000 reports 18%. A difference between the Census result and the data provided here is that in the latter we are taking averages across municipalities (i.e. each municipality is weighted equally, independently of population size) therefore this places a lot of weight in the Southern states of Oaxaca and Chiapas where there a lot of small municipalities and the largest indigenous population).

⁴⁰ The municipal expenditures data comes from the *Centro Nacional de Desarrollo Municipal* (CEDEMUN) data set. It is the total expenditure (administrative, public works, subsidies and other) for each of the municipalities in 1999. From the revenues side, it includes —among others— the following accounts: taxes, federal participations, rights, production and others.

manufacturing and services sector, less access to roads. Rural municipalities are more isolated from centers of economic activity⁴¹, from the coast and from the US-Mexico border. Also, while different from urban municipalities in some aspects, semi-urban and rural municipalities are similar among themselves in their illiteracy rates, their access to manufacturing employment and their proximity to the US-Mexico border.

Based on the changes in marginality that occurred over the decade, municipalities were classified into two groups: municipalities with high decrease in marginality and municipalities with low decrease in marginality —or even increase in it (the cutoff being the median decrease). Summary statistics for a series of municipal characteristics across these two groups are presented in Table 3.22. The table separates urban, semi urban and rural municipalities.

Table 3.22 Municipal characteristics, by 2000-1990 marginality reduction

	Urban			Semi urban			Rural		
	Mg. Reduction High	Mg. Reduction Low	Mg. Reduction Diff.	Mg. Reduction High	Mg. Reduction Low	Mg. Reduction Diff.	Mg. Reduction High	Mg. Reduction Low	Mg. Reduction Diff.
Marginality Decrease	-10.10	-4.85	***	-10.71	-4.83	***	-11.49	-4.11	***
Population in 2000	91,024	76,343	*	7,356	7,838	**	1,330	1,395	
Per capita municipal expenditures ³	734.6	621.0	***	890.8	700.3	***	1,241.0	1,372.3	
Share of illiterate adults ¹	18.80	20.70	**	23.75	27.16	***	27.05	23.70	**
Share who speak indigenous language ¹	10.51	13.91	**	24.19	28.47	*	36.28	31.84	
Share of employment in manufacturing ¹	14.94	14.65		11.05	12.31		8.44	12.27	
Share of employment in services ¹	39.75	35.94	***	25.64	22.65	***	17.20	22.73	***
Share of population served by state road ²	60.06	54.17	**	46.82	41.41	**	22.47	27.61	
Km to closest economic center	91.14	96.76		129.90	125.80		192.30	184.10	
Coastal dummy	0.07	0.17	***	0.06	0.06		0.03	0.04	
Northern border dummy	0.03	0.02		0.01	0.01		0.02	0.01	
Observations	509	509		499	499		191	191	

1. In 1990

2. In 1995

3. In 1999, with respect to 2000 population.

Significant at: *** 1%, ** 5%, * 10%

Source: WB staff calculations from a municipal database from Census and other sources.

A first pattern illustrated in this table is that —unlike urban and semi-urban municipalities— there are few differences in the attributes of rural municipalities with

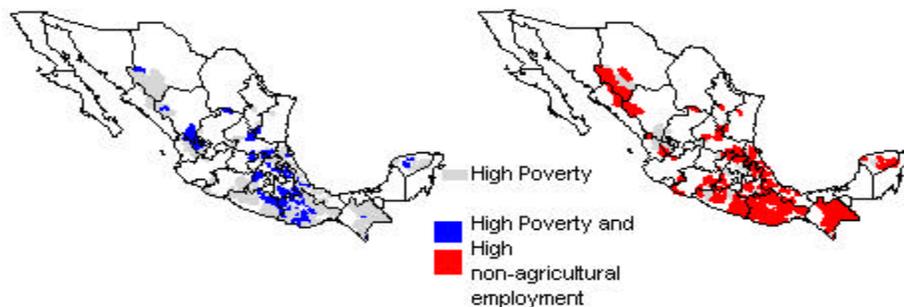
⁴¹ By center of economic activity we refer to those municipalities with a city of at least 250,000 people and in the top 33% of the country's distribution in terms of their employment in manufacturing or in services. This definition suggests there exist a total of 56 economic centers throughout Mexico.

high and low decreases in their indices of marginality. Specifically, high decreases in marginality are more frequent in places with high illiteracy and less employment in services. This suggests that the variables explored above are not the best choice of correlates of changes in poverty for rural municipalities. It would be important to include variables related to the local agricultural productivity, access to land and to other agricultural-related assets —this will be the subject of future work on rural poverty.

An important pattern that is illustrated in Table 3.22 is that the urban and semi-urban municipalities with high decreases in marginality differ from the less successful ones in similar aspects. Specifically, urban and semi urban municipalities with high decrease in marginality have, on average, more investment (higher per capita municipal government expenditures) and better access to assets and infrastructure (less illiteracy, more roads, more employment in services). Interestingly, they also have a smaller indigenous population. A difference between urban and semi-urban municipalities that succeeded in reducing marginality is that, among the urban ones, it is the largest ones in terms of their 2000 population that achieved the biggest decrease in marginality, while the opposite is true for semi-urban municipalities. Note, however, that these cross tabs are only measuring association between the variables (in a multivariate regression some of the variables might not became important) as causality could go in both directions.

Finally, figure 3.18 shows maps of Mexican municipalities, distinguishing —among those where poverty⁴² is high— the ones with high and with low employment in manufacture and services. We see that among the municipalities where poverty is high, there are more that have a low share of non-agricultural employment than there are with a high share. These maps also suggest that there exist large contiguous areas along Mexico that have similar employment and poverty outcomes.

Figure 3.18 Poverty and share of non -agricultural employment
(High refers to top third)



Source: WB staff calculations from a municipal database from Census and other sources.

⁴² As measured by the CONAPO marginality index, including all of its components.

Ethnic differences in well-being

To explore the relationship between ethnicity and well-being, we first look at patterns of poverty for indigenous and non-indigenous individuals across the whole population and then turn to a spatial analysis, based on concentrations of indigenous groups.

Since the ENIGH does not have a question on ethnicity it is not possible to estimate poverty statistics using the concepts and surveys that are the standard sources of poverty for Mexico and used in Section 3.2. However, the Census has a more limited question on labor incomes that can be used to generate indicative numbers. As Table 3.23 illustrates, 44% of indigenous groups are in the bottom 20% of the overall population distribution, and 80% in the bottom 50%. Using the bottom quintile as a measure of extreme poverty (this is close to the incidence under the food-based poverty line from the ENIGH), indigenous peoples account for about a fifth of the extreme poor, that is over twice their population share according answers to the question on language at home in the 2000 Census.

Table 3.23 Poverty amongst Indigenous Groups

<i>Proportion who are in:</i>	<i>Category</i>	<i>Headcount</i>	<i>Poverty Gap</i>	<i>Squared Poverty Gap</i>
Bottom 20%	Indigenous	43.8	36.9	34.9
	Non-indigenous	17.5	15.8	15.4
	Total	20.0		
Bottom 50%	Indigenous	79.3	58.3	49.9
	Non-indigenous	46.9	27.8	22.0
	Total	50.0		
Top 10%	Indigenous	2.3		
	Non-indigenous	10.8		
	Total	10.0		

Note: Percentiles calculated on the basis of per household wage income.

Source: WB staff calculations from a 2000 Census.

The 2000 Census indicates that close to 60% of the indigenous households did not have sewerage, 33.5% did not have access to potable water and 78.7% live in dwellings of only one room. With respect to education, net enrollment rates for educational levels beyond primary decrease dramatically for indigenous groups particularly in the South part of the country. The lower secondary net enrollment rate is only 35% for the indigenous compared to 60% nationally. Moreover, 24% of the population that speaks an indigenous

language in the South does not attend school in the age group 12 to 14 years old. The main cause for dropping out of school is lack of financial resources to continue studying. More than 68.4% of the indigenous 12 years and older work.

The adverse gradient in access to services and education for indigenous groups also applies to health. Mortality levels are higher in the states with a high concentration of indigenous population (World Bank 2003c). More striking are differences in service levels. Coverage of formal health insurance is substantially lower—a consequence of the lower proportion of households attached to formal work. The IMSS coverage rate in the South (Pacific) is only 7%, compared with 26% in Mexico City and 31% in the North. In the South (Pacific), 89% of the indigenous population is not covered by formal insurance systems (Table 3.24).

Table 3.24 Coverage of Health Insurance by Region and Indigenous Status

Variable	South (Pacific Ocean)			Mexico City			National		
	Speaks indigenous language			Speaks indigenous language			Speaks indigenous language		
	Yes	No	Total	Yes	No	Total	Yes	No	Total
IMSS	7.0	15.2	13.0	26.1	37.8	37.5	12.3	34.8	33.2
ISSSTE	2.7	7.4	6.1	8.1	13.5	13.4	3.1	6.4	6.2
PEMEX	0.3	1.1	0.9	1.2	1.3	1.3	0.4	1.1	1.1
<i>Other</i>	0.0	0.5	0.4	0.4	0.8	0.8	0.2	1.2	1.1
<i>No insurance</i>	88.7	74.7	78.4	63.0	45.7	46.0	82.5	55.5	57.4

Source: WB staff calculations from the Census.

Turning to the municipal-level spatial analysis, regions with a higher presence of indigenous are still lagging behind in many socio-economic indicators. Moreover, data on their evolution over time is not conclusive on whether they are likely to converge towards the national average. Table 3.25 illustrates such differences. After ranking the municipalities according to the percentage of indigenous we compare the top quintile (i.e. those with 53% or more indigenous) to the rest of the distribution.

Table 3.35 Municipal characteristics, by presence of indigenous

	All others	Top 20%	Diff.
Share who speak indigenous language ¹	5.85	84.50	***
Population in 2000	47,494	10,861	***
Per capita municipal expenditures ³	888.5	580.1	***
Share of illiterate adults ¹	18.6	40.7	***
Share of employment in manufacturing ¹	13.55	9.75	***
Share of employment in services ¹	32.53	16.36	***
Share of population served by state road ²	51.39	27.43	***
Km to closest economic center	113.79	160.15	***
Coastal dummy	0.08	0.07	
Northern border dummy	0.02	0.00	***
2000-1999 changes			
Share of illiterate adults	-3.78	-7.91	***
Share in dwellings without piped water	-6.91	-9.46	***
Share in dwellings without sewerage	3.93	14.06	***
Share in dwellings without electricity	-11.31	-19.11	***
Average occupants per room	0.16	0.41	***
Share in dwellings with dirt floor	-9.15	-12.43	***
Share employed earning less than two minimum wages	-9.31	-4.90	***
Share of adults with secondary education	7.14	5.33	***
Observations	1,918	479	

1. In 1990; 2. In 1995; 3. In 1999, with respect to 2000 population.

Significant at: *** 1%, ** 5%, * 10%

Note: During the past decade, sewerage coverage growth was low with respect to population growth at the municipal level with might explain the positive sign found in the table.

Source: WB staff calculations from a municipal database from Census and other sources.

We find that municipalities with a high presence of indigenous are, on average, smaller in population. Despite the national pattern towards higher per capita expenditure in smaller rural —as compared to urban and semi-urban— municipalities observed in Table 3.25, municipalities with a large indigenous population have a lower per capita municipal expenditure. They also have a higher percentage of illiterate adults, significantly less employment in manufacturing and services and they are more isolated, less served by roads, and less likely to be on the US-Mexico border.

Table 3.25 also compares the changes over time of the components of the CONAPO marginality index, as well as of the percentage of adults with secondary education across these two groups of municipalities. We find that municipalities with a high percentage of indigenous improved faster than the rest in terms of illiteracy, piped water, electricity, and material of the floor of the dwellings. Note however that the first three of these refer to variables that tend to become of universal access over time. Furthermore, this table also shows that municipalities with a high presence of

indigenous did significantly worse than the rest in other aspects such as access to sewerage and crowdedness of the dwellings, earnings, and average schooling of the adults.

Net migration and population growth

Mexico has experienced important demographic changes in the last twenty years. While domestic migration appears to be correlated with the availability of public and private assets and incomes we find that regions with a high proportion of incoming residents were relatively less successful in improving their socioeconomic indicators over time.

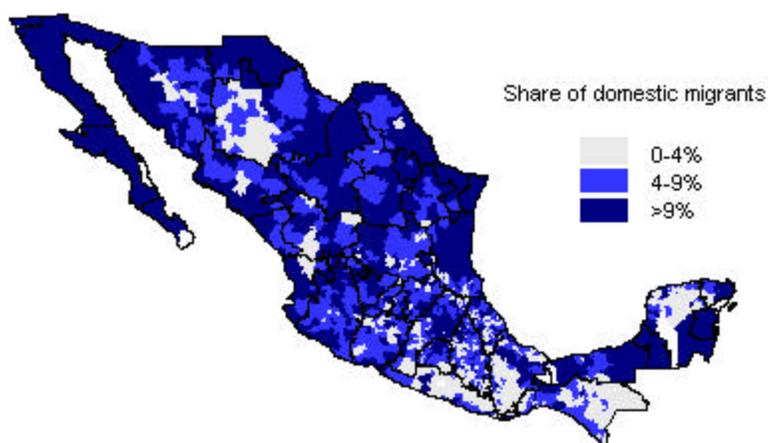
While in 1980, 35% of Mexico's 2,400 municipalities had more than 15,000 inhabitants (the cutoff population to be classified as urban according to CONAPO⁴³), in 2000, 42% of the municipalities were urban. Not only the average municipality became larger but in general there was increasing concentration of population in the urban areas. While in 1980, 87% of the population lived in urban municipalities, in 2000 this number increased to 92%.⁴⁴ This, of course, came with a reduction in the percentage of people living in rural (from 0.96% to 0.54%) and semi urban (from 12.4% to 7.9%) municipalities in the same period. The number of localities increased in rural areas? Is there more population dispersion in rural areas? We ask this because the GOM has insisted that a challenge is increasing population dispersion that prevents them from effectively delivering programs and basic services.

Figure 3.19 illustrates the distribution of the share of municipal residents non-native to the municipality or state where they lived in 2000. This variable characterizes the relative "attractiveness" of different areas for domestic migrants. The map suggests that the regions that have a higher percentage of domestic migrants are located close to the US-Mexico border, to the larger cities (Mexico City, Guadalajara and Monterrey), and in tourist areas of the coast (both the Pacific and Yucatán). Similarly, the places that seem less appealing to migrants are clustered in the poorer Southern states of Guerrero, Oaxaca and Chiapas, as well as in the dry Chihuahua.

⁴³ Note however that we are applying the CONAPO cutoff to municipalities rather than localities, which leads us to larger figures in terms of the total percentage of urban population in the country since rural localities in municipalities with more than 15,000 inhabitants are not accounted as such.

⁴⁴ Note that in urban municipalities there might be rural individuals.

Figure 3.19 2000 Share of population born in a different municipality and/or state



Source: WB staff calculations from a municipal database from Census and other sources.

Table 3.26 compares the top twenty percent of municipalities based on their percentage of municipal migrants in 2000 to the rest of municipalities in the country. By municipal migrants we refer to those who reside in a different municipality —but not a different state— than the one where they were born.⁴⁵ Based on this definition, we find that municipalities with a high share of migrants are those that are overall better off in terms of levels (though not necessarily those that experienced the most rapid gains —see below). On average, they have bigger populations, higher per capita public expenditure, less indigenous population, less illiteracy, more employment in services and manufacture, better access to roads and are closer to both economic centers and to the US-Mexico border.

⁴⁵ Although not reported here, a similar exercise that accounts for domestic migrants that traveled not only within the state but across the states reveals similar patterns in terms of the characteristics of the locations with a higher percentage of non-native Mexican residents.

Table 3.26 Municipal characteristics, by share of municipal migrants in 2000

	All others	Top 20%	Diff.
Population in 2000	33,260	67,825	***
Per capita municipal expenditures ³	777.6	1,023.8	***
Share of illiterate adults ¹	25.6	12.6	***
Share who speak indigenous language ¹	25.6	5.5	***
Share of employment in manufacturing ¹	11.3	18.7	***
Share of employment in services ¹	25.96	42.54	***
Share of population served by state road ²	42.49	63.13	***
Km to closest economic center	127.14	106.28	***
Coastal dummy	0.08	0.08	
Northern border dummy	0.01	0.05	***
2000-1990 changes			
Share of illiterate adults	-5.03	-2.90	***
Share in dwellings without piped water	-8.26	-4.09	***
Share in dwellings without sewerage	6.79	2.58	***
Share in dwellings without electricity	-14.04	-8.19	***
Average occupants per room	0.24	0.10	***
Share in dwellings with dirt floor	-10.49	-7.10	***
Share employed earning less than two minimum wages	-7.32	-12.81	***
Share of adults with secondary education	6.56	7.67	***
Observations	1,917	479	

1. In 1990

2. In 1995

3. In 1999, with respect to 2000 population.

Significant at: *** 1%, ** 5%, * 10%

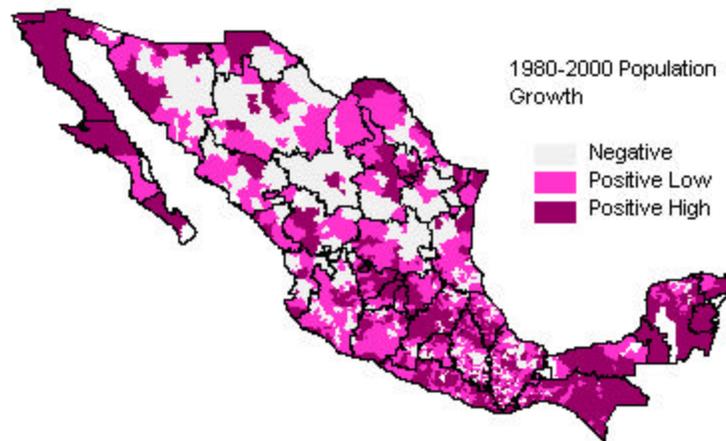
Source: WB staff calculations from a municipal database from Census and other sources

If we look at how these two groups of municipalities performed over time we find patterns that are consistent with local inability to meet the needs of the incoming population. Specifically, municipalities with a high share of migrants were less successful in reducing their gaps in illiteracy, in the access to piped water or in electricity. They also made less progress than the rest of the country in terms of reduction of the percentage of the population living in homes with soil floors. Between 1990 and 2000, municipalities with high percentages of migrants experienced an increase in the percentage of people without sewerage as well as in the average crowdedness of the dwellings. However—and this is probably related to the appeal of these places and the type of people they attract—municipalities with a high share of migrants also experienced larger increases in the average secondary schooling of adults and they had bigger reductions in the percentage of workers earning less than two minimum wages.

An additional evidence of the changes in population distribution across Mexican municipalities is presented in Figure 3.20. It illustrates the population growth between 1980 and 2000 including both natural growth as both as net migration and

distinguishing between places that experienced a decrease in their population, as well as those where population growth was low and high. The figure shows that the municipalities where recent population growth has been the largest are spread across different regions of the country: from the Yucatán peninsula to the states of Baja California, Mexico, Guanajuato and Puebla. Places with negative population growth are also distributed throughout the country but there are a large number of them in the Northern-Central region of the country (in areas of Durango, Zacatecas, and Chihuahua).

Figure 3.20 1980-2000 population growth



Source: WB staff calculations from a municipal database from Census and other sources.

Table 3.27 compares characteristics of municipalities that experienced negative population growth between 1980 to those with positive high and low increases in their population over the same period. In summary, the table suggests that municipalities where population grew fast seem well endowed in terms of geographic characteristics and assets but they are not necessarily performing better in terms of the evolution of their socioeconomic indicators over time.

More specifically, Table 3.27 illustrates that municipalities with a high increase in population differ significantly from the other two groups in several aspects. They are on average larger in terms of population and have lower per capita municipal expenditures. They have more employment in manufacturing and in services, better access to roads and are closer to the main centers of economic activity of the country. When looking at the performance of socioeconomic variables over time these municipalities had higher decreases in adult illiteracy but experienced increases in the crowdedness of dwellings and in the proportion of population that lacks sewerage. On the other hand, municipalities with negative population growth differ from the other two groups in that they are less likely to be located on the coast or on the US-Mexico border.

Table 3.27 Municipal characteristics, by 1980-2000 population growth

	Negative	Low	High	N=L	L=H	N=H
2000-1980 population growth	-18.2	20.5	88.7	***	***	***
Population in 2000	17,403	30,235	66,339	**	***	***
Per capita municipal expenditures ³	1,192.1	751.5	646.3	***	***	***
Share of illiterate adults ¹	20.5	23.6	24.3	***		***
Share who speak indigenous language ¹	18.6	20.4	24.9		***	***
Share of employment in manufacturing ¹	10.2	11.4	16.1		***	***
Share of employment in services ¹	24.25	28.15	33.90	***	***	***
Share of population served by state road ²	35.07	45.84	55.52	***	***	***
Km to closest economic center	146.13	123.92	105.11	***	***	***
Coastal dummy	0.04	0.09	0.10	***		***
Northern border dummy	0.01	0.02	0.02	**		*
2000-1999 changes						
Share of illiterate adults	-3.46	-4.74	-5.30	***	***	***
Share in dwellings without piped water	-7.59	-7.93	-6.82			
Share in dwellings without sewerage	9.61	6.33	2.88	**	***	***
Share in dwellings without electricity	-12.52	-13.32	-12.67			
Average occupants per room	0.16	0.21	0.25	***	***	***
Share in dwellings with dirt floor	-10.49	-10.33	-8.83		***	***
Share employed earning less than two minimum wages	-7.42	-7.74	-9.86		***	***
Share of adults with secondary education	6.50	6.68	7.08		***	***
Observations	624	880	879			

1. In 1990

2. In 1995

3. In 1999, with respect to 2000 population.

Significant at: *** 1%, ** 5%, * 10%

Source: WB staff calculations from a municipal database from Census and other sources.

In this section we have taken a brief look at patterns of well-being from a different angle to early sections —of geography and ethnic grouping. Geographic factors cut across all dimensions of well-being. Living in a poor area can make a profound difference to life prospects. There are large differences in income poverty between different regions with a generalized gradient from North to South, and Mexico City having the highest income and lower poverty rates. The highest poverty incidence is in the rural areas of the South Pacific states —Chiapas, Guerrero and Oaxaca— where still some 46% of the population lives in extreme poverty, followed by the South Gulf and Caribbean, where over 35% of the population are extremely poor. This compares with about 19% in the Center, 10% in the North and 4% in Mexico City living in extreme poverty.

From 2000 to 2002 extreme poverty fell significantly in the South Pacific (6 percentage points), the Center (5 percentage points) and in the South Gulf (5 percentage points). The North and Mexico City did not experience a significant change. Moderate poverty fell

significantly only in the Center (five percentage points). However, it is premature to assess whether or not these poverty trends will continue.

These overall regional differences hide a great deal of spatial heterogeneity within states both in terms of levels of well-being and patterns of change. In terms of numbers, there are large groups of the extreme poor living outside the poorest states (a quarter of all the extreme poor in Mexico live in urban areas in the Center states). Indeed, all parts of Mexico have steep gradients in conditions of living from more developed urban areas, through peri-urban areas and smaller towns, through to the more remote rural areas. There is an overlap between indigence and spatial indices of well-being especially for rural indigenous groups. There are high concentrations of indigenous groups in many municipalities in the South-Pacific states, in the Yucatan peninsula as well as in some municipalities of the West and Northwest of Mexico.

In terms of trends, regional differences have long historical roots. There has been some long-term convergence in most indicators of services and social conditions but a tendency toward divergence in income and wage measures in the 1990's that appears to be associated with the differential effects of heightened international integration both before and after NAFTA. Areas closer to the border, or to urban centers, typically grew faster. The 2000-02 period appears to have witnessed statistically significant reductions in extreme poverty in the South-Pacific, South-Gulf and Central regions but not in the North or Mexico City. For moderate poverty the only statistically significant decline was for the Central region.

ANNEX

Table A.3.1 Probability of Being Extreme Poor, 2002

Observations	16,266	Prob > χ^2	0.000	Pseudo R ²	0.398					
Wald χ^2 (96)	1,833.18	Log pseudo-likelihood	-3992							
Variables	Robust				Variables	Robust				
	dF/dx	Std. Err.	P>z	x-bar		dF/dx	Std. Err.	P>z	x-bar	
urban*	0.019	0.005	0.000	0.753	adult squared	-0.002	0.001	0.002	9.858	
babies	0.039	0.006	0.000	0.483	age of HH	-0.003	0.001	0.001	47.464	
babie squared	0.001	0.002	0.667	0.813	age squared of HH	0.000	0.000	0.003	2490.8	
children	0.043	0.005	0.000	0.860	female HH*	0.014	0.011	0.170	0.213	
children squared	-0.001	0.001	0.240	1.923	no spouse*	0.004	0.026	0.880	0.280	
adults	0.022	0.006	0.000	2.823	social security*	-0.060	0.006	0.000	0.412	
	Household Head Characteristics					Spouse Characteristics				
	Education									
Primary Incomplete*	-0.013	0.006	0.031	0.237		-0.019	0.006	0.004	0.177	
Primary Complete*	-0.015	0.006	0.028	0.204		-0.027	0.006	0.000	0.180	
Lower Sec Incomplete*	-0.031	0.005	0.000	0.037		-0.028	0.007	0.012	0.029	
Lower Sec Complete*	-0.031	0.006	0.000	0.176		-0.030	0.006	0.000	0.161	
Upper Sec Incomplete*	-0.034	0.005	0.001	0.032		-0.045	0.003	0.000	0.023	
Upper Sec Complete*	-0.042	0.004	0.000	0.061		-0.043	0.004	0.000	0.048	
University Incomplete*	-0.033	0.007	0.005	0.035	<i>Dropped (predicts failure perfectly)</i>					
University Complete*	-0.041	0.006	0.006	0.056	<i>Dropped (predicts failure perfectly)</i>					
	Employment									
Not Working*	-0.059	0.008	0.000	0.187		0.060	0.028	0.017	0.457	
Searching*	0.432	0.122	0.000	0.009		0.067	0.072	0.204	0.002	
Formal*	0.016	0.018	0.348	0.263		0.003	0.024	0.887	0.128	
	Position in Employment									
Non-agricultural Laborer*	0.012	0.011	0.251	0.441		0.009	0.022	0.661	0.115	
Employer (under 5 employees)*	-0.035	0.005	0.000	0.043		-0.041	0.003	0.000	0.005	
Employer (5 or + employees)*	-0.039	0.005	0.012	0.007	<i>Dropped (predicts failure perfectly)</i>					
Self-Employed*	-0.013	0.015	0.422	0.244		-0.014	0.020	0.520	0.103	
	Sector of Activity									
Extraction*	-0.043	0.003	0.002	0.004	<i>Dropped (predicts failure perfectly)</i>					
Manufacturing*	-0.030	0.006	0.000	0.131		0.004	0.015	0.802	0.047	
Utilities*	-0.037	0.005	0.003	0.005	<i>Dropped (predicts failure perfectly)</i>					
Construction*	-0.033	0.005	0.000	0.082		-0.035	0.010	0.133	0.002	
Commerce*	-0.045	0.004	0.000	0.136		-0.006	0.013	0.661	0.077	
Transportation*	-0.038	0.005	0.000	0.053		-0.022	0.022	0.463	0.002	
Financial Services*	-0.036	0.007	0.034	0.005	<i>Dropped (predicts failure perfectly)</i>					
Services *	-0.040	0.006	0.000	0.228		-0.020	0.012	0.156	0.095	
	Underemployment									
< 13 hrs.*	0.023	0.018	0.138	0.033		0.027	0.021	0.121	0.051	
13 hrs-19 hrs.*	0.023	0.018	0.137	0.020		0.065	0.031	0.004	0.020	
19 hrs-39 hrs.*	-0.007	0.006	0.257	0.133		0.028	0.017	0.051	0.070	
	Firm Size									
With < 5 workers*	0.019	0.008	0.017	0.449		0.026	0.026	0.247	0.184	
With 5 to 9 workers*	0.013	0.012	0.244	0.072		0.047	0.041	0.137	0.017	
With 10 to 19 workers*	0.023	0.018	0.141	0.048		0.004	0.028	0.892	0.009	
obs. P	0.141				pred. P	.0426847 (at x-bar)				

(*) dF/dx is for discrete change of dummy variable from 0 to 1; z and P>z are the test of the underlying coefficient being 0

Table A.3.2 Marginal contribution of household characteristics on per capita income, 2002

Observations	17,167	R ²	0.671	Prob > F	0				
F(102, 17064)	145.18	Root MSE	0.533						
Robust					Robust				
Variables	Coef.	Std. Err.	t	P>t	Variables	Coef.	Std. Err.	t	P>t
Urban	0.204	0.020	10.060	0.000	adult squared	0.020	0.002	8.540	0.000
Babies	-0.302	0.017	-18.050	0.000	age of HH	0.021	0.003	6.280	0.000
Babies squared	0.032	0.005	5.920	0.000	age squared of HH	0.000	0.000	-4.100	0.000
Children	-0.306	0.014	-22.050	0.000	female HH	-0.110	0.028	-3.860	0.000
children squared	0.028	0.004	7.780	0.000	no spouse	0.145	0.071	2.030	0.043
Adults	-0.232	0.019	-12.020	0.000	social security	0.224	0.018	12.610	0.000
<i>Household Head Characteristics</i>					<i>Spouse Characteristics</i>				
Education									
Primary Incomplete	0.179	0.023	7.870	0.000		0.117	0.026	4.480	0.000
Primary Complete	0.305	0.026	11.880	0.000		0.156	0.029	5.370	0.000
Lower Sec Incomplete	0.421	0.042	10.020	0.000		0.142	0.040	3.520	0.000
Lower Sec Complete	0.428	0.030	14.500	0.000		0.137	0.031	4.490	0.000
Upper Sec Incomplete	0.637	0.050	12.760	0.000		0.157	0.049	3.190	0.001
Upper Sec Complete	0.687	0.038	17.850	0.000		0.312	0.043	7.310	0.000
University Incomplete	0.970	0.054	18.080	0.000		0.493	0.061	8.090	0.000
University Complete	1.109	0.046	23.970	0.000		0.524	0.069	7.610	0.000
Employment									
Not Working	0.707	0.056	12.720	0.000		-0.221	0.063	-3.490	0.000
Searching	-0.916	0.100	-9.130	0.000		0.293	0.220	1.330	0.183
Formal	-0.007	0.043	-0.150	0.879		0.004	0.063	0.060	0.950
Position in Employment									
Non-agricultural Laborer	-0.056	0.036	-1.570	0.116		0.003	0.051	0.060	0.948
Employer (under 5 employees)	0.479	0.048	10.000	0.000		0.443	0.080	5.530	0.000
Employer (5 or + employees)	0.715	0.104	6.900	0.000		0.803	0.258	3.120	0.002
Self-Employed	0.039	0.051	0.770	0.443		0.033	0.068	0.490	0.627
Sector of Activity									
Extraction	0.467	0.068	6.880	0.000		0.378	0.157	2.410	0.016
Manufacturing	0.168	0.033	5.130	0.000		0.002	0.050	0.050	0.961
Utilities	0.326	0.078	4.160	0.000		-0.551	0.233	-2.360	0.018
Construction	0.202	0.034	6.000	0.000		-0.002	0.135	-0.020	0.987
Commerce	0.245	0.034	7.280	0.000		0.091	0.046	1.980	0.047
Transportation	0.261	0.041	6.320	0.000		0.211	0.150	1.400	0.160
Financial Services	0.350	0.187	1.870	0.062		0.347	0.138	2.520	0.012
Services	0.188	0.032	5.900	0.000		0.046	0.051	0.910	0.364
Underemployment									
Head < 13 hrs.	-0.133	0.046	-2.860	0.004		-0.076	0.036	-2.110	0.035
Head 13 hrs –19 hrs.	-0.097	0.051	-1.910	0.056		-0.139	0.042	-3.300	0.001
Head 19 hrs –39 hrs.	-0.003	0.021	-0.150	0.884		-0.071	0.026	-2.700	0.007
Firm Size									
With < 5 workers	-0.106	0.025	-4.340	0.000		-0.146	0.046	-3.190	0.001
With 5 to 9 workers	-0.026	0.029	-0.890	0.373		-0.146	0.064	-2.280	0.023
With 10 to 19 workers	-0.061	0.030	-2.030	0.043		-0.096	0.062	-1.550	0.122
Constant	7.905	0.116	68.080	0.000					

Table A.3.3 Trends in Headcount, Poverty Gap and Squared Poverty Gap

		1992	1994	1996	1998	2000	2002
<i>Headcount (P₀)</i>							
Extreme	<i>National</i>	22.4	21.4	37.1	34.0	24.2	20.3
	<i>Rural</i>	35.6	37.0	52.4	52.4	42.4	34.8
	<i>Urban</i>	13.3	10.1	26.5	21.2	12.6	11.4
Moderate	<i>National</i>	52.5	55.8	69.6	63.7	53.7	51.7
	<i>Rural</i>	65.0	72.3	80.8	75.1	69.3	67.5
	<i>Urban</i>	43.8	43.7	61.9	55.7	43.7	42.0
<i>Poverty Gap (P₁)</i>							
Extreme	<i>National</i>	7.49	7.15	13.87	13.47	8.44	6.34
	<i>Rural</i>	13.14	13.47	21.90	23.88	16.34	12.15
	<i>Urban</i>	3.57	2.55	8.33	6.27	3.36	2.79
Moderate	<i>National</i>	21.66	23.90	33.96	30.94	23.38	21.20
	<i>Rural</i>	29.65	34.97	42.95	42.16	34.81	31.69
	<i>Urban</i>	16.11	15.83	27.76	23.19	16.03	14.81
<i>Poverty Gap Squared (P₂)</i>							
Extreme	<i>National</i>	3.51	3.32	7.05	7.17	4.32	3.17
	<i>Rural</i>	6.47	6.57	11.91	13.61	8.42	6.57
	<i>Urban</i>	1.45	0.96	3.69	2.72	1.69	1.09
Moderate	<i>National</i>	11.76	13.19	20.49	18.76	13.23	11.52
	<i>Rural</i>	17.23	20.73	27.42	27.91	21.37	18.72
	<i>Urban</i>	7.96	7.70	15.69	12.44	8.00	7.13

Source: WB Staff estimates based on ENIGH, using SEDESOL's poverty lines for income measure.

Table A.3.4 Poverty lines (SEDESOL)

		1992	1994	1996	1998	2000	2002
Food poverty (PL1)	<i>Urban</i>	167,955.20	194.00	389.40	524.80	626.00	672.25
	<i>Rural</i>	124,750.60	143.30	290.00	388.50	463.00	494.77
Capabilities poverty (PL2)	<i>Urban</i>	197,963.80	236.10	469.40	622.10	768.10	792.29
	<i>Rural</i>	140,586.30	165.60	335.60	445.00	548.50	587.57
Asset-poverty (PL3)	<i>Urban</i>	333,122.70	414.50	804.20	1,054.50	1,254.50	1,366.85
	<i>Rural</i>	218,794.40	278.70	527.20	690.90	843.30	946.94

Lines are presented in monthly per capita pesos of August of each year.

Source: INEGI-CEPAL, SEDESOL.

Table A.3.5 Poverty Lines 2000 deflated with food and non-food CPIs

		1992	1994	1996	1998	2000	2002
Extreme	<i>Urban</i>	167,955.20	194.00	389.40	524.80	626.00	672.25
	<i>Rural</i>	124,750.60	143.30	290.00	388.50	463.00	494.77
Moderate	<i>Urban</i>	326,157.38	384.69	739.81	1,008.50	1,254.50	1,364.22
	<i>Rural</i>	220,477.39	258.68	502.03	681.18	843.30	913.47

Extreme poverty line is the same as Food Poverty line. The Moderate poverty line in 2000 is the same as the Assets poverty line. The difference from Asset poverty and Food Based poverty lines in 2000 corresponds to the non-food components of the bundle. This difference, in 2000, is deflated to other years with a non-food CPI constructed from Banxico's CPIs. Then, this deflated difference is added to the corresponding Extreme Poverty lines to construct the Moderate poverty lines.

Table A.3.6 Poverty lines with Fixed (Nominal) Engel Coefficient

		1992	1994	1996	1998	2000	2002
Extreme	<i>Urban</i>	167,955.20	194.00	389.40	524.80	626.00	672.25
	<i>Rural</i>	124,750.60	143.30	290.00	388.50	463.00	494.77
Moderate	<i>Urban</i>	336,581.15	388.77	780.36	1,051.70	1,254.50	1,347.18
	<i>Rural</i>	227,218.53	261.00	528.20	707.61	843.30	901.17

Extreme poverty line is the same as Food Poverty line. Nominal Engel coefficients were calculated for 2000 poverty lines between the Food Based and Assets poverty lines. These coefficients were used to construct the moderate poverty lines for the rest of the years.

Table A.3.7 Expenditure Poverty Lines

		1992	1994	1996	1998	2000	2002
Extreme	<i>Urban</i>	159,101.33	183.77	368.87	497.13	593.00	636.81
	<i>Rural</i>	123,928.81	142.36	288.09	385.94	459.95	491.51
Moderate	<i>Urban</i>	286,639.73	337.50	651.36	887.08	1,099.68	1,194.66
	<i>Rural</i>	202,707.71	237.31	462.58	626.80	772.92	836.09

Setting 2000 as base year, extreme and moderate poverty lines were constructed so that they would yield the same poverty headcounts using expenditure as the headcount obtained in 2000 with the food based and assets poverty lines using income. The extreme poverty lines for the rest of the years were obtained deflating the 2000 line with the implicit food CPI from the official poverty lines. Difference from the Moderate poverty and Extreme poverty lines in 2000 corresponds to the non-food components of the bundle. This difference in 2000 is deflated to other years with a non-food CPI constructed from Banxico's CPIs. Then, this deflated difference is added to the corresponding Extreme Poverty lines to construct the Moderate poverty lines.

Table A.3.8 Consumer Price Indices

	1992	1994	1996	1998	2000	2002
<i>Food CPI: Implicit from Official Food Based Poverty Lines</i>						
Urban	26.83	30.99	62.20	83.83	100.00	107.39
Rural	26.94	30.95	62.63	83.91	100.00	106.86
<i>BANXICO CPI for the Second Tier (between 1 and 3 minimum wages) by Expenditure Category</i>						
Food CPI	25.50	29.14	59.35	80.71	100.00	109.21
Non-Food CPI	25.17	30.34	55.75	76.96	100.00	110.10
Estimated General CPI	25.36	29.64	57.85	79.14	100.00	109.58
General CPI	25.71	30.19	57.16	78.67	100.00	110.52

The non-food CPI and the estimated general CPI were calculated using expenditure shares from each category in the 4th income decile according to ENIGH 2000.

Table A.3.9 Accumulated Income Share Percentiles, National

<i>Population Share</i>	1992	1994	1996	1998	2000	2002
10	1.2	1.2	1.3	1.0	1.1	1.3
20	3.5	3.3	3.6	3.1	3.3	3.7
30	6.6	6.2	6.8	6.0	6.3	6.9
40	10.6	10.0	10.9	10.0	10.3	11.2
50	15.6	14.9	16.1	14.9	15.3	16.5
60	21.9	21.0	22.6	21.2	21.6	23.1
70	30.0	28.9	30.8	29.2	29.5	31.4
80	40.5	39.5	41.7	39.8	40.1	42.5
90	56.4	55.4	57.7	55.4	55.7	58.7
92	60.8	59.9	62.2	59.7	60.1	63.1
94	66.0	65.2	67.4	64.6	65.1	68.3
96	72.2	71.8	73.8	70.7	71.5	74.9
98	80.7	81.2	82.5	79.1	80.5	83.8
100	100.0	100.0	100.0	100.0	100.0	100.0
Bottom 20%	3.5	3.3	3.6	3.1	3.3	3.7
Middle 40%	18.4	17.7	18.9	18.2	18.3	19.4
Middle high 30%	34.5	34.4	35.2	34.2	34.2	35.6
Top 10%	43.6	44.6	42.3	44.6	44.3	41.3

Source: WB Staff calculations based on ENIGH.

Table A.3.10 Accumulated Income Share Percentiles in Rural Area

<i>Population Share</i>	<i>1992</i>	<i>1994</i>	<i>1996</i>	<i>1998</i>	<i>2000</i>	<i>2002</i>
10	1.6	1.9	1.8	1.5	1.4	1.6
20	4.3	4.9	4.9	4.1	3.7	4.3
30	7.9	8.9	9.0	7.6	6.8	7.7
40	12.4	13.9	14.2	12.1	10.7	12.1
50	18.0	20.0	20.5	18.0	15.6	17.4
60	24.8	27.2	28.1	25.3	21.8	24.0
70	33.0	36.3	37.5	34.6	29.4	32.3
80	43.6	47.9	49.2	46.5	39.4	42.8
90	58.0	64.6	65.5	62.9	54.1	59.1
92	61.6	68.8	69.8	67.2	57.7	62.6
94	65.5	73.7	74.6	72.2	62.2	67.6
96	70.1	79.5	80.3	78.1	68.2	73.3
98	76.2	86.5	87.4	85.8	77.2	81.5
100	100.0	100.0	100.0	100.0	100.0	100.0
Bottom 20%	4.3	4.9	4.9	4.1	3.7	4.2
Middle 40%	20.2	22.4	23.2	21.3	18.2	19.8
Middle high 30%	33.2	37.3	37.4	37.6	32.3	35.1
Top 10%	42.0	35.4	34.5	37.1	45.9	40.9

Source: WB Staff calculations based on ENIGH.

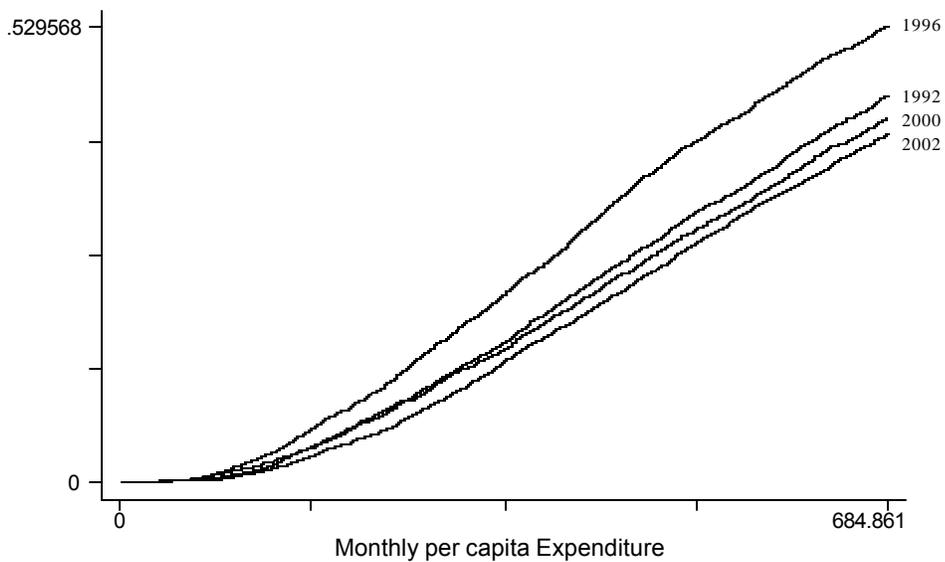
Table A.3.11 Accumulated Income Share Percentiles in Urban Area

<i>Population Share</i>	<i>1992</i>	<i>1994</i>	<i>1996</i>	<i>1998</i>	<i>2000</i>	<i>2002</i>
10	1.7	1.7	1.7	1.6	1.7	1.8
20	4.4	4.3	4.3	4.2	4.5	4.9
30	7.9	7.7	7.9	7.7	8.1	8.6
40	12.3	12.0	12.3	11.9	12.5	13.3
50	17.7	17.1	17.7	17.1	17.9	18.9
60	24.4	23.4	24.4	23.5	24.4	25.7
70	32.7	31.4	32.7	31.5	32.6	34.2
80	43.9	42.1	43.5	42.1	43.2	45.3
90	60.2	58.2	59.7	57.1	58.6	61.2
92	64.6	62.6	64.1	61.2	62.9	65.7
94	69.7	68.0	69.2	66.1	67.6	70.8
96	75.8	74.5	75.6	71.9	74.0	77.2
98	83.7	83.1	83.9	80.2	82.1	85.8
100	100.0	100.0	100.0	100.0	100.0	100.0
Bottom 20%	4.4	4.3	4.3	4.2	4.5	4.9
Middle 40%	19.7	19.2	20.1	19.3	19.9	20.9
Middle high 30%	35.8	34.7	35.3	33.5	34.2	35.5
Top 10%	39.8	41.8	40.3	42.9	41.4	38.8

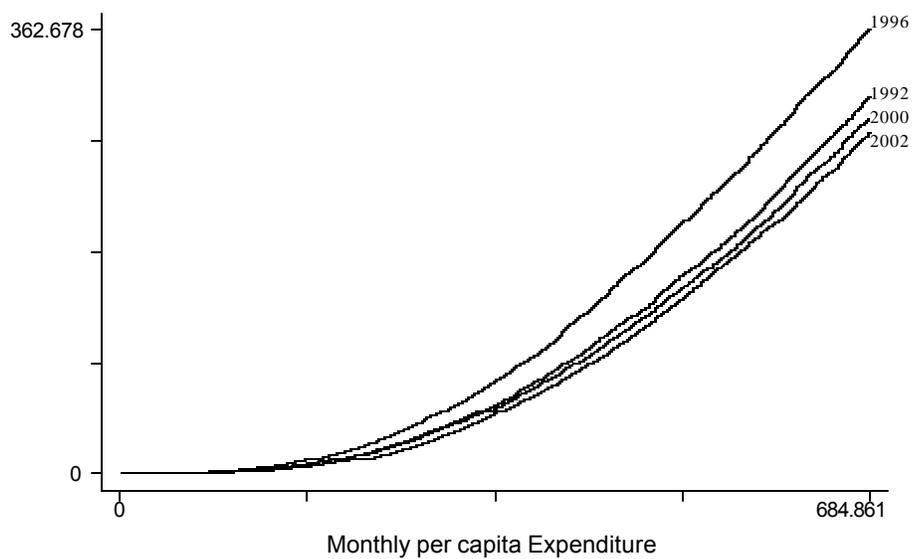
Source: WB Staff calculations based on ENIGH.

Figure A.3.1 Stochastic Dominance, 2000-2002

a) First Order Dominance



b) Second Order Dominance



Source: WB Staff estimates based on ENIGH.

Table A.3.12 Growth and Inequality Components 2000-2002

	Income			Expenditure		
	National	Urban	Rural	National	Urban	Rural
2000 Extreme Poverty	24.24	12.58	42.38	25.41	14.35	42.62
2002 Extreme Poverty	20.27	11.43	34.76	22.21	12.93	37.43
Growth	2.26	-0.12	5.24	0.70	-0.63	2.01
Distribution	-3.95	-1.11	-7.61	-2.04	-0.50	-4.23
Residual	-2.29	0.08	-5.25	-1.86	-0.29	-2.96
2000 Moderate Poverty	53.72	43.72	69.28	58.97	50.13	72.73
2002 Moderate Poverty	51.66	42.04	67.45	58.20	49.61	72.30
Growth	1.42	0.56	2.03	-0.92	-1.65	-0.50
Distribution	-2.01	0.06	-1.81	0.87	1.15	1.15
Residual	-1.46	-0.62	-2.05	-0.71	-0.02	-1.08

Source: WB Staff calculations using data from ENIGH.

Table A.3.13 Average Income Shares, 2000 and 2002

	2000				2002			
	Estimate	Std. Err.	[95% Conf. Interval]		Estimate	Std. Err.	[95% Conf. Interval]	
<i>National</i>								
Labor Income	49.8%	1.4%	47.1%	52.5%	50.7%	1.1%	48.6%	52.8%
Business / Cooperative Income	17.9%	0.9%	16.2%	19.6%	17.6%	0.8%	16.1%	19.1%
Rent Income	0.9%	0.2%	0.6%	1.3%	1.3%	0.3%	0.7%	1.8%
Transfers minus Remittances Income	5.3%	0.3%	4.7%	5.9%	5.8%	0.3%	5.2%	6.3%
Remittances Income	1.5%	0.2%	1.2%	1.8%	1.2%	0.1%	1.0%	1.4%
Financial Income	5.2%	0.6%	4.1%	6.3%	4.5%	0.8%	3.0%	6.1%
Other Monetary Income	0.4%	0.8%	17.5%	20.5%	0.1%	0.1%	0.0%	0.3%
Non monetary income	19.0%	0.1%	0.3%	0.6%	18.8%	0.3%	18.1%	19.5%
<i>Rural</i>								
Labor Income	39.4%	3.0%	33.5%	45.4%	44.1%	2.7%	38.9%	49.4%
Business/Cooperative Income	22.3%	1.4%	19.4%	25.1%	18.4%	1.9%	14.6%	22.2%
Rent Income	0.5%	0.1%	0.2%	0.7%	0.7%	0.1%	0.4%	1.0%
Transfers minus Remittances Income	6.5%	0.5%	5.6%	7.4%	8.4%	0.8%	6.7%	10.0%
Remittances Income	3.3%	0.6%	2.2%	4.4%	3.5%	0.5%	2.5%	4.5%
Financial Income	7.2%	1.4%	4.4%	10.0%	4.6%	0.7%	3.2%	5.9%
Other Imputed Income	0.3%	0.1%	0.1%	0.4%	0.4%	0.3%	-0.2%	1.1%
Non monetary income	20.7%	2.8%	15.1%	26.2%	19.9%	0.6%	18.8%	21.1%
<i>Urban</i>								
Labor Income	53.0%	1.3%	50.5%	55.5%	52.7%	1.2%	50.3%	55.1%
Business/Cooperative Income	16.5%	1.0%	14.5%	18.5%	17.4%	0.8%	15.7%	19.0%
Rent Income	1.1%	0.2%	0.6%	1.6%	1.4%	0.4%	0.7%	2.2%
Transfers minus Remittances Income	4.9%	0.4%	4.2%	5.6%	5.0%	0.3%	4.4%	5.6%
Remittances Income	0.9%	0.2%	0.6%	1.3%	0.5%	0.1%	0.4%	0.7%
Financial Income	4.6%	0.6%	3.5%	5.7%	4.5%	1.0%	2.6%	6.5%
Other Imputed Income	0.5%	0.1%	0.3%	0.6%	0.0%	0.0%	0.0%	0.0%
Non monetary income	18.5%	0.4%	17.7%	19.3%	18.5%	0.4%	17.7%	19.3%

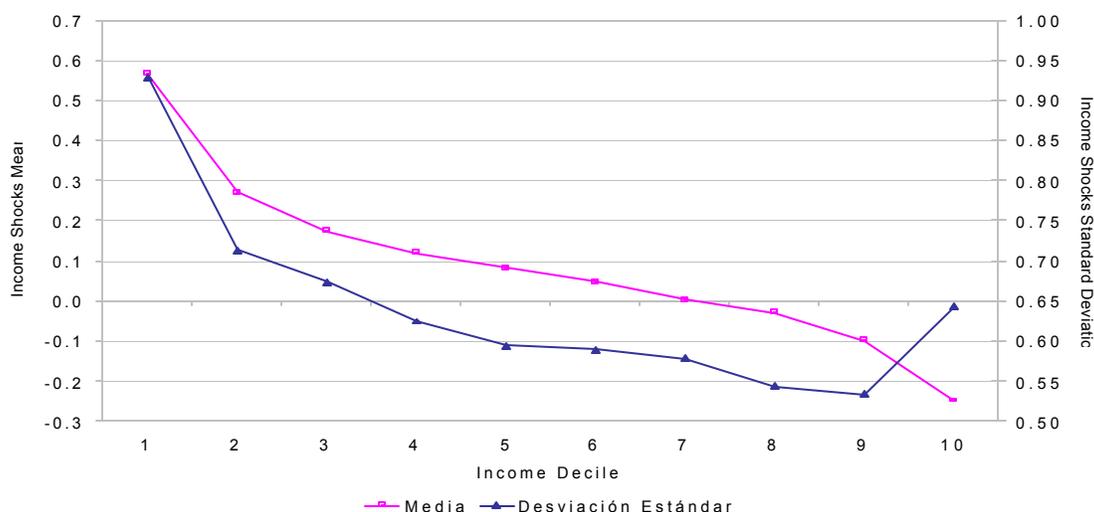
Source: WB Staff estimates using ENIGH.

Table A.3.14 Marginal Value of Education by Quantile. Mexico 1988-2002

	1988					1992					
	Quantile					Quantile					
	0.10	0.25	0.50	0.75	0.90	0.10	0.25	0.50	0.75	0.90	
Primary Complete	1.08	1.08	1.05	0.99	0.90	Primary Complete	1.01	1.01	0.95	0.85	0.73
Lower Secondary Complete	1.14	1.13	1.15	1.18	1.22	Lower Secondary Complete	1.13	1.15	1.17	1.19	1.23
Upper Secondary Complete	1.11	1.14	1.18	1.22	1.27	Upper Secondary Complete	1.15	1.19	1.22	1.26	1.32
Tertiary	1.38	1.42	1.44	1.45	1.43	Tertiary	1.50	1.57	1.65	1.62	1.59
	1997					2002					
	Quantile					Quantile					
	0.10	0.25	0.50	0.75	0.90	0.10	0.25	0.50	0.75	0.90	
Primary Complete	1.09	1.10	1.09	1.07	1.06	Primary Complete	1.09	1.07	1.07	1.06	1.05
Lower Secondary Complete	1.14	1.15	1.18	1.23	1.28	Lower Secondary Complete	1.11	1.12	1.13	1.17	1.21
Upper Secondary Complete	1.15	1.19	1.22	1.29	1.36	Upper Secondary Complete	1.12	1.13	1.18	1.23	1.29
Tertiary	1.62	1.75	1.80	1.75	1.63	Tertiary	1.56	1.68	1.77	1.78	1.68

Note: The Model controls by: Gender, Age, Squared Age, Geographic Zone (North, Center, South and D.F.), Status in the Labor Market (Employer, Self-Employed, Formal Salaried, Informal Salaried, and Other Salaried Worker) and Sector of Activity (Primary sector, Manufacturing industry, Construction and Utilities, Commerce, Financial services and rent, Transportation and Communication), Social services (Education, Tourism, Health, Public Administration and Embassy) and Other Services.

Figure A.3.2 Shocks on Labor Income and Labor Income Distribution
(Average and Standard Deviation by Income Decile Mexico 2000-2003)



Source: WB staff calculations using ENET 2000-2003.

Table A.3.15 Correlates of Log Income Changes in Urban Household Income
Quantile Analysis: 1992-1995

	Log Income Change					
	Presample Period			Crisis Period		
	41,676	41,676	41,676	41,676	41,676	41,676
	0.2	0.5	0.8	0.2	0.5	0.8
Dependent Variable	a	b	c	d	e	f
Observations						
Primary Incomplete	0.2324***	0.0085	-0.0649***	0.2320***	0.0358	0.0729**
Primary	0.1832***	0.0047	-0.0552***	0.2241***	0.0597***	0.0662**
Secondary Incomplete	0.1084***	0.0024	-0.0326**	0.1282*	0.0118	0.0387
Secondary	0.0788**	0.0081	-0.0156	0.1665*	0.0226	0.0278
Young	0.0411	0.0079	-0.0286	-0.1021	-0.0094	0.0195
Old	-0.1918***	-0.0467***	0.0142	-0.0456	0.0011	-0.0394
>1.3 Children	0.0278	0.0174*	0.0039	0.0187	-0.0051	0.0124
Single Mothers	-0.0466	0.0046	0.0078	-0.0011	0.0302	0.0306
Single Women	-0.1627***	-0.0550***	-0.0793***	0.2190**	0.0615*	0.1164***
Single Men	-0.1025*	-0.0305	-0.0014	0.0309	0.0264	0.0137
Informal Self-Employed	-0.2631***	-0.0685***	0.1051***	0.0487	-0.0055	0.0181
Informal Salaried	-0.0928***	0.0196	0.0771***	0.0712	-0.0081	-0.0001
No remuneration	-0.1569***	0.0595***	0.2424***	-0.4475***	-0.1244***	-0.1064***
Constant	-0.4356***	-0.0176*	0.5289***	-0.4056***	-0.2799***	-0.3082***

Note: Analysis uses five quarter panels of the ENEU. The table above shows the coefficients of regression where five periods (1992:4-1993:1, 1993:1-1994:1, 1993:2-1994:2, 1993:3-1994:3, 1994:3-1995:3) of income growth have been regressed on characteristics of Mexican households and their heads. We also included in the regression a dummy interacted to one of each variables for the crisis period 1993:3-1995:3. Each group of columns a-d, b-e, and c-f, correspond to the estimations of the 20th, 50th, and the 80th quantile. The second column of each pair retrieves coefficients of the interaction of each variable with the dummy for the crisis period. Standard errors have been calculated using bootstrapping techniques from Gould (1992, 1997). Number of bootstraps obtained by running the algorithm proposed by Davidson and Mackinnon (2000). Coefficients have been corrected following Kennedy (1981).

Table A.3.16 Correlates of Log Income Changes in Urban and Rural Household Income

Quantile Analysis: 2000-2002

Dependent Variable	Log Income Change					
	Urban			Rural		
	28,786 0.2 a	28,786 0.5 b	28,786 0.8 c	10,905 0.2 d	10,905 0.5 e	10,905 0.8 f
Observations	28,786	28,786	28,786	10,905	10,905	10,905
Youth (Age<25)	0.117 **	0.058 **	0.050	0.041	0.031	0.050
Old (Age>45)	-0.014	-0.001	0.048 **	-0.031	0.000	0.013
Change in labor hours per week	0.002 **	0.002 **	0.002 **	0.002 **	0.001 **	0.002 **
Children > 2	-0.041 **	-0.014	0.005	-0.018	-0.021	-0.018
No Education	0.026	0.037 **	0.046 *	-0.146 **	0.054 **	0.159 **
Primary Incomplete	0.054 **	0.037 **	0.010	-0.010	0.104 **	0.158 **
Primary Complete	0.068 **	0.038 **	0.009	-0.014	0.060 **	0.138 **
Secondary Incomplete	0.018	0.043 **	0.052	-0.119 **	-0.024	-0.007
Secondary Complete	0.040 **	0.023 **	0.007	-0.050	0.025	0.065
High School	0.011	0.000	-0.007	-0.133 *	0.004	-0.047
Technical	0.046 *	0.022	0.009	-0.011	0.019	0.044
Single man	-0.013	0.016	0.011	-0.053	-0.068 **	-0.120 **
Married man or woman						
Single woman	0.015	-0.008	-0.016	-0.038	-0.032	-0.042
Single woman w/ch	-0.008	-0.009	-0.006	-0.038	-0.029 **	-0.055 *
Employer	-0.107 **	0.018	0.113 **	-0.091	0.017	0.205 **
Self employed	-0.137 **	-0.026 **	0.103 **	-0.178 **	-0.045 **	0.145 **
Informal salaried	-0.043 *	0.000	0.035	-0.036	0.010	0.128 **
Constant	-0.315 **	0.060 **	0.419 **	-0.242 **	0.068 **	0.423 **

Source: WB staff calculations based on ENET Panel Data, 2000:2-2001:2, 2000:3-2001:3, 2000:4-2001:4, 2001:2-2002:2, 2001:2-2002:3, 2001:4-2002:4.

** Significant at 5%, * Significant at 10%

Note: All models for every sector were estimated using Quantile Analysis and running bootstrapping recursive iteration.

CHAPTER 4. PUBLIC SPENDING, POVERTY AND INEQUALITY

This chapter turns to areas of direct government action, and in particular to the role of government programs financed by the federal government budget. The government budget is potentially one of the most powerful instruments affecting patterns of deprivation, distribution and development. The chapter is divided into three parts. The first looks at the overall pattern of public spending and taxes, including the composition of spending over time, the incidence of spending across the population, and the extent of coverage of some of the major programs in relation to the structure of needs identified in Chapter 3. It concludes that the budget is already significantly more equal in its impact on the population than private incomes. For the parts that can be measured, the incidence is roughly proportional but there is very wide variation from highly regressive to highly progressive programs. There is potential for budget shifts with substantial redistributive impact. The second part of the chapter examines selected issues in the design of social programs. Two issues are explored: the overall shape of the social protection system and the challenge of achieving quality in service delivery (especially for the poor). The last part discusses the implication of social spending and service delivery in the context of decentralization. The analysis of this last part enters complex terrain that will require considerable further work: it is intended to contribute to ongoing debates and to frame future work.

The chapter draws extensively on parallel work being undertaken by the World Bank as input to its review of public spending in Mexico. Background work on spending was designed to feed into both poverty and public spending studies to ensure that these are fully complementary.

A. PUBLIC SPENDING TAXES AND INEQUALITY

Action via the government budget can affect households and individuals via many channels that affect different dimensions of well-being. We focus on three channels in this chapter. First, provision of services such as roads, schools, health centers, water, sanitation and electricity can directly increase the quality of life and can expand human and physical productive assets. More productive assets can in turn lead to higher future incomes —if after a lag of many years in the case of education. Second, incomes are also more directly affected by the taxes that have to be collected to finance government spending, and by direct transfers to households, whether these take the form of direct transfers, as in the case of pensions and **OPORTUNIDADES**, or are hidden in subsidies to providers, as in the case of electricity and water in Mexico. Third, the vulnerabilities that households and individuals face are substantially influenced by programs directly designed to provide protection against risks (including provisioning for health, unemployment or weather-related shocks) as well as indirectly, for example via the

influence of infrastructure on possibilities for household diversification and asset accumulation both of which affect risk-management possibilities.¹ Who benefits from spending is highly varied in all three categories and this is a major theme of this section.

It is also important to recognize that public spending involves costs. This is most obviously true of the taxes required for its finance. Almost all taxes involve costs, including the administrative costs required to raise the taxes, the costs to individuals and firms in compliance and the effect of taxes on patterns of work and production. Avoiding taxes —labor, income and VAT— is one of the reasons why many small firms and individuals choose to operate in the informal economy in Mexico, potentially reducing their access to productive and social services. In a recent review of taxation in Latin America, Bird (2003) finds that typical estimates of costs, in relation to the total taxes collected, are in the range of 1 percent for administrative costs, 4-5 percent for compliance costs, and 20-30 percent for efficiency costs, with some estimates higher than this. On the other side of the equation there is large variation in the effectiveness of spending, whether due to inefficiencies in performance of government administrations and service providers or outright corruption. An important theme of this report concerns the complex relationship between institutional performance and the quality and effectiveness of service delivery.

This provides the context for the following discussion. To anticipate the conclusion, the report is in general in favor of the expansion of government provisioning of some services to improve human development, incomes and reduce vulnerabilities. This is likely to involve increased taxes.² But this only makes sense if it is combined with action to improve both the effectiveness and the equity of government spending. The analysis suggests there is significant scope for doing both, building in part on initiatives such as **OPORTUNIDADES** and a variety of measures to improve quality.

Patterns of spending and taxation—low tax efforts, but growing social spending

We first review the overall pattern of spending and taxes. Mexico's overall tax effort is low for its income level. In addition all spending was hard-hit by the 1994-95 crisis. Since then there has been substantial growth in social spending including in the recent period of stagnation of GDP. But this growth has been in large part financed by reduced economic sector spending.

Mexico federal public sector spending was equivalent to 18% of GDP in 2002 (Table 4.1) a relatively modest level for a country of Mexico's income level, a corollary of its

¹ A further powerful influence on household risk-management is the condition of the financial sector (De Ferranti et al. 2000). Factors influencing the financial sector fall mainly outside the government budget and so are not discussed in this chapter.

² World Bank (2004).

unusually low tax collection effort. Of total federal spending, two-thirds, or 12% of GDP, were classified as “programmable” in the sense that they are allocated to a range of specific government programs designed to provide services or transfers to Mexican society. Within programmable spending a significant portion is in the form of earmarked transfers to subnational governments including teacher’s salaries, part of the health system and social infrastructure. These are known as *aportaciones* that are grouped under the *Ramo 33* (R33) budget category and accounted for 23% of total programmable expenditure in 2003. They fall in the transfers category in Table 4.1, along with transfers to the pension systems and public enterprises. Outside programmable spending, sub national governments also account for a further 19% of total federal spending and over 3% of GDP through a tax-revenue sharing formula that is not earmarked to specific programs (known as *participaciones*.) While almost all analysis here covers programmable spending it is the sum of this and *participaciones* that accounts for the bulk of action by the Mexican state in provisioning of services and subsidies to the population. Federal resources dominate the resources of states and municipal governments: *aportaciones* account on average for almost 45% of state revenues and more of municipalities, while *participaciones* account for almost 40% for both levels of government. We discuss some of the issues for service provision raised by decentralization in the last section of this chapter.

Table 4.1: Federal Government’s overall pattern of revenues and spending with respect to GDP, 1990-2002

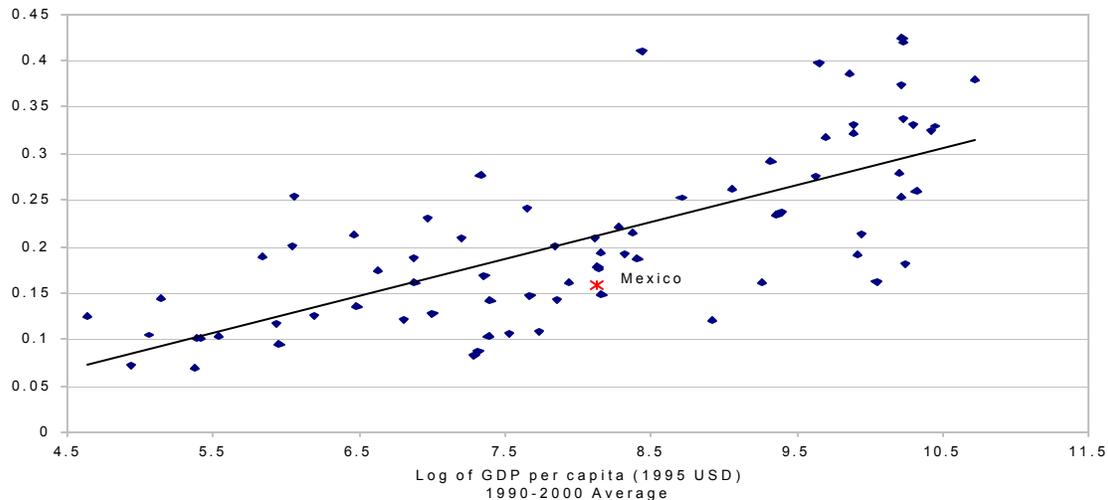
	1990	1995	2000	2002
Total Revenues	15.9%	15.2%	15.8%	15.8%
<i>Tax Revenues</i>	10.7%	9.3%	10.6%	11.6%
<i>Non-Tax Revenues</i>	5.2%	6.0%	5.2%	4.2%
Total Expenditures	18.6%	16.1%	17.3%	18.0%
<i>Programmable Expenditures</i>	7.3%	9.3%	10.7%	11.9%
Current Expenditures	5.0%	7.4%	9.2%	9.7%
Transfers	1.8%	4.8%	7.1%	7.5%
Wage Bill	2.6%	1.8%	1.6%	1.6%
Goods and Services	0.2%	0.2%	0.1%	0.1%
General Services and others	0.4%	0.6%	0.3%	0.3%
Capital Expenditures	2.2%	1.8%	1.5%	2.2%
<i>Non-Programmable Expenditures</i>	11.3%	6.8%	6.6%	6.1%
Financial Cost	8.1%	3.8%	3.2%	2.5%
Participaciones	2.8%	2.7%	3.2%	3.4%
Others	0.4%	0.3%	0.1%	0.1%
Fiscal Balance	-2.6%	-0.8%	-1.5%	-2.2%

Source: SHCP and WB staff calculations.

The federal government's tax revenue at 11.6% of GDP is unusually low for Mexico's income level. The total tax collection effort is illustrated in Figure 4.1. The low overall tax effort is due to a combination of relatively low taxes on trade and incomes and relatively high taxes on goods and services relative to Mexico's income level. We return to the question of the role of tax policy when we look at budgetary options for a more equitable strategy, after reviewing spending patterns.

Figure 4.1 Mexico's tax collection effort is low by international standards

Average tax effort in relation to log of GDP per capita, 1990-2000



Source: WB staff calculations from IMF, Government Finance Statistics.

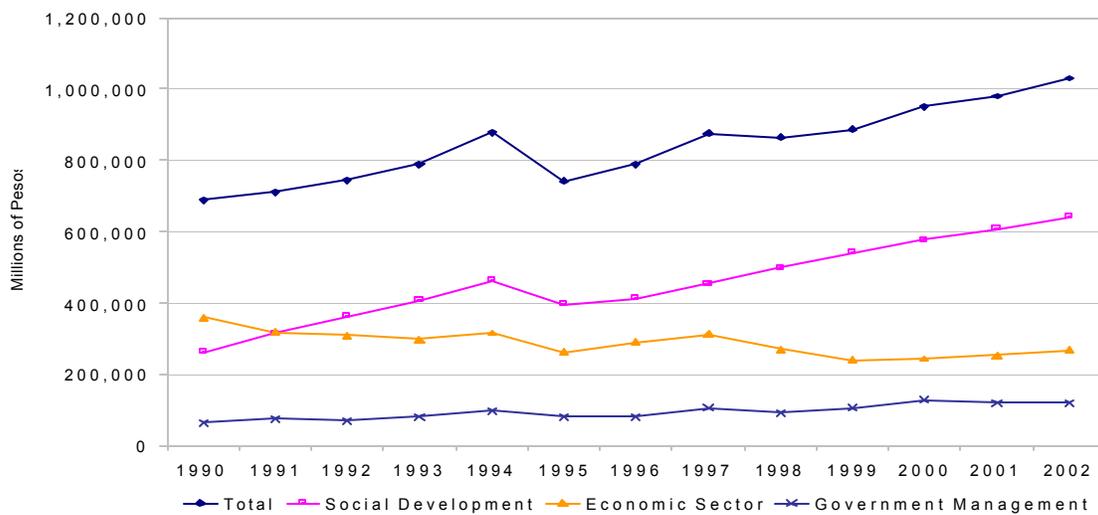
An initial overview of patterns of government spending is provided by analyzing the Ministry of Finance's functional classification of spending which includes the following three categories of spending: "economic sector", "government management", and "social development". "Economic sector" spending covers infrastructure, rural development, energy, transport, communication, and other services and economic activities, while social development spending includes education, health, social security, social assistance, regional and local development and labor policy. Government management includes legislation, law and order, national security, election processes, governance and environment.

There is often a special interest in "social" spending in relation to poverty reduction on the grounds that it is of particular relevance to the social "needs" of the poor. Social spending can indeed be important. However, this can be quite misleading. As we show below, much social development spending is directed more to the non-poor than the poor, while social spending that does reach the poor can be important for income generation as well as social development. On the other hand, some "economic sector" spending, for example on basic infrastructure and some agriculture services, is also of particular relevance to income generation. With these caveats in mind, let's examine the patterns.

Total public spending has experienced a significant increase over the past decade, despite being hard hit by the 1994-95 crisis (Figure 4.2). Social development spending was also hard-hit by the crisis, but has risen faster than overall spending. Indeed, apart from the crisis, social spending has risen faster than GDP—and experienced significant real growth in the period of stagnation from 2000-02 (Figure 4.3). The subcategory of targeted poverty programs also experienced rapid growth in 1998-2000 with a further acceleration in 2000-02. The substantial increase in social development spending since the crisis has been achieved despite fiscal astringency especially through reductions in “economic sector” spending which was only partially offset by growth since 2000 in the rural development category.

Figure 4.2 Total and social spending has grown significantly in Mexico, apart from the crisis.

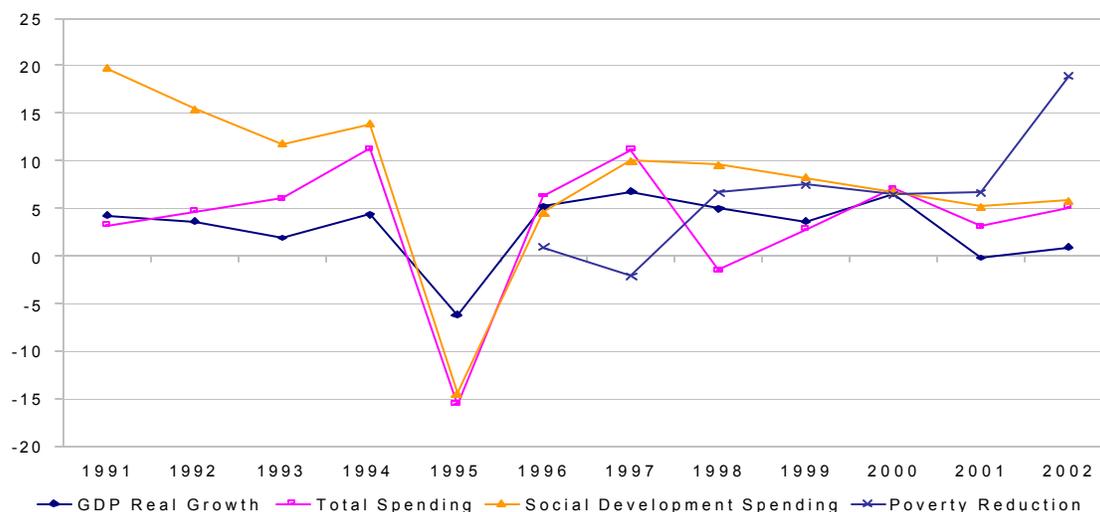
Programmable public spending, 1990-2002



Source: Anexo del Tercer Informe de Gobierno 2003.

Figure 4.3 Social spending was strongly pro-cyclical in the 1994-95 crisis but continued to grow in the 2000-02 period of stagnant growth.

(Growth of GDP and major public spending categories, 1990-2002)



Note: Poverty reduction is part of social development spending but comprises only targeted programs.

Source: Anexo del Tercer Informe de Gobierno 2003.

At the level of broad program categories, Table 4.2 shows that *long-term* declines in “economic sector” spending have occurred because of reductions in energy, communications, and transport and “other” economic services spending. All categories grew in 2000-02 with very large increases in rural development (agriculture and fishery) reversing the 1990-2000 decline. A recovery in spending on “economic sector” spending is likely to be necessary for growth, competitiveness and poverty reduction. Some summing up results from cross-country experience are presented in Chapter 5 to support such a general position. However, it was beyond the scope of this report to analyse whether the particular rural development increase was beneficial to the poor. Indeed, most assessments of rural development spending judge that the bulk of such spending is oriented to large producers in the north part of the country, with the exception of the **PROCAMPO** program³ (Chapter 5; World Bank, 2000b; OECD, 2003).

³ **PROCAMPO** was introduced in 1993-94 to substitute for the previous guaranteed price support scheme (CONASUPO) by the provision of direct payments to facilitate adjustment after NAFTA for producers of basic crops. Although **PROCAMPO** targets low-income farmers, the program’s intended objectives of helping small farmers to switch to more productive crops or occupations have not been achieved (World Bank, 2000).

Table 4.2 Growth in public spending categories, 1990-2002

Percent per annum at 2002 prices

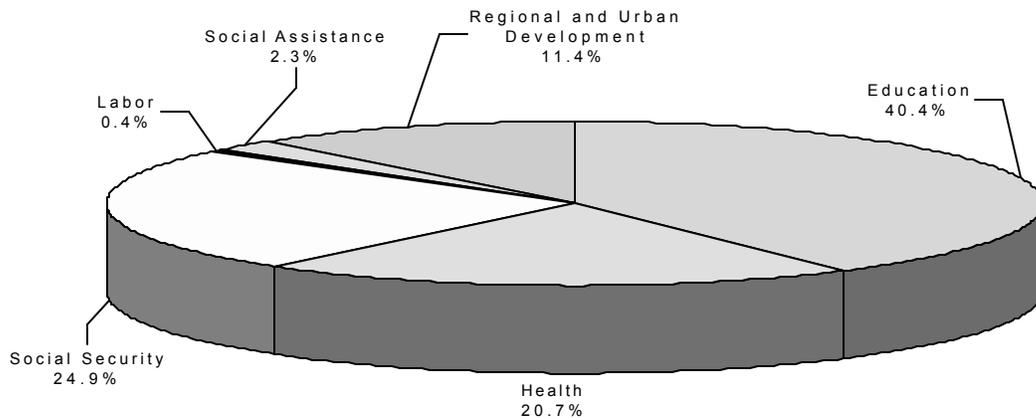
	1990-2002	1990-2000	2000-2002
GDP	2.7%	3.3%	0.1%
Total Public Spending	3.6%	3.1%	6.3%
Government Management	5.0%	6.9%	-3.8%
Economic Sector Spending	-1.3%	-4.0%	13.4%
<i>Agriculture and Fishery Development</i>	0.7%	-8.2%	60.0%
<i>Energy</i>	-1.7%	-2.6%	3.1%
<i>Communication and Transport</i>	-2.0%	-3.8%	7.1%
<i>Other economic Services and Activities</i>	-4.8%	-10.1%	26.5%
Social Development	7.5%	8.0%	5.3%
<i>Education</i>	7.4%	7.4%	7.5%
<i>Health</i>	0.7%	1.1%	-1.3%
<i>Social Security</i>	35.2%	41.5%	7.7%
<i>Labor</i>	5.8%	9.1%	-9.1%
<i>Social Assistance</i>	8.4%	8.1%	9.8%
<i>Urban and Regional Development</i>	9.0%	8.6%	10.8%
...of which poverty reduction	8.2%	7.0%	14.2%

Source: WB Staff calculations from Anexo del Tercer Informe de Gobierno 2003.

With respect to social development spending, the major categories are education, health and social security (Figure 4.4). These have displayed quite varied patterns of growth in both the long term and in the 2000-02 period (Table 4.2 and Figure 4.5). Education has experienced steady and large long-run growth, with the exception of the crisis years, while health spending did not recover after the 1995 crisis (note that health spending includes health spending by SSA, IMSS, and ISSSTE). Social security spending rose dramatically from 2% of social development spending in 1990 to 25% in 2002 though this was primarily a result of bringing on to the federal budget the costs, both before and after the 1997 reform of IMSS. As a result of the latter reform, transitional costs⁴ have been 1.5% of GDP since 1998 (OECD, 2003). ISSSTE has yet to be reformed. There are no official estimates of the fiscal cost that a reform of ISSSTE would entail but it would be only a fraction of what the IMSS reform is costing (OECD, 2003).

⁴ Includes both reduced revenues and higher expenditures.

Figure 4.4. Social spending is dominated by education, health and social security
 Spending composition in 2002



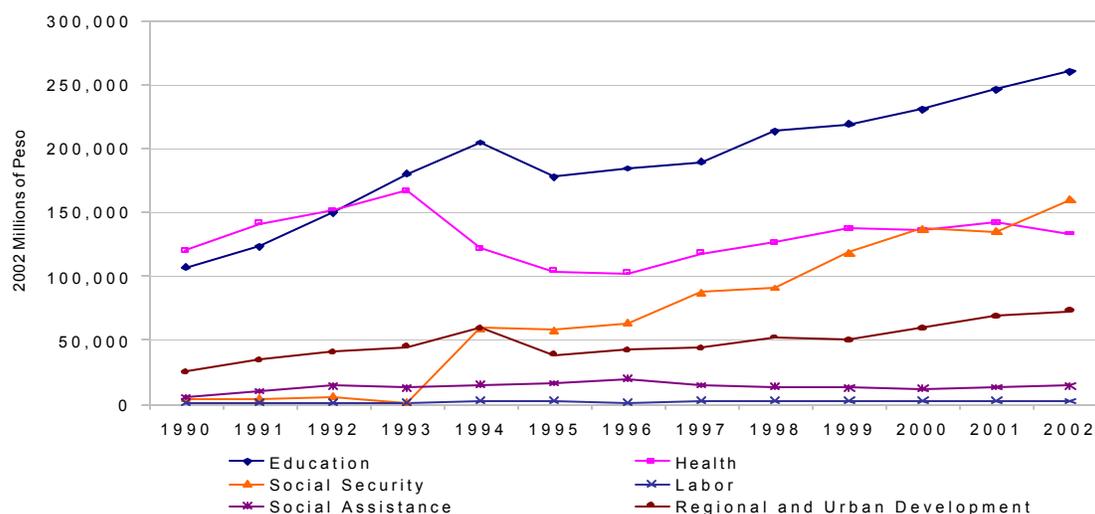
Source: Anexo del Tercer Informe de Gobierno 2003.

While the major categories of education and health spending are of importance to the poor, as we explore in the next section, there is also a set of programs that are specifically targeted to the poor that are included both in the social development and economic sector spending.⁵ These are classified as “poverty reduction” programs by the government. They include most of the programs that now fall under food and social assistance, compensatory programs in education, as well as others which have poverty-targeting mechanisms. The largest antipoverty program is **Oportunidades** (previously **PROGRESA**) which is also the largest item in the budget of SEDESOL, at 16 billion pesos (or almost 1.6 billion dollars). Other examples are **Programa de Empleo Temporal** (3.9 billion pesos); **Programas Compensatorios del Conafe** (2.5 billion pesos); and **Programa de Salud y Nutrición de los Pueblos Indígenas** (2.9 billion pesos). Poverty reduction programs have also experienced steady growth with a significant acceleration since 2000. In 2002 they represented 1.3% of GDP compared to 0.7% in 1990. Amongst such programs, social assistance expenditures, led by **Oportunidades** since it was created, grew by an average of 8.4% per year during the 90’s, and by even more —9.8% per year— after 2000.

⁵ “Economic sector” spending, particularly rural development spending, also includes poverty-targeted programs.

Figure 4.5 Education and social security spending has grown most in absolute terms

Levels of social spending by major categories 1990-2002



Source: Anexo del Tercer Informe de Gobierno 2003.

This initial overview of public spending patterns reveals impressive expansion of both social spending and poverty-targeted spending. There is apparent cause for concern over declining levels of economic sector spending in the area of infrastructure and energy, and over fiscal outlays, which are significantly constrained by Mexico's unusually low tax effort. But who benefits from the observed patterns?

The distributional incidence of spending

We now turn to the question of the incidence of spending patterns and the potential impact of spending on the welfare of different groups in the population. An assessment of these matters is possible for those programs that can be linked to household characteristics and program use in the ENIGH. This applies to spending equivalent to over half of total programmable spending and almost 10% of GDP in 2002. There is a strong bias in the analysis toward social spending plus subsidies —few income generating programs can be linked to specific households. We present the results of a comprehensive analysis that was undertaken for both the Public Expenditure Review (World Bank, 2004a) and this report. This finds enormous variation in the distributional incidence of programs. More details will be available in World Bank 2004a (see also Scott, 2003, for a closely comparable earlier analysis limited to the 2000 ENIGH).

The coverage of the analysis is summarized in Table 4.3. Of spending covered in 2002, half is due to education, a quarter to health, 11% to pensions, 5% to two transfer programs (**Oportunidades** and **PROCAMPO**) and 6% to the residential component of the electricity subsidy. Note that the pension spending only includes the parts that are financed by the federal budget. For IMSS this includes payments to

existing pensioners over the transition to the new system plus a social quota into the funds of current contributing workers and a minimum pension guarantee. (Both the latter are intended to give the new system a progressive element across contributors). For ISSSTE it includes federal transfers to cover the deficit of the pay-as-you-go system that operates for public sector workers. The electricity subsidy does not include subsidies to agriculture which were almost 6 billion pesos in 2002, about a sixth of residential subsidies.

Table 4.3 Public expenditure on “redistributive” programs
(in millions of 2002 pesos)

	2000	%	2002	%	Change	Distribution of additional resources
Total	539,456	100%	587,124	100%	8.8%	47,669
% Programmable spending	56.5%		54.4%			
% GDP	8.8%		9.5%			
Education	276,100	51.2%	298,404	50.8%	8.1%	46.8%
Preschool	26,048	4.8%	29,076	5.0%	11.6%	6.4%
Primary	101,445	18.8%	103,752	17.7%	2.3%	4.8%
Lower secondary	56,131	10.4%	60,563	10.3%	7.9%	9.3%
Upper secondary	37,964	7.0%	44,962	7.7%	18.4%	14.7%
Tertiary	54,511	10.1%	60,051	10.2%	10.2%	11.6%
Health	147,331	27.3%	155,946	26.6%	5.8%	18.1%
Uninsured (SSA)	52,957	9.8%	55,435	9.4%	4.7%	5.2%
Insured (IMSS)	75,437	14.0%	79,737	13.6%	5.7%	9.0%
Insured (ISSSTE)	14,024	2.6%	15,101	2.6%	7.7%	2.3%
Insured (PEMEX)	4,913	0.9%	5,672	1.0%	15.4%	1.6%
Pensions	54,613	10.1%	66,714	11.4%	22.2%	25.4%
IMSS active workers (1995 Law)	11,950	2.2%	12,380	2.1%	3.6%	0.9%
IMSS pensioners (1973 Law)	32,476	6.0%	39,606	6.7%	22.0%	15.0%
ISSSTE pensioners	10,188	1.9%	14,728	2.5%	44.6%	9.5%
Direct transfers	22,306	4.1%	28,854	4.9%	27.9%	12.9%
OPORTUNIDADES	10,265	2.0%	16,105	2.9%	56.9%	12.4%
PROCAMPO	11,595	2.1%	11,851	2.0%	2.2%	0.5%
Electricity residential subsidy	39,106	7.2%	37,206	6.3%	-4.9%	-4.0%

Source: Background work for World Bank (2004a). SEP (DGPPP); SSA (*Boletín de Información Estadística, Cuentas Nacionales y Estatales de Salud*); IMSS (*Coordinación de Presupuesto, Contabilidad y Evaluación Financiera*); Anexo del Tercer Informe de Gobierno (2003); Cuenta de la Hacienda Pública Federal (2002)

To analyze the incidence of government spending administrative estimates of spending on programs are allocated across households in line with their use of the program. Households are ranked in terms of “autonomous” spending per capita or spending pre-monetary transfers. This concept is directly comparable to autonomous income (or

incomes pre-monetary transfers) with the assumption that the marginal propensity to consume from transfers is 50% (for details on the methodology see World Bank, 2004a).

One way to summarize the incidence of spending is in terms of a “concentration curve” that are Lorenz curves of the share of a particular spending category ranked by the (autonomous) per capita household spending of individuals. A concentration coefficient can then be calculated that is directly analogous to the Gini coefficient for incomes. Concentration coefficients lie in the range of -1 to $+1$. Negative values occur with absolutely progressive (or pro-poor) spending; a value of zero is equivalent to exactly equal distribution of spending while positive values occur with absolutely regressive (or pro-rich) spending. Where spending is absolutely regressive but less so than the distribution of private spending or income it is typically described as *relatively* progressive. This can be illustrated for the aggregate effects of all spending categories analyzed. As Table 4.4 shows, the estimated total effect of spending programs analyzed is very close to being equal across the population in 2002. Programs used by the poorest decile of the population accounted for 9.5% of government spending while those by the richest decile accounted for 9.1%. The concentration coefficient for public spending was 0.03 compared with 0.48 for private spending. The public spending programs covered are as a whole *much* more equal than private spending (and income) and experienced a modest gain in progressivity in 2002 compared with 2000.

Table 4.4 The distribution of spending on all public programs analyzed was roughly equal 2000-02*

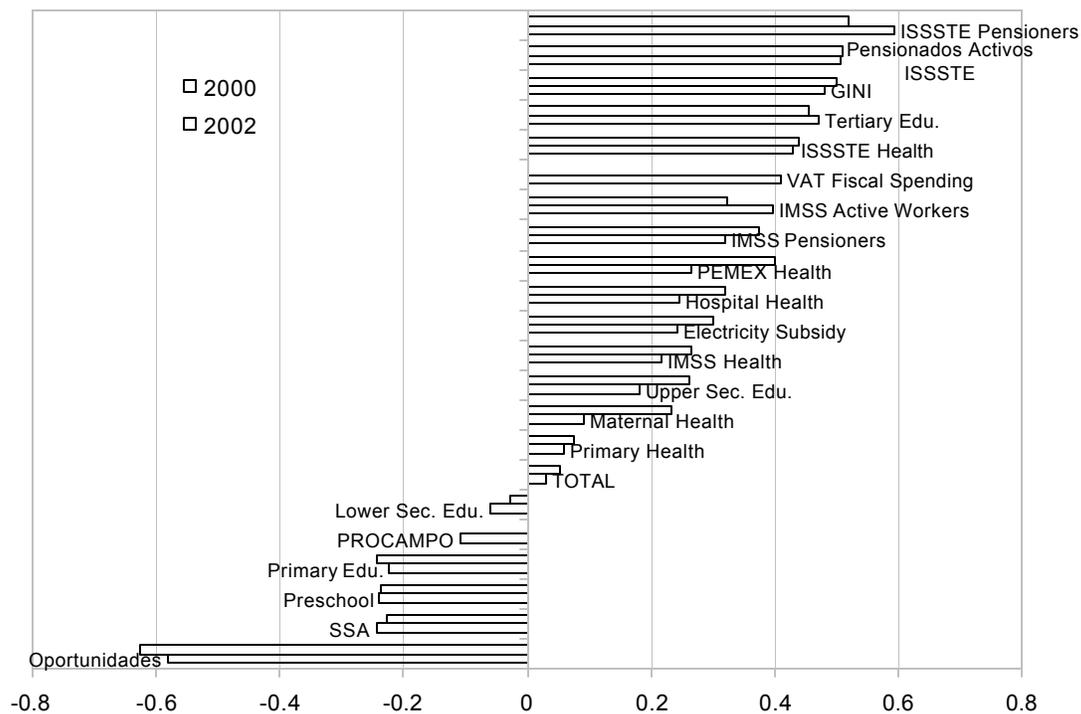
Decile	National		Urban		Rural	
	2002	2000	2002	2000	2002	2000
1	9.5%	8.9%	8.3%	8.6%	8.7%	9.3%
2	8.8%	8.9%	9.2%	9.0%	10.2%	9.7%
3	9.9%	9.1%	9.1%	8.4%	8.8%	9.4%
4	9.2%	8.6%	9.3%	9.5%	9.6%	9.5%
5	9.9%	9.4%	10.0%	10.1%	10.1%	10.3%
6	9.7%	10.1%	10.4%	11.4%	10.3%	9.9%
7	10.5%	11.6%	12.0%	10.6%	10.7%	10.3%
8	12.0%	11.2%	11.3%	12.1%	10.3%	9.3%
9	11.4%	12.2%	10.8%	11.6%	9.9%	11.2%
10	9.1%	10.0%	8.3%	8.6%	10.5%	11.2%
Urban	72.5%	73.8%				
Rural	27.5%	26.1%				
Concentration coefficient	0.030	0.053	0.018	0.041	0.016	0.030

*In the case of pensions only government transfers to active workers affiliated with IMSS are included in the total.

Source: Background work for World Bank, 2004a.

This overall picture hides enormous variation in incidence with some programs highly equalizing and others highly disequalizing. This is summarized in Figure 4.6, which ranks programs by their concentration coefficients. All ISSSTE programs analyzed (for pensioners, active workers, and health) are highly regressive, often even more unequal than the highly unequal autonomous spending. Tertiary education is also highly regressive and IMSS pension-related programs only slightly less so. There are then a set of programs, including hospital health, IMSS health and electricity subsidy that are absolutely regressive, but much less so than autonomous spending. Maternal and primary health is mildly regressive. Finally, there is a set of programs that are either mildly progressive (**PROCAMPO**, lower secondary and pre-schooling) or quite strongly pro-poor (primary education, SSA health services) with **OPORTUNIDADES** displaying a very strongly pro-poor orientation.

Figure 4.6 There is huge variation in the inequality of different government programs
(Concentration coefficients for 2000 and 2002)



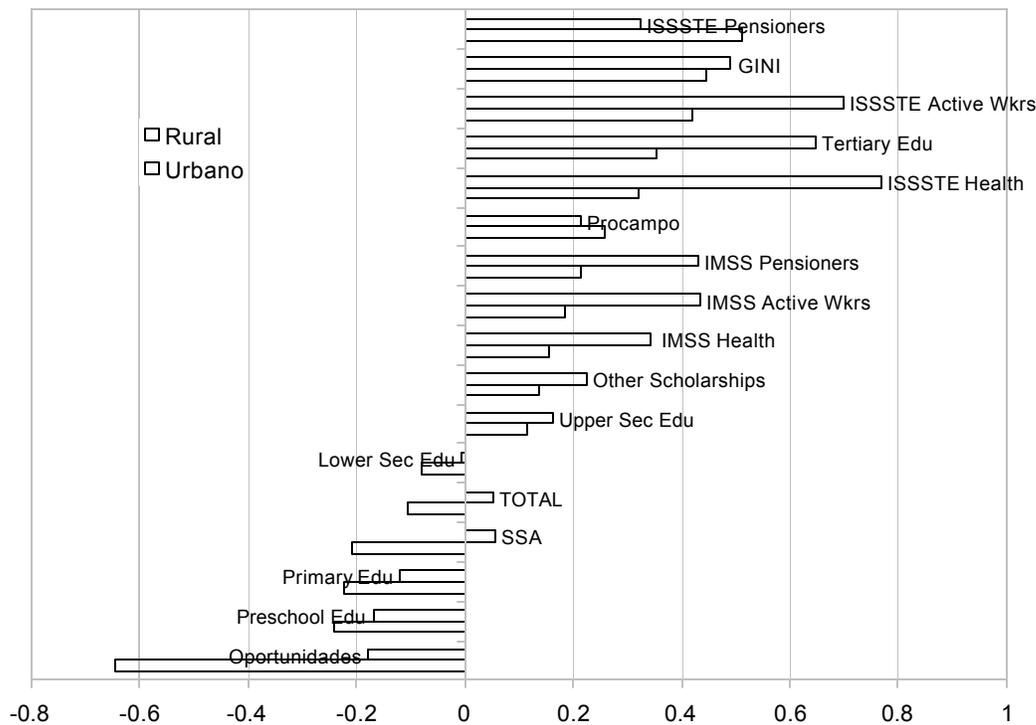
Note: The GINI refers to the distribution of private income. **PROCAMPO** is not reported in 2000 because the sample of beneficiaries captured by the 2000 survey is not representative. VAT fiscal spending refers to exemptions and the zero VAT rate.

Source: Background work for World Bank (2004a) and SHCP (2004) for the VAT fiscal spending.

When we look at distributions *within* urban and rural areas the overall patterns are maintained, but almost all programs are relatively more progressive (or less regressive) within the urban population than within the rural population (Figure 4.7). This in large part reflects lower levels of all incomes and spending in rural areas discussed in Chapter 3. For example, **OPORTUNIDADES** covers a relatively large fraction of the rural

population (and so is only mildly progressive) but a small fraction of the poorest in urban areas (and so is highly progressive). Similarly, only a small fraction of relatively better-off rural dwellers have rights to ISSSTE and IMSS or go to tertiary educational establishments.

Figure 4.7 The inequality of rural and urban spending on programs in 2002 (concentration coefficients)



Source: Background work for World Bank, 2004a.

There were modest improvements in the progressivity in many (though not all) categories of spending between 2000 and 2002. The *marginal* incidence of public spending—that is the distributional incidence of changes of spending—is of particular interest to assess who benefited from expansions in program spending. To see this more clearly it is useful to look at changes over the past decade. This is illustrated for the case of education in Table 4.5. Marginal incidence of spending on pre-school, primary and lower secondary was strongly pro-poor (with the expansion of lower secondary to the extreme poor particularly notable) while spending on upper secondary was mildly regressive, and on tertiary education strongly pro-rich. Since private returns to tertiary education are also very high (albeit falling slightly in the recent past) this amounts to rising subsidies to one of the principal mechanisms for the reproduction of inequality. In health, the marginal incidence of SSA services has been strongly pro-poor in the 1996-2002 period while those of IMSS services have been slightly regressive. Marginal incidence of public spending on pensions has been strongly regressive.

Table 4.5 The distribution of additional public education spending by education level 1992-2002

Deciles	Total	Preschool	Lower		Upper	
			Primary	Secondary	Secondary	Tertiary
1	12.40%	18.70%	18.30%	16.70%	5.50%	-0.90%
2	11.30%	11.60%	17.00%	16.10%	6.40%	-0.20%
3	12.50%	14.30%	13.40%	16.10%	11.60%	5.90%
4	10.90%	13.50%	11.80%	9.70%	10.60%	9.50%
5	9.20%	10.50%	11.10%	6.30%	9.30%	8.40%
6	7.50%	8.20%	7.50%	6.40%	6.50%	9.30%
7	9.60%	9.20%	7.90%	8.80%	13.60%	9.60%
8	13.90%	6.20%	7.40%	9.30%	16.10%	35.30%
9	8.40%	4.80%	5.00%	9.40%	14.00%	9.90%
10	4.10%	2.90%	0.40%	1.30%	6.30%	13.10%
Urban	73.70%	67.80%	64.40%	63.40%	84.10%	96.90%
Rural	26.30%	32.20%	35.60%	36.60%	15.90%	3.10%

Source: ENIGH 1992-2002, table 2.2.3. Population deciles ordered by per capita expenditure.

The incidence of public spending can be considered a measure of government *efforts* across population groups. It is another matter to assess the *benefits* of such spending. A full analysis would need to take account of the value that different groups attributed to the government programs, net of any costs they occurred, as well as any second-round behavioral and external effects induced by the programs. There is not the information base to do this. As an alternative, albeit highly imperfect proxy for the benefits, the value of the programs is often equated to their cost in this type of analysis. With this assumption it is possible to assess the benefits in relation to the autonomous spending of different population groups.

The benefits of public spending relative to autonomous spending is very much larger for poorer than richer households. As Figure 4.8 illustrates, the government programs analyzed were equivalent to over 140% of autonomous spending for the first decile and almost 80% for the second decile, compared with less than 20% for the top two deciles. It is also interesting to see the sources of these benefits. For poorer groups, primary education is the most important, followed by SSA health services, **OPORTUNIDADES** and secondary education. This ranking reflects both the levels and distribution of government spending: although primary education is less progressively distributed than **OPORTUNIDADES** (Figure 4.6) aggregate public spending was some seven times greater in 2002 (Table 4.3). These gains are much larger in rural than in urban areas with larger gains for the first through the fifth rural deciles than the first urban decile, reflecting both greater rural poverty and the reach of government programs in rural areas.

Figure 4.8 Public expenditure is much larger in relation to private spending for the poor

The ratio of program spending to autonomous household expenditure by major program, national, 2002



Source: Background work for World Bank, 2004a.

The net effect of government programs is to significantly reduce inequality once government programs are “added” to autonomous spending (on the assumption that individuals value government programs and their autonomous spending equally). In assessing this quantitatively it is important to note that measured private spending in the ENIGH is substantially less than that from the national accounts. While this partly reflects different concepts some part is likely to be due to under-recording of spending. By contrast, public spending is almost certainly not under-recorded. Table 4.6 illustrates the overall impact on the distribution of spending under two assumptions for autonomous spending: using actual measures in the ENIGH and adjusting upwards all spending equi-proportionately to bring it in line with the national accounts. Including public transfers in cash and kind leads to large reductions in inequalities with the share of the poor rising significantly and the overall Gini falling from 0.48 for autonomous spending to between 0.39 or 0.43, depending on the assumptions.

Table 4.6 The distribution of household expenditure before and after public transfers, 2002

Deciles	Autonomous expenditure	After public transfers*			
		Distribution ENIGH	Distribution National Accounts	Change in shares ENIGH	Change in shares National Accounts
1	1.5%	3.1%	2.4%	101.6%	57.9%
2	2.7%	3.9%	3.4%	44.2%	25.2%
3	3.6%	4.9%	4.3%	33.2%	18.9%
4	4.7%	5.5%	5.2%	18.8%	10.7%
5	5.8%	6.6%	6.2%	13.9%	7.9%
6	7.0%	7.5%	7.3%	7.5%	4.3%
7	8.7%	9.0%	8.9%	4.2%	2.4%
8	11.2%	11.3%	11.3%	1.5%	0.8%
9	15.7%	14.9%	15.2%	-5.3%	-3.0%
10	39.2%	33.3%	35.9%	-14.9%	-8.5%
Gini	0.481	0.393	0.431	-18.2%	-10.4%

*The distribution after transfers is estimated using the ENIGH (2002) for the distribution of public expenditure and using two alternative sources for total household expenditures: (a) ENIGH (2002) and (b) National Accounts.

Source: Background work for World Bank, 2004a.

This analysis of the distributional incidence of a subset of public programs has shown that this part of public spending is much more equally distributed than private spending but with very wide variation, from highly disequalizing to highly equalizing programs. Some programs are having a large impact on the poor —assuming the spending is translated into real benefits and not offset by low service quality, for example. The progressivity of **OPORTUNIDADES** is striking, especially for a program that was already some 1.6 billion dollars and reaching 4.24 million families (about 21 million Mexicans, three-quarters of them living in rural areas).

In concluding this section it is important to note that the analysis covered somewhat over half of programmable spending. It is not possible to undertake a comparable analysis of other spending categories. However, there are some reasons for supposing that they will tend to be regressive, at least more so than the average, proportional incidence of the programs analyzed here. To the extent that the benefits of economic sector spending are reflected in the distribution of income growth, we know that these have been distributed in a highly unequal fashion both across population groups (albeit with some equalization in 2000-2002) and to some extent geographically (Chapter 3.) Within economic sector spending, agriculture programs, with the exception of **PROCAMPO**, generally have a bias toward large agricultural producers (World Bank, 2000b). One significant item in non-programmable spending relates to the bailout for the financial sector in the wake of the 1994-95 crisis. Recent analysis suggests that this was

highly regressive (De Ferranti et al., 2004; Halac and Schmukler, 2003). These factors need to be borne in mind both in forming an assessment of the overall impact of the federal budget on distribution and the scope for more equitable public action.

The reach of public provisioning in relation to patterns of deprivation

The previous section looked at the distribution of public efforts across the population with a very rough estimate of a monetary equivalent of the benefits to different groups. This section takes a further step in relating programs to patterns of deprivation by comparing the *reach* of key programs to the needs of different groups. This takes as its point of departure the life-cycle approach of **CONTIGO**'s conceptual framework. As shown in Figure 1.4, this framework seeks to respond to the changing needs of different groups over the life cycle with respect to objectives of social protection, expansion of human capacities, providing income opportunities and the means to accumulate assets. A comprehensive analysis of this would involve undertaking a matching of the needs of different groups against both the *potential* for government action to make a difference and the detailed current efforts of the government. This was outside the scope of this report —indeed the information requirements for conducting such an exercise are not readily available. Instead a more aggregative and illustrative approach is taken. We first revisit the major areas of deprivation and then look at the survey evidence on the reach of selected programs. This is supplemented by a brief examination of the picture provided from administrative budget sources.

In the spirit of **CONTIGO**'s framework, Table 4.7 presents selected indicators for areas of deprivation over the life cycle (these are often termed “risk” indicators but we prefer to confine the use of the term “risk” to questions of shocks and fluctuations). Which aspects of deprivation are salient, varies with age. For the very young, issues of protection against shocks and human capacity formation are closely intertwined, especially around good nutrition and health. For children and youth, capacity formation through formal schooling is fundamental. For adults, income-earning opportunities, and the means to accumulate assets becomes the primary concern, as well as protection of themselves and their families against a variety of potential shocks —labor market-related, weather, natural disasters and health. For the aged it is the capacity to finance their consumption, whether through a formal pension, savings or family support. Finally, some aspects of deprivation affect all age ranges —we include access to basic services and also the presence of absence of external remittances that is a special factor for both income levels and managing shocks in Mexico.

The messages of Table 4.7 are clear. First, despite substantial progress in service provision and human indicators (see Chapters 2 and 3) there remain major gaps in deprivation. Second, there is a strong relationship between gaps and measures of income poverty with the extreme poor systematically suffering greater deprivation (e.g.

out of school, child labor, low skills and limited social security coverage). As elsewhere in this report, we use, for presentational purposes, the three categories of extreme poor (below the food-poverty line); moderate poor (between the food and assets poverty line) and non-poor but it should be remembered that this is only a way of organizing essentially continuous relationships as discussed in Chapter 1.

Table 4.7 Indicators of deprivation over the life cycle in 2002

Population group	Area of deprivation	Rural			Urban		
		Extreme poor	Moderate poor	Non-poor	Extreme poor	Moderate poor	Non-poor
0-4	Neo-natal/infant mortality	n.a	n.a	n.a	n.a	n.a	n.a
	Malnourished	18% of all children are stunted, probably concentrated among extreme rural poor					
5	Does not attend pre-school	25.3	14.6	4.5	24.4	16.8	8.7
6 - 14	Out of school (6-11)	3.9	3.1	0.9	5.2	2.0	1.1
	Out of school (12-14)	16.2	14.9	6.7	11.5	12.8	3.6
	Proportion not in correct grade for age (12-14)	53.1	43.1	29.1	50.2	30.2	22.5
	Child labor (12-14)	14.0	18.3	15.5	10.1	9.9	4.8
15-24	Does not attend upper-secondary (15-17); (Out of school or enrolled in less than upper-secondary)	78.8	64.6	44.7	66.0	57.5	33.5
	Does not attend upper-secondary (18-24); (Out of school or enrolled in less than tertiary education)	99.5	95.0	86.6	93.3	87.6	70.4
	Unemployed (15-24)	4.6	6.3	6.5	10.5	10.0	5.0
	- Male	5.1	6.1	8.6	12.3	11.1	5.8
	- Female	3.3	6.7	2.0	7.5	7.9	3.9
	Inactive ^a (15-24)	36.0	29.5	20.5	32.5	26.7	13.6
	- Male	9.9	9.4	10.2	17.1	12.5	5.6
	- Female	57.7	49.0	31.3	45.5	39.6	22.2
	Low skills ^b (25-40)	55.4	34.8	18.0	29.0	14.6	3.9
	- Male	50.4	31.0	14.8	26.2	14.4	3.7
- Female	59.4	38.1	20.7	31.2	14.7	4.2	
25-64	Low skills ^b (41-64)	85.4	77.3	53.2	62.7	42.2	21.1
	- Male	79.9	73.6	50.8	61.4	37.4	18.1
	- Female	90.7	80.6	55.1	63.8	46.3	23.8
	Unemployed	0.4	1.3	1.1	4.2	2.4	2.1
	- Male	0.5	1.8	1.3	5.7	2.2	2.4
	- Female	0.1	0.3	0.7	1.7	2.7	1.6
	Under-employed ^c	43.7	34.0	31.2	28.3	21.5	18.6
	- Male	28.2	19.4	21.8	12.5	10.3	10.2
	- Female	77.7	61.4	44.8	54.7	43.0	30.6
	65 and over	Does not receive pension	98.8	93.1	86.8	92.3	77.0
Non-age specific	Had "catastrophic" health expenses ^d	46.8	36.5	26.3	47.2	35.0	21.7
	Does not receive remittances from abroad	92.3	89.3	88.3	97.3	96.2	97.7
	No piped water	34.9	22.1	10.1	14.0	5.1	0.9
	No sewerage	80.4	57.4	33.7	23.0	10.9	2.7
	No electricity	9.3	4.1	1.1	0.6	0.2	0.0

a. Neither at school nor in labor force. b. No education or incomplete primary. c. Works less than 35 hours (as proportion of labor force). d. Following SSA's definition which is 30 percent of disposable consumption, after spending on food, education and housing.

Source: WB staff calculations from ENIGH 2002.

We next look at the coverage of some of the major government programs following broadly the same headings as in Table 4.7. For those programs captured by the ENIGH we can effectively use the same categorization. Table 4.8 presents specific programs associated with areas of deprivation. Note that those areas of deprivation related to lack of access or use of a service in Table 4.7 —being out of school, lacking water supply and so on— are, to a large extent, the opposite of government programs of service provision. These are not repeated here to save space though such programs constitute an important part of government efforts. The messages are again quite clear. There are some programs that have significant reach amongst the poor population: **Oportunidades** (discussed further in the next section) and **PROCAMPO** in rural areas, SSA services, as well, of course, as basic schooling, water and electricity (as discussed in Chapter 3). But for many the reach of services is inversely related to patterns of deprivation with greater coverage of the non-poor. This applies, for example to training, scholarships to higher education, access to formal health and employment protection and pensions, and access to credit and savings programs.

Table 4.8 is mainly about specific programs. A whole domain of public action not included here concerns policy influences on the expansion of income-opportunities many of which are not tightly linked to particular population groups (though see an example from agriculture in the section on geographic equity below). These issues are discussed in Chapter 5.

Table 4.8 Indicators of the coverage of selected programs in relation to deprivation over the life cycle

Population group	Programs related to areas of deprivation	Rural			Urban		
		Extreme poor	Moderate poor	Non-poor	Extreme poor	Moderate poor	Non-poor
0-4	Uses maternity care	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	Participates in OPORTUNIDADES	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
5	Attends pre-school program	74.7	85.4	95.5	75.6	83.2	91.3
6-14	Receives OPORTUNIDADES grant for schooling (6-11)	27.4	21.7	7.8	1.8	0.9	0.1
	Receives OPORTUNIDADES grant for schooling (12-14)	63.2	44.6	15.3	6.3	2.9	0.3
15-24	Receives scholarship to attend school ^a	21.7	24.0	13.5	6.3	2.2	4.3
25-64	Receives training ^b	0.5	5.0	17.2	4.7	12.6	32.9
	Receives <i>ayuda alimentaria</i> or <i>despensa</i> ^b	0.6	2.0	8.7	2.6	7.9	16.7
	Receives PROCAMPO ^b	10.6	6.9	4.4	0.1	0.2	0.1
	Status at work:						
	Employer	2.2	2.7	6.4	1.2	2.1	6.7
	Self employed	48.1	37.2	31.0	29.2	24.0	17.3
	Informal salaried	38.7	35.7	22.9	37.7	28.3	14.4
Formal salaried	4.9	17.9	34.0	27.3	41.7	57.6	
Other	6.1	6.5	5.7	4.6	3.8	4.0	
65 and over	Receives pension	1.2	6.9	13.2	7.7	23.0	33.9
Non-age specific	Uses SSA services	29.3	25.8	11.8	16.2	10.0	3.7
	Rights to IMSS/ISSSTE health services ^b	2.9	12.6	27.6	19.5	36.3	53.2
	Access to housing credit ^b	0.5	3.9	14.4	6.4	17.6	33.4
	Access to workers' credit fund (FONACOT) ^b	0.0	0.8	4.1	1.8	5.7	10.6
	Access to other savings fund ^b	0.3	2.7	8.6	3.7	8.5	21.3

a. Includes all educational levels (not only higher education). **CRÉDITOS EDUCATIVOS** weren't considered.

b. Includes only working people.

Source: WB staff calculations based on ENIGH 2002.

This analysis of the reach of programs is biased toward programs that are included in the questionnaire of the ENIGH and so far gives a very incomplete picture of government programs to reduce poverty. For a broader picture it is necessary to go to administrative data. A matrix of all programs by the Social Cabinet secretariat is available upon request and a summary by category of programs is in Table 4.9.

According to the government's count there are 207 social programs —and note that this excludes many directly productive oriented activities, for example in the agriculture sector. There are, for example, some 48 programs in education (18 alone for education quality and management), 48 in health, 21 on income generation, 35 concerned with asset accumulation and 14 on social protection. Forming an overall assessment of these programs proved very difficult for this report. Very few have rigorous evaluations that allow assessment of effectiveness, despite important efforts by the government (notably SEDESOL) and Congress to strengthen evaluation (see Chapter 6 for a discussion of strategies on evaluation).

Table 4.9. Numbers and spending on social programs, 2002

TYPE OF PROGRAM	Number of programs	% of budget spent on programs that are poverty-targeted	2002 budget allocation MxP (millions)
HUMAN DEVELOPMENT			
<i>Education</i>	48	29.2	116,799
<i>Health</i>	48	16.7	22,738
<i>Food Supply and Nutrition</i>	8	50	2,223
<i>Equity, Social Cohesion, Quality of Life and Rights</i>	14	35.7	158
TOTAL HUMAN DEVELOPMENT	118	26.3	141,918
INCOME GENERATION	31	41.9	7,109
ASSET ACCUMULATION	35	14.3	3,308
SOCIAL PROTECTION	14	14.3	84,868
CROSS-CUTTING*	6	83.3	19,377
OTHERS	3	0	34
TOTAL	207	27.1	256,617

* Includes **OPORTUNIDADES, ESTRATEGIA DE MICRORREGIONES, PROGRAMAS ESTATALES POR DEMANDA, HÁBITAT, SUPERACIÓN DE LA POBREZA URBANA** and **ATENCIÓN A JORNALEROS AGRÍCOLAS**.

Source: Social Cabinet Technical Secretariat. (1) Includes programs from the Ministry of Labor, the Ministry of Agriculture excluding **PROCAMPO** which is not strictly considered a social program, and the Ministry of the Agrarian Reform.

If we bring together this general discussion of reach with that of incidence we can see that there is considerable variety of programs from the perspective of poverty and distribution. First, programs of basic service provision have extensive (and rising) reach throughout the population: some, such as basic education, have modestly favorable incidence; others, such as electricity, have extensive reach but are inequitable in incidence. Second, **OPORTUNIDADES** stands out amongst programs for which we have information as having extensive reach *and* pro-poor incidence. Third, there appear

to be a multiplicity of poverty-focused programs with only modest reach. These may be effectively reaching specific groups or this may be a sign of excessive proliferation of programs. And fourth, there are programs that have both low reach and are inequitable in incidence —from tertiary education to training. These programs are clearly not justified on poverty or distributional grounds; the economic case for them would have to lie on efficiency benefits.

We have emphasized the difficulties of forming a comprehensive assessment of the pattern and design of programs. The government is in the process of re-orienting its own approach to assessing and managing programs. This will involve two features of relevance here. First, each sectoral ministry is specifying a limited number of key goals and linking its own programs to pursuit of results toward these goals. Second, the Social Cabinet secretariat will shift from seeking to track and coordinate all social programs, to focusing on a small subset of programs that the government judges to be flagship endeavors in the fight against poverty that will receive particular attention with respect to design, evaluation, and outreach. Both of these moves are sensible and should facilitate future management of social programs.

In concluding this section, it should be emphasized that this analysis of reach and incidence says nothing about program effectiveness. We discuss this selectively in the second part of this chapter, in the subsections on design of social protection and the issues of service quality.

Options for financing the expansion of poverty-oriented programs

The section on the incidence of public spending showed that the government has experienced major achievements in the use of the budget to reach the poor and to reduce inequality. However, the section on the reach of public programs showed that there are major uncovered needs. Moreover, there is at least suggestive evidence that economic sector spending needs to be substantially expanded to achieve equitable growth, that is crucial for reducing income poverty (see also Chapter 5 for cross-country evidence on infrastructure needs). This raises the question of financing. Mexico is fortunate in having a sustainable debt position thanks to prudent fiscal management since the 1994-95 crisis. But it faces expanding spending needs from the transitional spending for the IMSS reform and contingent liabilities under an ISSSTE reform that will have to take place sooner or later.

This section illustrates two ways in which poverty-oriented programs could be financed —whether the spending is in the social sectors or in economic sector spending oriented to equitable growth. First, the government can undertake a tax reform to increase the aggregate tax effort. Second it can redistribute spending from more disequalizing to equalizing spending.

From the perspective of distributional impact, a good point of departure is information of the kind presented in Figure 4.6 that, together with budgetary information presented in Table 4.3, can be used to suggest possibilities for redistributive shifts in spending. But distributional incidence is not the only criteria —it is also necessary to take account of the effectiveness and efficiency impacts of programs, as well as the feasibility of making spending shifts. The preferred approach should be to shift spending from disequalizing spending on programs that do not make sense on efficiency grounds to programs that are both equalizing and good for efficiency. Such shifts will not involve tradeoffs between equity and efficiency, though they will, by their very nature, involve shifts between groups. The feasibility of this will depend on political-economic factors.

There is considerable scope for redistribution within the Mexican federal budget that would either be efficiency-improving or have small adverse efficiency effects. Looking at disequalizing programs in Figure 4.6 there is first a set of programs associated with IMSS and ISSSTE on pensions and health. For pensions, part of the reason for regressivity reflects the workings of the labor market —IMSS and ISSSTE pensioners are relatively well educated and in their working lives were explicitly or implicitly setting aside part of their higher salaries for old age.⁶ This will become fully explicit for participants in the reformed IMSS pension system. However, it may also be the case that current IMSS and ISSSTE pensions reflect transfers unrelated to efficiency-related performance. It would, for example, be feasible and equitable to tax pensions as many countries do. This would have little or no adverse impacts on efficiency.⁷ Second, tertiary education is highly unequal in its distributional incidence and, as noted above, is associated with high *private* returns that provide strong incentives for household investment. It would be more equitable to increase cost recovery and reallocate the resources to bursaries or loan programs for poorer groups or to strengthening educational expansion at lower levels (upper secondary being the key dividing point between richer and poorer households now.) Third, the residential electricity subsidy is now both disequalizing and clearly efficiency-reducing since it encourages higher consumption rather than energy saving. The most strikingly inappropriate element of the schedule are subsidies for hotter regions that also happen to be richer (e.g. Baja California). An efficient policy —that is standard in electricity pricing regimes— is to charge a premium, not subsidize, such electricity consumption since it can lead to increased investment needs to expand peak capacity (for a detailed analysis see World Bank, 2004a).

To explore the potential gains from redistribution within the budget we choose two options for increased resources, although there might be other possible options.

⁶ This is true for the implicit labor contract within a pay-as-you go pension system as well as for schemes that explicitly involve contributions.

⁷ In theory increased taxation of pensions could affect labor market decisions though this effect is not likely to be large.

First, to illustrate one possible tax reform we consider the removal of VAT exemptions. While their removal makes sense on efficiency grounds, this would impose costs on the poor in the absence of action to direct the additional resources equitably. We select this not because it is the preferred reform—this report has no position on the best tax reform for Mexico. Designing a tax reform has to balance efficiency, equity, administrative and political considerations and this is a complex discussion that continues in Mexico. This particular reform was rather chosen because it is relatively easy to do the quantitative analysis and is one of the *less* advantageous reforms for the poor. If a more progressive tax reform were chosen, that would only increase the potential distributional benefits but possibly at a cost in efficiency or administrative feasibility.

Second, we consider cutting or removing the residential electricity subsidy, whose reduction is robustly justified on both efficiency and equity grounds, and is already being gradually pursued by the government (the gains to the government from reducing the electricity subsidy would come in various forms, both directly via immediate cash savings from current budgetary transfers and indirectly through a better profit/loss position of the CFE. The purpose of these scenarios is only illustrative and does not go into specific issues of design and potential fund flows).

It is then crucial to reallocate resources to effective equalizing programs. We choose to use as a base for analysis **OPORTUNIDADES**, that is both highly redistributive now and has *positive* efficiency effects through the incentives provided for schooling of poor children, as extensively discussed elsewhere. The potential shape of an expansion in design terms is discussed in the next section —here we are concerned only with illustrating potential distributional impacts of spending reallocation.

Table A.4.1 in the annex presents the current (2002) distribution and incidence of **OPORTUNIDADES** transfers, the residential electricity subsidy (RES) and the VAT exemptions on food, medicines and other goods and services. In all cases we consider transfers *net* of administrative costs which are small in the case of **OPORTUNIDADES** (though could potentially be larger in an expanded program). For the total value of VAT exemptions we use the estimate from CIDE-ITAM (2003) which is more conservative than the estimate by SHCP (1.3% vs. 1.9% of GDP). For the calculation of RES see the appendix.

Considering the joint redistributive impact of the three instruments we see that the residential electricity subsidy and the VAT reverse the highly progressive distribution of **OPORTUNIDADES** and increase the resources available to the poorest only modestly despite their relative size (**OPORTUNIDADES** currently distributes only 12% of the total transfers allocated through the three instruments).

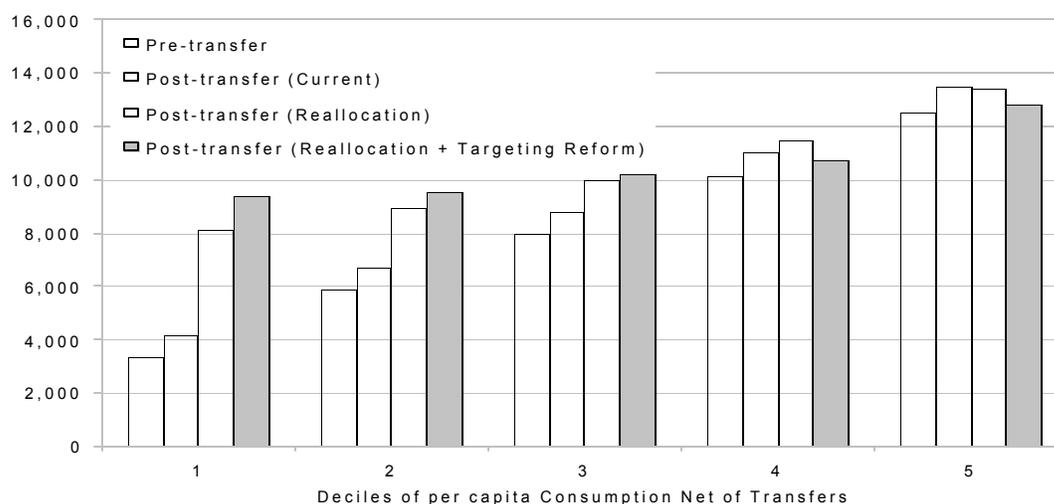
Table A.4.2 presents a variety of scenarios involving complete and partial reallocations from the residential electricity subsidy and VAT to **OPORTUNIDADES**, as well as

reforms in the targeting mechanisms applied by **Oportunidades** and RES. In the case of **Oportunidades** we consider expansions with the current distribution of benefits as well as expansions assuming full coverage to be achieved within the poorest 20% of the population. In the case of the electricity subsidy, we consider, as well as its total elimination, a reduction (and reallocation to **Oportunidades**) of 50% in two alternative scenarios: a) maintaining the current distribution, and b) targeting only the poorest half of the population with a proportional (flat) distribution among beneficiaries.

The redistributive opportunities suggested by this analysis are not trivial. The impact of these resources on the poorest decile can be raised from a current 22% (of autonomous per capita household income) to a potential maximum of 177% with a full reallocation of the residential electricity subsidy and VAT expenditures to **Oportunidades**, with the latter reformed as noted (Table A.4.2). The gain to be obtained from a total reallocation of RES to **Oportunidades** is comparable to what could be obtained by eliminating VAT exemptions and allocating the proceeds as 20% to **Oportunidades** and 80% as the overall (average) incidence of public spending estimated in World Bank, 2004a.

Figure 4.9 uses two scenarios to illustrate the redistribution impacts on **Oportunidades**. The first distributes the resources in line with existing distributions while the second assumes the 2002 gaps in coverage of households by **Oportunidades** would be fully filled for the bottom decile, 50% for the second decile and 25% for the third decile. Under these assumptions the bottom three deciles would experience large gains —making a substantial impact on extreme poverty— while the fourth and fifth deciles would experience small losses. While these are only illustrative scenarios they show the great potential for more effective use of the budget as an instrument of efficient redistribution.

Figure 4.9 Closing the poverty gap: the impact on per capita household expenditure of the bottom five deciles of full reallocation of electricity subsidy and VAT subsidies to *OPORTUNIDADES**



*Targeting reform requires closing **OPORTUNIDADES** coverage gap fully in decile 1, 50% in decile 2, and 25% in decile 3.

Source: WB Staff estimates.

These simulations show that financing for poverty-oriented programs is feasible. It is of course crucial that expanded financing is used effectively. That is why we used the example of **OPORTUNIDADES**, a program that appears to be highly effective in reaching the poor. However, in many areas where expansions are clearly needed, whether in social services or infrastructure, there are major questions over government efficiency and accountability. This raises the issue of the institutional basis for more effective and accountable service provision which forms one of the design issues taken up in the second part of this chapter.

B. SELECTED ISSUES IN THE DESIGN OF SOCIAL PROGRAMS

The next two sections turn to a set of issues in *design* of policies and institutions. This section looks at social provisioning and especially at social protection and service quality. Section C turns to issues raised by decentralization. These are complex issues and the points raised here are intended as a contribution to debate and to future analysis.

Mexico's system of social provisioning in transition

In Chapter 1 it was noted that Mexico is going through two major long run transitions — in economic institutions and policies and in political and social institutions. The second

transition involves the deepening of democracy, increasing accountability of the state to its citizens and decentralization to lower levels of governments.

Part of the heritage of the past was an important role for social development programs in the distribution of patronage, as a mean of sustaining political support. This can occur, for example, through the provision of public works or through public employment structures. Indeed under the administration of president Salinas, the major social project of **PRONASOL** has been documented to have been deeply embedded in a national clientelistic project shaped to create support for (a faction of) the PRI. (See Box 4.1). It is possible for programs partly motivated by patronage to bring real benefits but the accountability relationships are unlikely to be conducive to either high service quality or fully equitable participation in the program.⁸

Box 4.1 PRONASOL and the political use of programs

The *Programa Nacional de Solidaridad* (**PRONASOL**) was the principal poverty alleviation program of the Salinas administration and its budget grew rapidly in that period, from 0.2 percent to 0.6 percent of GDP between 1988 and 1994. It was essentially a program to provide local infrastructure. One of the program's most notorious elements was its "demand-driven" allocation mechanism using the organized participation of local communities, bypassing local government administrations and traditional PRI patronage structures, creating a parallel system of *Solidaridad* committees. **PRONASOL** was discontinued in 1995, at least under that label, following extensive accusations of its use for political purposes. Empirical studies support the view that it had relatively weak poverty targeting and was biased to specific political constituencies. The reaction to **PRONASOL** heightened concerns over transparency and public accountability in the Zedillo administration and was an important force behind the push toward more transparent forms of financing, and created the political space for the design and introduction of **PROGRESA** (now **OPORTUNIDADES**). **PRONASOL** was also partially replaced by more formula-driven processes for allocation of resources to municipalities under the *Fondo de Desarrollo Social Municipal* (FDSM) in 1996, that was later replaced by the *Fondo para la infraestructura Social Estatal* (FAIS).

Source: Estévez, Magaloni, and Díaz-Cayeros (2002).

Another part of the heritage of the past, that Mexico shares with much of Latin America, was a "truncated" welfare state, in which social security only reaches those parts of the population in formal work as already seen in the discussion of the reach of programs above.

⁸ See Schady (2002) for an analysis of the political factors behind the allocation of the Peruvian social fund in the 1990's that is shown by Paxson and Schady (2002) to be *also* quite well targeted on poverty grounds. See World Bank (2003b) for a general discussion on the relationship with accountability and service quality.

Both the overall institutional transitions and the specific reactions to programs such as **PRONASOL** ushered in a range of new directions to social provisioning that sought to increase efficiency and greater equity and in particular reach among the poor. In social protection, significant policy changes were the 1997 reform of IMSS pension system, the creation of **PROGRESA** and its subsequent expansion as **OPORTUNIDADES**, and the decline of food subsidies. In basic service provision there has been a range of policies that have sought to increase efficiency, quality and equity that range from privatization to a range of specific programs to raise educational standards. This has been accompanied by the extensive decentralization of education, health and basic infrastructure services to the states and municipalities financed by a mixture of unconditional tax sharing and earmarked transfers (see Section A). All these areas have been complemented under the present administration with a major shift toward greater transparency as part of a broader concern with accountability mechanisms. This is clearly a major agenda and one that will involve substantial, long-term institutional (and behavioral) changes. The remainder of this section examines policy issues for the transition in the areas of social protection and service quality.

The design of social protection strategy

Social protection comprises the set of public interventions that are intended to support risk management in the population and provide redistributive transfers to reduce chronic poverty. Such public interventions are only part of the picture of risk management and need to be understood within the context of the overall pattern of private and societal responses to risks and transfers. At a general level, risk management can be categorized into strategies that seek to reduce risk, provide for self-insurance and risk-pooling. Risks are commonly divided into idiosyncratic and covariate risks —and between small and large (or catastrophic) risks. Social protection instruments are typically about risk-pooling when private and community mechanisms are inadequate or costly. This is more likely to be the case for large idiosyncratic risks (e.g. major health problems) and especially for large, covariate risks (e.g. natural disasters, crop failures or generalized unemployment increases.) While social protection is concerned with such risk-pooling and (transfers) public interventions can also help *reduce* risks (e.g. reducing agricultural production risk through irrigation in rain-fed areas or health risks through preventive health programs) and strengthen institutions for *self-insurance* (e.g. through financial sector development).⁹

In this section we look at the current design of the social protection system, its recent evolution and issues for design. As noted above, Mexico, like many Latin American countries, evolved a “truncated” welfare state with a sharply dualistic structure. A stylized account of the system is given in Table 4.10. This divides the population into the

⁹ De Ferranti et al. 2000.

non-poor, the moderate poor and the extreme poor. This is somewhat arbitrary, since poverty lines do not mark dividing points in the distribution of well-being (see Chapter 1) but it is a useful organizing principle that is used by the government and elsewhere in this report (as in Chapter 3, we aggregate *pobreza de capacidades* and *patrimonio* into a single “moderate poverty” group, to simplify the presentation).

Table 4.10 A Stylized presentation of the Mexico’s Social Protection System by Poverty Status (coverage rates refer to 2002)

	Extreme Poor	Moderate Poor	Non-poor
Old Age	No significant coverage	IMSS (19% with rights) ISSSTE (3% with rights)	IMSS (27% with rights) ISSSTE (12.4% with rights) Other Federal and State social security institutes
Major health risks	IMSS- OPORTUNIDADES State health care systems SEGURO POPULAR Universal Coverage Program (SSA) Seguro de Salud para la familia (IMSS) Private providers	IMSS (34% with rights) ISSSTE (5% with rights) Private providers	IMSS (47% with rights) ISSSTE (15% with rights) Private providers Other Federal and State social security institutes
Unemployment risks	Very partial coverage of PET (OPORTUNIDADES)	Partial coverage with formal severance pay and SICAT	Partial coverage from formal severance pay
Natural disasters and harvest failure	OPORTUNIDADES and Fondo Nacional de Desastres Naturales	Fondo Nacional de Desastres Naturales	Largely inapplicable
Social Assistance and Children	OPORTUNIDADES (41.6%) Sistema de Desarrollo Integral de la Familia (DIF)	Partial coverage of OPORTUNIDADES (16.1%) Sistema de Desarrollo Integral de la Familia (DIF)	Not applicable

The non-poor have extensive access to the formal security system (dominated by IMSS and ISSSTE) for old age and health risks. This is partly financed by contributions and

partly by transfers from the budget, as we have seen above. There is no unemployment insurance but labor protection laws provide for severance pay —albeit in a manner judged by observers to be inefficient and costly for all concerned. The extreme poor have access to a set of services or programs that involve lower levels of transfer (**OPORTUNIDADES**), have low reach (**PROGRAMA DE EMPLEO TEMPORAL, PET**¹⁰, for unemployment) or are generally judged to be of lower quality (for example SSA health provisioning).¹¹ Indeed, for health services, evidence on low quality is available from the opting out for private providers that occurs to varying degrees for all groups. By way of illustration, 47% of the extreme poor suffer “catastrophic” health expenses (over 30% of spending on non-essentials) but only 29 percent make use of SSA health services and less than 3% have rights to IMSS or ISSSTE services (Tables 4.7 and 4.8).

It is also worth emphasizing that the moderate poor fall rather awkwardly in between protection systems for some risk categories —with relatively low participation in the formal system but also low access to **OPORTUNIDADES**. With a few exceptions, neither the moderate nor the extreme poor have access to old-age pensions. The pension of the *Distrito Federal* (DF), which is financed by state revenues, is an exception. This appears to be reaching the bulk of the old in the DF, and as a consequence, is not highly targeted to the poorest (whether that is judged to be good or bad depends on the goals of the scheme).

Households respond to this structure in many ways. Those who can, seek to place at least one member in the formal system in order to reap family benefits. But many households are excluded completely. This is partly because of the costs of formalization —in paying taxes and in observing labor and other regulations. While there is evidence that decisions of individuals to choose self-employment over formal work is often rational (World Bank, 1999c), this is *conditional* on the costs of formalization.

Government strategy over the past 5-10 years has been dualistic: seeking to improve the efficiency of the formal social security system whilst extending or improving the parallel system for those excluded. The reform of IMSS is the most importance instance of efficiency-improving reforms in the formal system. The design and expansion of **OPORTUNIDADES** is the most important program in the parallel system. In health

¹⁰ **PET** is the largest public works program in Mexico. It was first implemented as an emergency program during the crisis in 1995. The program’s objective was to provide jobs in poor rural areas during the low agricultural season when job opportunities are scarce. This program offers jobs at two minimum wages or so, mainly to improve basic infrastructure, roads, highways, irrigation and reforestation projects. In 2000, over one million temporary jobs were created. Since then, the number has been decreasing to about 900 000 in 2002. The program, which was created as a federal program is now administrated by states.

¹¹ Active Labor Market programs in Mexico include **SICAT**, a training program for poor workers who lose their jobs, and **CIMO** (renamed PAC), that subsidizes on-the-job training in small firms.

there have been attempts to extend services to poorer, excluded groups, via **IMSS-SOLIDARIDAD** and the recent **SEGURO POPULAR** (discussed below).

The government is keen to continue strengthening **OPORTUNIDADES** to provide transfers and encourage investment in the human capital of the extreme poor. The government also wants to expand the health coverage for the moderate poor.

What are the strategic questions for social protection in the future? In the long run, it would be expected that the formal system, appropriately reformed, would be extended to cover all groups in the population. This is a feature of most OECD societies whose social protection systems typically combine a mixture of social insurance and social assistance elements —with different specific programs oriented to different groups. However, in the medium term, moving rapidly to an *integrated*, comprehensive system will be infeasible, given the current conditions. A more appropriate and achievable objective is to move toward a *dualistic and comprehensive* system with better efficiency and equity. We focus here on a set of design issues relevant to this, especially with respect to the extension of the parallel, poverty-oriented part of the system. The discussion is necessarily preliminary and will be the subject of more in-depth study in the future.

Within the formal social security system this is likely to involve a continuation of efficiency-improving reforms and reducing the costs of participation for firms and workers. High on the agenda are an ISSSTE reform, labor policy and other regulatory reforms to reduce the costs of formality and inefficiencies of existing regulations. There is probably also a set of measures to improve the institutional functioning within the formal system, for both pension and health services, but these have not been evaluated for this report. Such an approach should, over time, make the formal system both more efficient and equitable —especially through a shift to a contribution-based principle. It should also steadily increase the reach of the system that is likely to be of particular importance to the moderate poor.

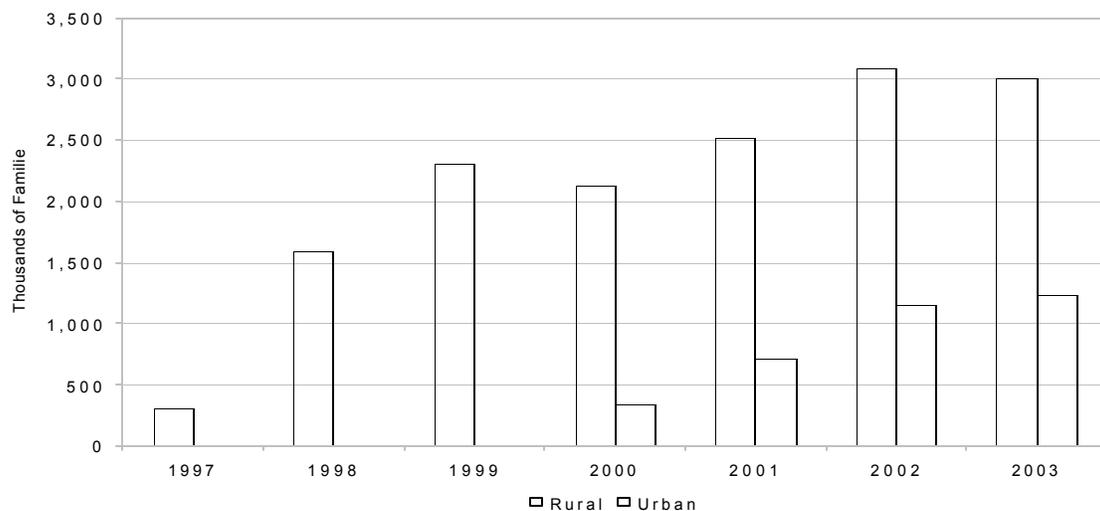
Design issues for an extended, OPORTUNIDADES -based transfer system

Mexico's remarkable success with **OPORTUNIDADES**¹² can provide the basis for filling in one part of a comprehensive system of social protection that is primarily

¹² Impact evaluations of this program are discussed in Chapter 6. **OPORTUNIDADES** is a federally managed program that involves a transfer to very poor households conditional on either their children attending school or the family attending health clinics. Orientation to poor households in rural areas was achieved by a two-level targeting process: first selecting localities with high levels of marginality according to CONAPO's marginality index; then selecting eligible households based on a points system, mainly using household assets. The effectiveness of targeting was already shown in the discussion of incidence using income-based poverty lines.

oriented to the extreme poor. The expansion and current reach of **OPORTUNIDADES** is summarized in Figure 4.10. By 2003 the program reached 3 million rural families and over a million urban families. This was equivalent to over 30% of all rural households and 55% of the extreme poor but still a much lower proportion in urban areas —5% of the extreme poor. This is a truly impressive reach for a targeted program. If the pro-poor social protection system is to be expanded into a comprehensive safety net, with an extended **OPORTUNIDADES** as its core, this raises a set of design issues that we turn to next. Some of these could also increase its reach to the moderate poor. However, our understanding of the risk-management needs of the latter group and of policy instruments that could effectively respond to their needs is seriously incomplete. It will be one of the focuses of future work on social protection in 2005. Here we sketch some of the issues raised in a potential further expansion of **OPORTUNIDADES**.

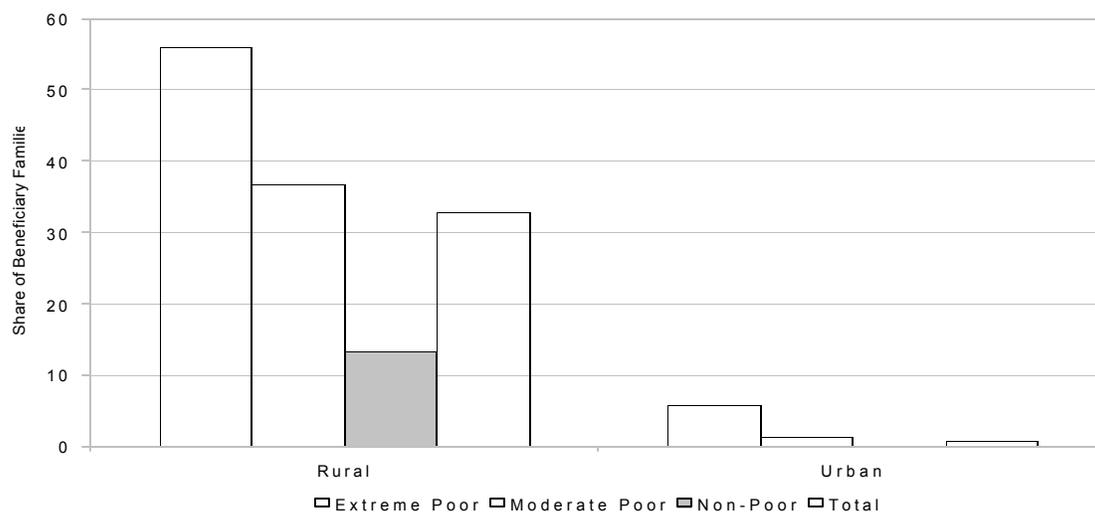
Figure 4.10 Number of beneficiary families of OPORTUNIDADES



Source: **OPORTUNIDADES**.

The extensive evaluation work conducted by IFPRI (2000) has documented significant positive impacts on schooling attendance (especially at secondary levels) and on health status of children, and negative impacts on child labor. Since 2000, the program has expanded significantly to cover most poor rural areas and into marginal urban areas with positive impacts especially for upper secondary attendance. (Rubacalva and Teruel, 2003; Parker, 2003; Paqueo, Lopez-Acevedo, and Patrinos, 2003)

Figure 4.11 Proportion of extreme poor, moderate poor and non-poor families receiving OPORTUNIDADES transfers in 2002



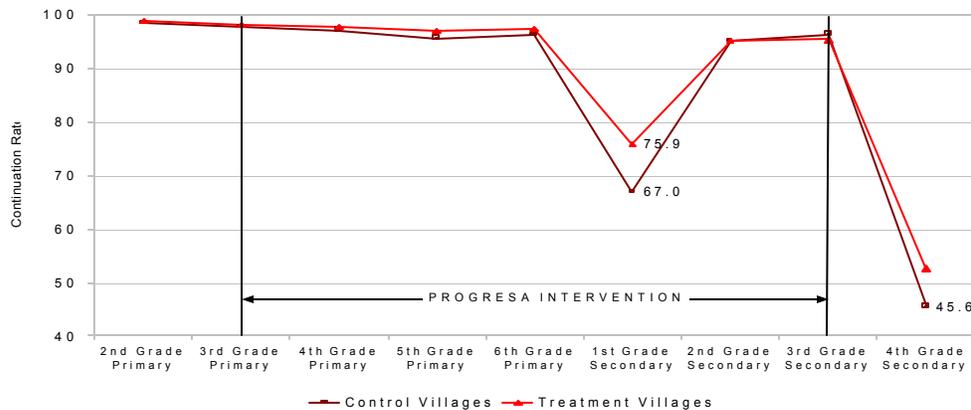
Source: WB staff calculations using ENIGH 2002.

a) *Balancing human capital formation and transfer objectives.* A central feature of **OPORTUNIDADES**, along with other conditional cash transfer programs, has been the use of one instrument to further two goals: transferring resources to poor households and providing monetary incentives for investment in the human development (or human capital) of children. While the analyses referred to above confirm the furtherance of both goals, design choices can make a large difference to the tradeoff between the goals. This can be illustrated for the education component of **OPORTUNIDADES** based on work by De Janvry and Sadoulet (2003c). As currently designed, a high fraction of **OPORTUNIDADES** resources are going to the children from poor families who would have attended school in any case. This is illustrated by Figure 4.12, which provides the continuation rates from grade to grade for treatment and control groups in the poor rural areas in what was then **PROGRESA**. This shows that the main impact of the intervention in this period was to increase continuation rates in the transition from primary to secondary schooling, from 67 to 76% —equalizing the continuation rate between the poor and non-poor in these communities. There was little impact on attendance and continuation either in primary (where enrollment rates are already high) or for those children who start attending secondary schooling. On the other hand, there is a large drop-off in attendance in the transition from lower to senior secondary schooling in both treatment and control villages.

De Janvry and Sadoulet (2003c) conclude that from the perspective of providing incentives for attending school amongst the out-of-school population of children, targeting could be improved. Almost all transfers provided at primary school levels have no effect on behavior. Even for those children of secondary age amongst poor children some 65% would have attended in any case. On the other hand, in these poor villages, a quarter of children from poor families did not attend even with the offer of a

transfer, while a quarter of children from non-poor families also did not attend—but possibly would have if offered a transfer. Increased effects on attendance could be achieved by targeted linked to the risk of not attending school (e.g. position in the family).

Figure 4.12. School continuation rates in poor rural communities in treatment and control villages under PROGRESA, late 1990s
(percent of cohort in a grade that proceeds to next level of schooling)



Source: De Janvry and Sadoulet (2003a, b).

The policy implications of this analysis depend on the importance attached to the transfer and educational incentive goals. This report places significant weight on the transfer goal, in light of the extreme inequalities in Mexico and the fact that asset and economic opportunity-based strategies will take a long time to reduce extreme poverty. (See also De Ferranti et al. (2004) for a Latin America-wide perspective on this). In this context, transfers linked to school and clinic attendance that are effectively reaching the extreme poor can be desirable even when infra-marginal, since they are likely to have neutral to positive incentive effects¹³ and are politically more acceptable than unconditioned social assistance.

At the same time it is desirable to shape part of the transfer to maximize behavioral effects on human development. This has been the direction that **OPORTUNIDADES** has been in practice moving. Since 2001, **OPORTUNIDADES** extended education benefits to individuals 14 to 20 years old in poor households enrolled in upper secondary education. After only one year of implementation the program provided more than 450,000 scholarships for upper secondary, yielding a net impact of 38% increase in enrollment rates in rural areas and 6% in urban areas (Rubalcava and Teruel, 2003). A further extension is **JÓVENES CON OPORTUNIDADES** that consists of a savings fund for lower secondary graduates wishing to continue their upper secondary

¹³ Even for the in-school population the transfers will provide incentives to increase attendance. There is the theoretical possibility of adverse effects on the work incentives for adults in the families, but this has not been documented.

education and finishing it before reaching 22 years old. Students can cash out their accumulated points and use them as collateral for micro credit, as down payment to buy a house or for home improvement, to buy health insurance or finance higher education. This design is promising but the component has not been evaluated yet.

b) **OPORTUNIDADES** *role in risk management.* While not conceived as a risk-management instrument, **OPORTUNIDADES** already has safety net properties. For it provides a source of income for poor families that is uncorrelated with either idiosyncratic risks (such as illness, death of a breadwinner or individual job loss) or covariate risks (harvest failure, economic recession, natural disaster). There would also in principle be scope for temporarily increasing the transfer, at low administrative cost, in the event and in areas, where covariate shocks are associated with chronic poverty. This would, however, be an imperfect targeting instrument since the objective of risk-management is to reach those with who have adverse shocks and weak means of managing these. This could involve many households not covered by **OPORTUNIDADES**. For this there is a need for transfers that a contingent on households suffering adverse shocks: **SEGURO POPULAR** (discussed below) is precisely intended to strengthen such insurance for poor households subject to adverse health-related shocks and is thus in principle complementary to **OPORTUNIDADES**.

c) *Reaching un-covered groups over the life cycle.* While **OPORTUNIDADES** has extensive and growing reach amongst the extreme poor with children there are many other uncovered groups that a comprehensive social protection strategy would be concerned with. It is again useful to distinguish between providing transfers to the chronic extreme poor and providing risk-management instruments for those uncovered by the formal social security system (discussed below) though there will be overlaps between these.

Amongst the chronic extreme poor it can be useful to divide the population into three categories. First, there are those adults who have low earning power because they are disabled or elderly. Most countries eventually move to provision of basic transfer for such groups including a state-funded pension. The feasibility of this depends crucially on the overall revenue position, and on the level at which the transfer is set. In Brazil, as a product of negotiations around the 1988 Constitution, a farmer's pension was introduced. This has proven to be effective in reaching the aged rural poor: for example in the poor rural state of Ceará, which had extreme poverty of close to 50% in 1996, this scheme effectively *eliminated* extreme poverty amongst the rural aged. However, this was associated with much higher transfers to the old than children amongst the extreme poor. It is also relevant that Brazil's tax effort is of the order of double Mexico's. The specifics of design of such a pension for the aged and disabled would have to be carefully assessed for Mexico.

Second, there are those families eligible for **OPORTUNIDADES** who do not participate. As noted above, in the poor rural **PROGRESA** areas in the late 1990's, about a quarter of

poor households did not participate despite the offer. This requires further investigation but this may be a group of the extreme poor who may require more tailored treatment in relation to needs. Paes de Barros (2003) has proposed a form of social worker system that reaches out to the very poor and helps them make use of available social assistance and other services. Chile's **PUENTE** system works broadly along these lines. This could be explored in the context of small experiments, in rural and urban areas, to see if such a model is effective and affordable for Mexico.

Third, there are the working poor without children, especially those in rural areas and with low education (see Chapter 3). These constitute some 7% of the extreme poor. Incomes of this group are essentially a function of the expansion of economic opportunities. Deepening of human capital amongst adults with low education is relatively difficult and costly. For this group, there are close links between chronic low labor incomes and the risks of fluctuations. The primary policy approach for this group should relate to affecting the rate, pattern and stability of growth, and opportunities for physical asset accumulation of poor (notably in agriculture, rural and urban non-farm self-employed activities and housing). These are discussed in Chapter 5. However, there can be a complementary role for work-related transfers in which publicly financed temporary work is offered at a low wage—a factor that is critical for targeting effectiveness. This can complement labor income from other work where un- or under-employment is high. It can serve as a mean of dealing with idiosyncratic risk in normal times and can be expanded to deal with covariate risks when harvests fail, natural disasters hit or there is an aggregate economic shock. A well-documented example of an urban scheme in Latin America is Argentina's **TRABAJAR** (Jalan and Ravallion, 1999). The most famous case of a rural scheme is the Employment Guarantee Scheme of Maharashtra (Ravallion, 1993).

The potential relevance of works schemes at least in poor areas of rural Mexico is illustrated by the fact that in the ENCASEH survey of 1997, 52% of adults said they did not work (De Janvry and Sadoulet, 2003). As noted above, Mexico has a public works scheme in the form of **PET** that is now managed by the states. Yet its reach seems to be small: in the same ENCASEH 1997 survey of marginal rural areas, only 1.5% of households had a member participating in **PET**. While it has not had a rigorous evaluation, the program has a reputation of being vulnerable to use for patronage purposes. Indeed Argentina's **TRABAJAR** scheme also had such a reputation (as well as having excellent pro-poor targeting properties). This is an area in which design and institutional context is key. While targeting effectiveness can be facilitated by a low wage other design features can increase community benefits and reduce risks of capture and use for patronage. These include linking workfare to local investment activities with community input and accountability mechanisms, and using transparent points mechanisms for ranking projects. Such measures will be weaker where local governments and communities are subject to extensive elite capture—an issue we discuss below in the context of decentralization. However, in light of the potential role of

workfare within a social protection system it is recommended that there be further experimentation and evaluation of such schemes under alternative designs and in different contexts across Mexico.

d) A continued role for food programs? While major food subsidies were phased out over the 1980's and 1990's, Mexico still has some food-based programs, of which **LICONSA** and **DICONSA** are the oldest and most important. **LICONSA** started in 1944 and **DICONSA** was created in 1972. The **LICONSA** program provides milk powder and liquid milk at subsidized prices to low-income families. A recent impact evaluation by ITESM (2003) found that poor households increased their weekly consumption of fortified milk by 3 liters per week. This in turn improved their nutritional status. **DICONSA** is a public network of small stores providing basic goods to marginalized rural communities. An evaluation of the program (GEA, 2003) shows that savings coming from buying at **DICONSA** stores are equivalent to 10% of the total expenditures on basic foods by otherwise equivalent non-participant families.

The *long-term* role of these food-based programs within an extended social protection system needs to be assessed. They may play a valuable complementary role to core instruments or there could be a case for phasing them out, for example, if **OPORTUNIDADES** were to become genuinely comprehensive.

e) Managing poverty exit. **OPORTUNIDADES** has so far been more concerned with entry than exit of poverty. Is there a need to pay more attention to graduation? There are two graduation principles. The first is demographic and behavioral and intrinsic to the conditionality of **OPORTUNIDADES** (and indeed to potential extensions sketched in this section). When children grow older or leave school, eligibility automatically stops. The second concerns economic improvement of households. For this it makes sense to institutionalize a periodic re-certification. This could involve the current once-off re-certification after three years into regular such re-certifications. It makes sense to have a significant "cushion" in part to ensure that households are not made to exit from the program when economic gains are temporary. There is also a case for ongoing re-evaluation of the points system. For example, a rural area may be experiencing a secular reduction in the proportion of families with dirt floors without significant increases in disposable incomes. Such a periodic re-certification is a feature of universal means-testing schemes such as Chile's ficha **CAS**. The latter scheme re-assesses household eligibility every three years —with the important difference from **OPORTUNIDADES** that this defines eligibility for a range of poverty-targeted benefits thus spreading the administrative costs over many programs. Applying this in rural areas of Mexico would involve the full implementation of the *Cédula Única de Registro Poblacional* (CURP). For now, **OPORTUNIDADES** approach is to resurvey households after 3 years to determine whether they remain poor. Beginning in 2003, households who are classified as poor will continue to receive the same package of benefits. Other households will be transferred to receive a subset of actions (rural households after 6 years, urban

households after 4 years) called *Esquema Diferenciado de Apoyos (EDA)*, which includes education grants at the secondary and household level, health benefits and nutritional supplements. These households will receive **EDA** for three years, upon which point, according to the new rules they will no longer be eligible for **OPORTUNIDADES**.

f) Accountability. In light of the central and rising role of **OPORTUNIDADES** within Mexico's social protection and poverty reduction strategy, assuring accountability is of importance. **OPORTUNIDADES** has a recourse mechanism and reportedly has very low complaints rates. It would be valuable to assess how well this is working and also to explore whether there may be unintended inter-institutional interaction effects. Research on basic education and health services in Mexico finds both very broad coverage and very uneven quality which raises the issue of how accountability mechanisms can work better to raise the lower end of quality. There may be aspects of **OPORTUNIDADES** operations that are relevant and interactive. Specifically, the following hypothesis could be tested in the field, based so far on limited ethnographic evidence: there may be *cross-institutional incentives or disincentives* for **OPORTUNIDADES** program beneficiaries to push for accountability in their education and health services. Positive incentives could occur if there were positive links between the **OPORTUNIDADES** program and teacher or health-worker feedback and performance. But negative incentives would occur if complaints put their status in **OPORTUNIDADES** at risk. For example, if parents complain about teacher or doctor absences, ineffective teaching or health services, then those teachers or doctors could seek to have families dropped from the list of beneficiaries. It is not clear if there are effective recourse once one is dropped from the list. If such cross-institutional disincentives for accountability *do* exist then that suggests the need to rethink and propose new and more effective accountability mechanisms.

Expanding health coverage: managing health risks

Major health problems can be sources of monetary poverty because of the cost of illness associated with both treatment costs and lost work. As already noted, close to half of the extreme poor in rural areas had "catastrophic"¹⁴ health expenses. Within a social protection system there is clearly a central role for mechanisms for providing insurance against such large or catastrophic costs.

At the request of the executive branch of the federal government and after much debate, the Mexican congress passed into law a significant reform of the system for healthcare provision and financing to the uninsured in April 2003. The implementation of **SEGURO POPULAR** (Popular Health Insurance) is a center pillar of the reform. As stated repeatedly by president Fox, the health reform in general, and **SEGURO**

¹⁴ As defined by WHO: more than 50% of household income net of basic food consumption.

POPULAR in particular, is considered by the current administration one of the most important political achievements in the social sectors.

Although **SEGURO POPULAR** is the flagship program of the reform it is only one of the three key changes introduced by the new legislation.

Key challenges in the Mexican Health Sector

There are at least three key challenges for the Mexican health sector today: equity, financial protection and quality of services. In terms of public policy in the health sector, the equity challenge is due to the existence of major inequalities in the allocation of public subsidies to and within the health care sector. The challenge of financial protection is demonstrated by the fact that health shocks in Mexico significantly contribute to poverty and may lead to poverty traps. The quality challenge relates to the effectiveness of providers in the delivery of healthcare interventions in the country. Cutting across these is a fourth challenge of an instrumental nature. This relates to the need to ensure a well functioning “compact” between federal and state levels and also between the state and the healthcare providers in their jurisdiction (the “compact” is the set of relationships between policymakers and service providers that determine the incentive framework to achieve the equity, financial protection and quality goals in the sector, in this case also between the federal level policy makers and the state level —see Chapter 1 for discussion of a conceptual framework for service delivery). A weak “compact” between federal and state levels implies the potential for fragmentation of public health and healthcare policy in a context in which most healthcare delivery responsibilities are decentralized to the state level in Mexico. A weak compact between the state and the providers in their jurisdiction could lead to failure to set the appropriate incentive framework for such providers in the delivery of publicly subsidized healthcare services and, as a result, failure to achieve quality and financial protection.

Health shocks are significantly contributing to poverty and the poverty trap. Evidence (as good as we can get it today in the sector) suggests that both foreseeable (e.g. normal delivery) and unpredictable (e.g. disease of a newly born child) health events (shocks) are contributing significantly to poverty and the poverty trap. The poor expend a high proportion of their income as out-of-pocket payments for health with sometimes major adverse effects. More than 5 million citizens experience “catastrophic” health expenditures and at least 2 million of them fall into poverty as a result. The poor show much higher levels of such out-of-pocket payments than the rich in relation to their income suggesting that available risk-pooling mechanisms do not reach them and/or do not protect them effectively. Although the current estimations of catastrophic events provide useful information as a preliminary approach to the problem, the methodological approach based on spending is only a poor proxy for a genuine measure of the impacts of health shocks on well-being —that should take into account permanent

impacts on earning capacity, the ability to borrow to cover spending and a measure of impacts on human capital formation at the household level, in addition to actual spending as a share of income. Shifting from the current methodological approach to one that captures the long-term effects of health shocks on the household capacity to create human capital and earn income is an important priority for diagnosis, monitoring and evaluation.

There are significant inequalities in the allocation of public subsidies to and within the health sector. First, there is a large per-capita public subsidy to formal workers via fiscal transfers to IMSS and ISSSTE, even larger than the per-capita subsidy to health services at state level that is supposedly intended for the poorest segments of the population. These are regressive transfers (Figure 4.6). Second, there are large differences in the per-capita transfer of federal public subsidies among states. The historical federal allocation mechanisms in the health system have favored the richest and most influential states in the federation. Third, there is an important capture of public health subsidies at state levels by the non-poor, largely as a consequence of the existing incentive framework for public providers.

There is a fragile compact between the SSA and the states and between the state and public providers in their jurisdictions. Health services for the poor are decentralized to the state level in Mexico. Although the SSA historically had had a significant operational role, today, after significant decentralization to the state level of health service delivery for the uninsured, the SSA has very few instruments to leverage health policy and service delivery at state level. There are no doubts about the importance of decentralization to the state level in a country of the size and complexity of Mexico. However, the absence of a well functioning compact between the federal level and the state level can greatly contribute to fragmentation of health policy, increased inequality, and may reduce the accountability of states regarding the effective use of resources of the federation on services for the poor.

The compact between the federal and the state level needs to be strengthened for the SSA to fulfill its functions of steward and regulator of health services. Financial transfers in the health sector from the federal to the state level have been done on an historical basis, unrelated to the level of output or outcomes at the state level and focused on financing production factors rather than providing healthcare services to the uninsured. Reducing inequalities in public health financing requires a radical change in the way public subsidies are allocated in the health sector today. It requires an absolute (or at least a relative) reduction of public subsidies to IMSS and ISSSTE, an increase in public funding to replace high levels of out-of-pocket payments for the very poor, beginning at least with the poorest states, and a significant improvement of the federal-state compact to increase effectiveness and targeting of public subsidies on the poor.

The compact between states and state public providers face similar problems. States finance their own providers on a historical basis, financing production factors and with no linkage between output or outcomes and the level of financing. Current provider financing mechanisms at state level set a perverse microeconomic incentive framework, that tends to favor delivery to the non-poor and low productivity. States need to develop strategic purchasing in the health sector, linking provider financing to delivery of services to the poor (*Strategic Purchasing* is defined as the process by which the state — the purchaser in this case— puts in place the set of contracting, payment and auditing mechanisms that set the right incentive to providers in the jurisdiction, particularly public providers).

The Mexican health sector reform

At the request of the executive branch of the federal government the Mexican congress passed into law a significant reform of the system for healthcare provision and financing to the uninsured in April 2003.

The new law focuses mainly on the financing of the public health sector. There are two strategic objectives of the reform: first, to improve access to basic health services and financial protection (reduction of out-of-pocket expenditures in health) for the extreme and moderate poor; second, to change both the efficiency and equity of public financing (subsidies) and service provision within the public healthcare sector in the country.

The key features of the new legal framework include the following:

- (a) The separation of the funding and the management of public goods (and some private goods with high positive externalities such as vaccinations) from medical health services. Public goods will be financed from general taxation under a new Fund for Community Health Services.
- (b) The creation of **SEGURO POPULAR** as a largely publicly financed (federal and state governments) basic health services insurance scheme, which provides funding for both Essential Health Services (a package of basic curative healthcare and preventive services) and a *Fund for Protection against Catastrophic Events*. The latter is a centralized single risk-pool for high-complexity and high-cost health interventions, which will reduce the financial risk of all states and their beneficiaries regarding this intervention (known in the international health economics literature as truncation of the pyramid of risk). Note that while the Essential Health Services package is not a source of catastrophic risk management from the perspective of the complexity or cost of the intervention, it *is* intended as a risk-management instrument for the poor, given that relatively “simple” curative needs can have “catastrophic” financial consequences for the poor.
- (c) A significant increase in public financing for the public health system, expected to be fully implemented by 2010.

However, to understand the full impact of the current reform on services to the poor, one needs to understand the impact of all the law's components in the health system in general, including SSA, states and indirectly potentially on IMSS and ISSTE.

*The role of **SEGURO POPULAR**: protecting the poor and strengthening the federal-state compact*

SEGURO POPULAR plays a central role in the newly approved reform. Although **SEGURO POPULAR** has been designed with some features of a traditional health insurance arrangement (e.g. participants would pay premiums), the progressivity of the premium charge (the two lowest deciles do not pay any premium) and the heavy public subsidization for these deciles (by the state and the federal level) makes it basically a public scheme for the delivery of basic health services to the poor. Rather than a contributive health insurance, **SEGURO POPULAR** has to be considered as a targeted transfer mechanism built around a defined package of health services with risk pooling mediated by the government. As such, traditional considerations of adverse selection and other insurance failures are much less relevant. Indeed concerns over adverse selection, that is the process whereby higher risk individuals or households enroll in an insurance scheme, would actually work in reverse. As a subsidized public scheme for provision of basic health services it is the objective of the program to reach in particular those with the highest risk. The premium contribution constitutes only a marginal part of the overall financing and its role is more to strengthen the co-responsibility and citizenship dimensions of the scheme.

SEGURO POPULAR basically aims at addressing two of the key challenges of the Mexican health sector: to improve the compact both between the federal and the state level, and between the state level and the state providers; and to provide a risk-management tool (with society level risk-pooling) for uncertain health shocks. As noted above, public goods and activities with high externalities (such as vaccinations and TB treatment, as well as interventions to overcome agency problems in health such as well child care) are to be addressed and funded by a separate fund, the Fund for Community Health Services of SSA in synergic interaction with the health component of **OPORTUNIDADES**. In essence, **OPORTUNIDADES** provides incentives to increase household demand from the poor for effective basic health care services while **SEGURO POPULAR** and the Fund finances the provision of services and potentially sets the right incentive framework for providers to effectively respond to such increase in demand.

SEGURO POPULAR will allocate and transfer resources from the federal to the state level on the basis of capitation —or the number of enrolled eligible families from the pool of households uncovered by formal health insurance. Part of the capitation (25%) is adjusted on the basis of relative health needs of the state based on mortality rates. There are also two additional adjustment factors, one aiming to stimulate state contributions,

the other aiming to reward good state health system performance. However, these two adjustment factors account for a small fraction of the total allocation of resources by the **SEGURO POPULAR**. All three specific allocation factors will be adjusted on an annual basis according to the assessment of program implementation. In this respect the capitation allocation of resources is significantly biased (in comparison with the historical allocation) in favor of poor states, especially relative to the distortions on federal financing determined by historical allocations.

The impacts on the compact and risk-management objectives are reviewed in turn.

(a) The implementation of the **SEGURO POPULAR** has a clear *potential* to improve the compact for both the federal-state and the state-provider relationship. It would do so as a result of: i) per-family transfers to participating states for eligible populations rather than the historical patterns on the supply-side; ii) transfers are intended for the provision of the package of essential services rather than for an unspecified product; iii) given the linkage of financing to state health system performance, as well as the intended population and defined product, SSA would be able, for the first time, to collect and eventually use for management and financing purposes on a routinely basis, information on actual coverage for lowest quintiles, utilization and provider productivity.

Similarly, the same features of **SEGURO POPULAR** provide the basis for the states to strengthen their compact with health providers. Monitoring enrollment of eligible population, ensuring that providers are actually delivering the package to the eligible enrollees and that funds and resources are used for **SEGURO POPULAR** and no other purposes will force states to set up monitoring and production information systems, quasi-contracts and other purchasing tools. At the core of the potential success of **SEGURO POPULAR** will be the actual implementation of strategic purchasing at state level. The political and technical challenges for such implementation are significant. States will require both a close technical support and a close oversight by SSA to ensure such implementation.

A successful implementation of the **SEGURO POPULAR** would most likely trigger and require a transition towards a change of mission of the SSA and the state health secretaries: from one of perceiving themselves as a form of government holding company for public providers towards one of steward of the health system. While the traditional, holding company, mission focuses them on the financial viability of their own providers, the new mission is shaped around ensuring maximum impact of public subsidies on the poor.

A lesson we have learned in the last 15 years in Latin America and the Caribbean (LAC) and even in some OECD countries is that until the perceived policy function of ministries of health does indeed undergo the transition from managing and financing of

their own public providers to maximizing impact on the population (and particularly on the poor), it is unlikely that the incentives and the constituency will exist for shifting to demand-side financing for services to the poor. At the core of such a transition lie two necessary changes. First, there is a need to counterbalance the provider overseeing function (the traditional soul of a ministry of health) within the ministry with a separate financing/purchasing function within or outside it. **SEGURO POPULAR** will require this and will hopefully trigger its creation both at federal and state level. This is the implementation of a purchaser-provider split, functionally or even also organizationally. Only with this separation will there be the necessary tensions to re-focus the policy function of ministries of health to a new framework. This is a complex but key transition: the two Latin American cases that have progressed most —Chile and Colombia— are just beginning to bear fruit. Second, the newly created function needs to increasingly shift financing from historical budgets to production-based financing. This can form the basis for a further transition to demand-side subsidies for services or insurance. Transitioning from historical supply side financing to production-based and competition for clients at least at the margin (through arrangements in which money follows the patient) requires public providers to be able to dynamically adjust their production cost structures within the revenue constraints set by the purchaser. However, at the core of this process is the capacity to ensure that providers, particularly public providers, would be able to adjust their cost structures. The implementation of the **SEGURO POPULAR** would most likely also trigger the policy discussion on restructuring public providers.

In essence, the specific features of management and financing in the **SEGURO POPULAR** would allow SSA to establish a *Strategic Purchasing* relationship with the participating states. The clear potential for improving the compact will be realized only when SSA fully implements and uses this *Strategic Purchasing* capacity. Establishing it is one of the most significant political and technical challenges the reform faces to realize its potential. It has proven to be a significant challenge in most public health sector reforms in LAC and in OECD countries. However, no other strategy has proven to be effective in actually implementing the required transition.

(b) **SEGURO POPULAR** has the potential to provide an improved risk-management tool (via increasing society level risk pooling for the poor) for uncertain health shocks. It aims at increasing risk pooling both through the Package of Essential Health Services and through the *Fund for Protection Against Catastrophic Events*.

The main difference between the current and the **SEGURO POPULAR** scenario, besides its potential role in implementing strategic purchasing, is the reduction of out-of-pocket payments in the lowest quintiles. The very poor show high levels of out-of-pocket payments in Mexico in relation to their income that is evidence of a non-functioning risk-pooling mechanism for the poor. Evidence on out-of-pocket payments and catastrophic events for the poor show that to actually reduce such spending **SEGURO POPULAR** needs to: a) increase availability of free essential drugs for the very poor; and

b) reduce direct out-of-pocket spending, at least for essential health services. Thus the focus of **SEGURO POPULAR** on 131 essential drugs and 90 essential health interventions starting 2004.

While, in theory, there are only modest structural differences between the current scenario and the **SEGURO POPULAR** scenario, effective implementation under the new design could be of major significance: through reducing inequalities in the allocation of public financing (subsidies) for the health sector among states, IMSS and ISSSTE; increasing availability of essential drugs at public provider level; removing the “voluntary” and mandatory contribution the poor need to pay at public providers today; and reducing the crowding-out effect of the non-poor on utilization of health services. However, again, full realization of the benefits of the **SEGURO POPULAR** reform will depend on effective implementation of *strategic purchasing* and on an absolute or relative shift of public subsidies away from the non-poor and towards the very poor.

Mexico can achieve the shift of public subsidies towards the poor in two ways, that are not mutually exclusive: reallocate current regressive subsidies from IMSS and ISSSTE to the public health subsidized system and/or increase fiscal expenditures in health. Both strategies should be subject to implementation of strategic purchasing to ensure targeting and effectiveness of the additional financing on the very poor. Through its newly approved law, Mexico has already decided to significantly increase fiscal expenditures for the poor through the public health sector. It is possible that the discussions about the actual feasibility and sources of financing for the increase in fiscal contribution to the public health sector will trigger/facilitate a policy discussion about the reallocation of public subsidies currently allocated to the non-poor.

Key challenges in the implementation of *SEGURO POPULAR*

By October 2002, **SEGURO POPULAR** had 584,722 beneficiaries (around 158,000 families). The states of Aguascalientes, Colima, Jalisco, Tabasco and Campeche were the first ones to participate in the new scheme. Soon after, **SEGURO POPULAR** expanded its operations to 79 municipalities in 19 states. Services to **SEGURO POPULAR** affiliates are offered in 46 hospitals and 277 health centers of the Health Service Systems of the States (SESA) which are regulated by the SSA (Operational Rules of **SEGURO POPULAR**, SSA, 2003). By end-2003 625,000 families had been affiliated in 24 out of 32 states.

These are important achievements. However, as discussed above, the key challenge for the success of the **SEGURO POPULAR** is the actual implementation of an effective strengthening of the compact between the federal level and the state level and, particularly, between the state level and the health service providers. In the absence of such strengthening it is unlikely that **SEGURO POPULAR** beneficiaries would benefit

from the full potential of the reform and increased public expending might result only in improved conditions and revenue for providers.

A second challenge is the fiscal one. The new legal framework calls for a significant increase in fiscal transfers to the public health system (SSA and states). As discussed above, this can be achieved either by increased taxes or reallocations —whether from other sectors or from the currently regressive public subsidies within the health sector, namely ISSSTE and IMSS subsidies. This would configure a complex political scenario which takes us to the third challenge.

The third challenge is political. Strengthening the compact would necessarily affect the current balance of accountability in the health sector for SSA, states and public providers. The experience in Latin America shows that this is a politically painful and long process.

The fourth and key challenge is the evaluation of the results of the reform. The core promise of the reform is not the implementation of the **SEGURO POPULAR** transference mechanisms, the Funds (Catastrophic and Essential Community Services) or even strategic purchasing. The core promise is that the reform in general and the **SEGURO POPULAR** in particular will actually improve utilization of services, financial protection and responsiveness (*buen trato*) for the extreme and moderate poor, resulting in better health and less deprivation from health shocks in terms of incomes and long-term health status. Evaluating the impact of this reform is challenging methodologically and conceptually. The SSA has proven its capacity and focus on including evaluation and evidence as a key element for defining policy. The evaluation of **SEGURO POPULAR** will be essential to assess if and when this very promising reform has fulfilled its promise.

Since **SEGURO POPULAR** has only just been introduced there is not yet information on its impact. Indeed actual impacts will depend greatly on the behavior of households, on service providers, on interactions between the SSA and the states. While it has the potential to deliver major benefits, the extent of these remain uncertain. For example, there is uncertainty over the extent to which **SEGURO POPULAR** will lead to households actually increasing their use of health services shifting from private to public providers (saving out of pocket expenses) or choosing not to enroll in formal social security. There are also unknowns over the impact on the quality of health services. This uncertainty is comparable to the situation when **OPORTUNIDADES** was introduced (then as **PROGRESA**) in the late 1990's. Getting information on these issues will depend on structured monitoring and evaluation both on household behavior and service provider performance. While current plans do indeed put considerable emphasis on monitoring and evaluation there is a need for particular attention to the design of impact evaluations, especially those that can track the behavior of households and service

providers over time (as was undertaken as an intrinsic part of **PROGRESA**'s design with in particular the use of longitudinal household surveys).

Accountability and service quality

As shown in Chapters 2 and 3, service quality in Mexico remains a major issue. The quality of educational services has not increased at the same pace as coverage and it remains low. Dropout and repetition rates are still high for secondary education resulting in poor terminal efficiency. High dropout rates reflect partly financial problems and the high opportunity costs of enrolling children in schools for low-income families; but studies also suggests that they might also result from poor quality of educational services (López-Acevedo, 2001).¹⁵ National standardized students test scores show that approximately half the students have not reached the objectives of the educational programs. However, there have been some improvements since 1998 (Figure 3.1).

The quality of education is driven by the interaction between socioeconomic characteristics and service provision, particularly teachers' performance. The general thinking, discussed in Chapter 1 (Figure 1.2), emphasizes the centrality of patterns of accountability —the “compact” that defines the relationship between policymakers, service providers and front-line workers and the client power relationships between citizens and service providers, whether via choice of direct participation— these are often complementary. Mexico's educational system appears to have both a weak compact relationship, owing to the nature of bargaining and incentives for teachers, and weak parents' participation. There have been a number of worthy interventions and some have had positive results, but these do not get to the heart of the determinants of provider and especially sanction poor teachers performance (Table 4.11). Thus the need to complement these with deeper reforms to increase accountability via both changes in the compact and client power routes. It is highly likely that analogous considerations apply to other basic sectors e.g. health, roads, electricity, and water.

¹⁵ According to the 2000 Census, out of the 7-29 year old population who left school, 27.5 per cent did it because they did not like or want to study, and 38.5 per cent for economic or familiar reasons. The second reason is more important for the older group (aged 20 to 29).

Table 4.11 Programs for quality improvements in education

PROGRAM	SIZE	KEY CHARACTERISTICS	EVALUATION RESULTS
CARRERA MAGISTERIAL	738,186 teachers in 2002. 87 percent of basic education teachers are enrolled in the program.	a) Merit payment system: staff is voluntarily evaluated based on experience, professional skill, educational level, and completion of accredited courses. b) Training of teachers.	López-Acevedo (2001a) found that teachers enrollment in the program increased students learning achievement. However, the higher the level reached by a teacher, the lower the students test scores.
INCENTIVES FOR HIGHER EDUCATION TEACHERS		Points system that is used to calculated cash bonuses given in reward for good performance. Quality of teacher performance accounts for the majority of points. Bonuses go from 1-14 minimum wages.	No formal evaluation. However, the points system, better designed than <i>Carrera Magisterial</i> , provides incentives for higher teaching quality.
ESCUELAS DE CALIDAD (PEC)	2.5 million students and 9,827 schools in 2003.	Government grants to urban schools with students from low-income households committed to increasing quality. Schools participating have to create a project to improve school infrastructure and/or quality of the education.	Qualitative evaluations have been carried out. However, there are no conclusive quantitative results yet.
COMPENSATORY PROGRAMS	10 million students	Improve equity and quality of basic education in poor areas. Reduce dropout and absenteeism rates.	World Bank 1999b and 2003b shows positive impact of the program on students' learning achievement and reduction in dropout rates.
APOYO A GESTIÓN ESCOLAR (AGE)		Funds available to parents associations in preschool and primary schools under extreme poverty to buy school material and to finance projects chosen by each school. 5,000-7,000 pesos per year. Requires parents involved in school and teachers constant evaluation.	No formal evaluation.

Source: Government's website

While the government strategy to address quality of education seems to go in the right direction, some other actions should be considered or re-considered to complement this strategy. A law has been passed targeting public education spending at 8% of GDP by 2006 compared with close to 6.5% in recent years, a ratio that is broadly in line with the National Education Program (2000-06). However, the availability of these additional resources will clearly depend on progress on the fiscal reform and it is hard to see how the volume of resources could be raised so rapidly and be allocated efficiently. Whether these additional resources for education are made available or not, given the importance of the sector in public spending it is necessary that the government clearly define spending priorities and makes educational programs more cost-effective. Most resources allocated to education go to staff compensation (Mexico showing the highest share in OECD countries, at above 90%, along with Turkey and Portugal) while resources for investment are scarce. It is therefore important to review and assess the impact of educational expenditure to identify the most cost-effective way to achieve quality in education. Improving quality of education requires a better evaluation of institutions, programs, teachers and a close monitoring of the implementation of reforms. Further efforts should be made in some specific areas. In particular, it is important to accelerate work of the *Instituto Nacional para la Evaluación de la Educación* (INEE), the publication of evaluation results and to foster discussions around these results. To make schools accountable there is a need to go beyond particular programs such as the Quality Schools Program (**PEC**) and, in particular, sanction poorly performing schools.

This section covered social protection design and raised the issue of accountability for all services. It was concluded that moving rapidly towards an integrated and comprehensive system would be infeasible. A more achievable objective is to move towards a dualistic and comprehensive system strengthening **OPORTUNIDADES** and finding options to reach the moderate poor but without distorting the labor market. In doing so, achieving quality service delivery is an essential area not only in health but also in the provision of other basic services.

C. DECENTRALIZATION AND GEOGRAPHIC DIMENSION OF WELL-BEING

Political and administrative decentralization has been a major feature of Latin America over the past decade or so. In Mexico, there have been significant shifts of spending and program management to states and municipalities (Box 2, executive summary). The implications of this for institutional interactions, program management and distributional impacts are complex. As we saw in Chapter 3, differences in levels and dynamics of well-being across space is an important aspect of Mexico's overall inequality. In this section we introduce two themes: the geographic distribution of spending; and the relationship between decentralization and the effectiveness and equity of service delivery.

The distribution of transfers in relation to state needs

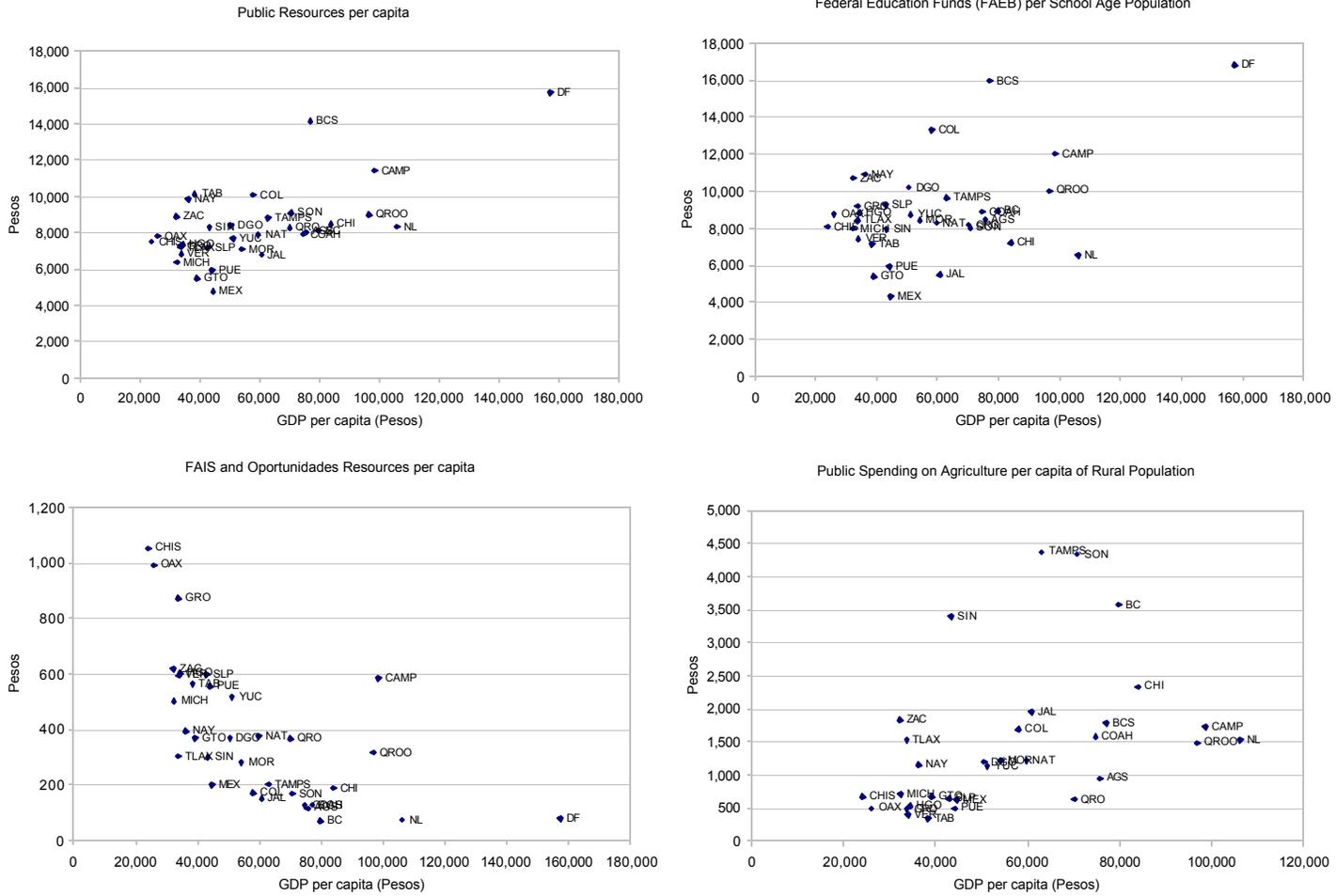
Figure 4.13 shows the geographic distribution of various public-spending items in relation to state GDP per capita in 2002. The first graph shows the distribution of total public spending (state own revenues, *participaciones*, *aportaciones*, municipalities own revenues, and sectoral spending); the second shows the distribution of FAEB (adjusted per state school age population); the third graph is of the distribution of the two major poverty-oriented programs FAIS plus **OPORTUNIDADES**; and the fourth of all agricultural support programs, including **PET**.

The following patterns are notable:

- Total spending, education transfers (adjusted for school age population) and (especially), and agricultural spending is positively related to GDP per capita. This means that relatively well-off states have greater spending overall and in these categories.
- With respect to education transfers there is wide variation around the broadly positive relationship. Mexico City obtains the largest transfer of 16 thousand pesos per school-age population while a poor state like Guanajuato receives only 5 thousand pesos. The Southern states receive an average of 8 thousand pesos and Veracruz (the fourth poorest state) gets only around 7 thousand pesos.
- Both FAIS and **OPORTUNIDADES** geographical targeting is very good across states, with poorer states received the larger transfers. But there is considerable variation around this pattern. For example, Chiapas gets an average of 1,200 pesos per capita, Veracruz, that is slightly richer, gets half of this, while the national average is around 400 pesos per capita.
- The Agricultural Support Programs benefit the Northern and wealthy states of Sonora, Sinaloa and Baja California. Sonora gets an average of 4,500 pesos per capita while Oaxaca only gets 500 pesos per capita.

FAIS and **OPORTUNIDADES** progressive targeting is in part driven by application of relatively clear formulae based on needs. In principle, this could be extended to other programs. However, political constraints are also relevant: in the case of the education and health transfers the bulk of spending goes to wages of teachers and medical personnel, and there is significant inertia on their location. Similarly most agricultural spending goes to support large agricultural producers.

Figure 4.13 Geographic patterns of public resource use in relation to state level GDP per capita: total resources, education spending, poverty-related spending and agricultural spending 2002



Source: World Bank, 2004a and CONAPO.

The patterns reviewed related to spending in relation to average state incomes. It is also of interest to explore how the distribution of federal transfers relates to performance in terms of social outcomes. Figure 4.14 illustrates the simple relationship between sectoral transfers and three areas of outcomes—in education, health and water and sanitation. For education, there is essentially no relationship between drop-out rates and education transfers across states. For health, there is a somewhat negative relationship between health transfers per uninsured person and child mortality—implying states with worse health outcomes get less in terms of transfers on average. This may in part be because the share of uninsured is generally higher in poorer states and federal transfers do not effectively adjust for this. Finally, for water and sanitation there is a somewhat positive relationship, implying states with a higher proportion unserved by improved water and sewerage services get higher transfers.

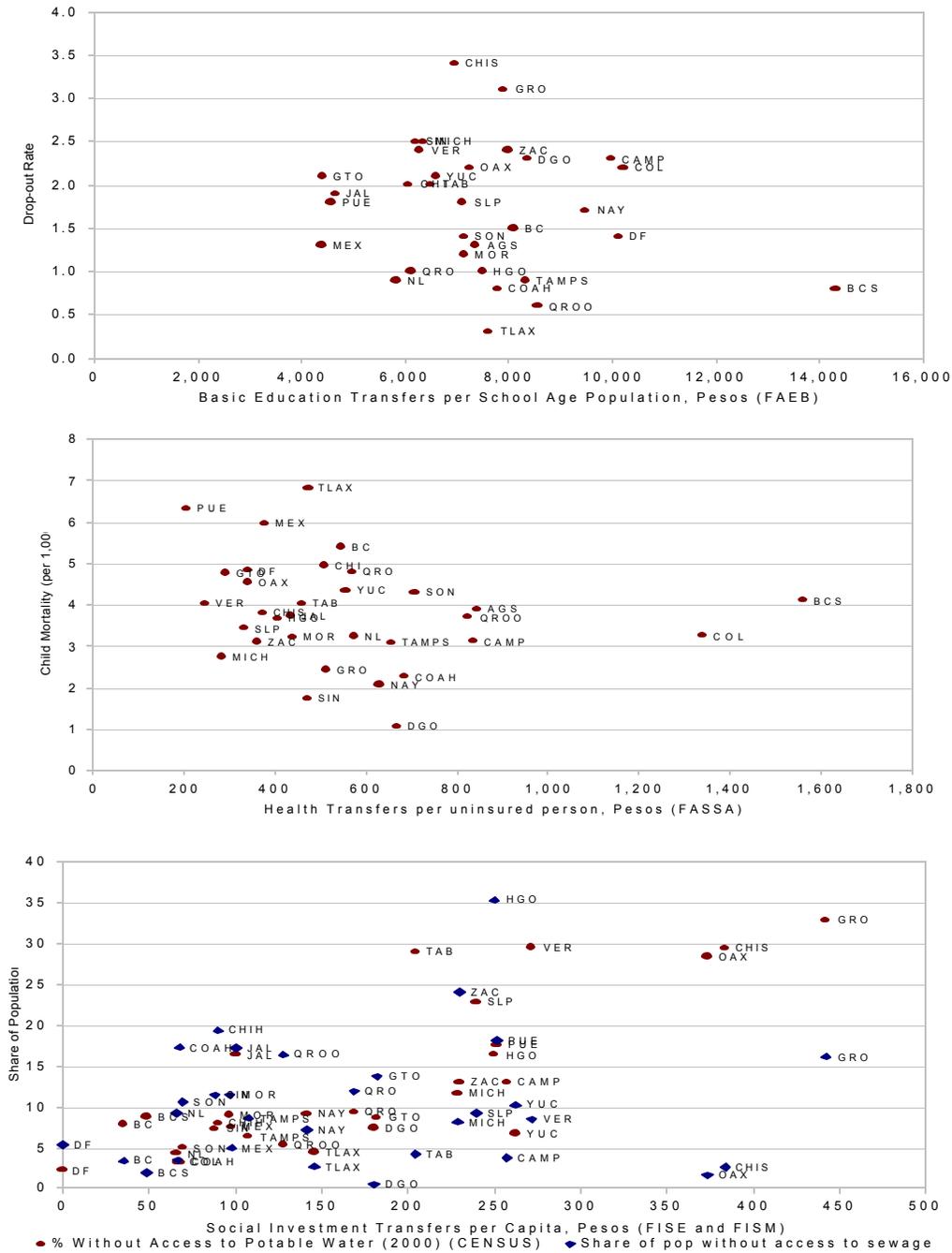
Interpretation of these patterns needs to be undertaken with caution. Lower state transfers for an area with poor indicators (e.g. high levels of mortality) could reflect inequitable distribution of resources to areas of particular need. But it is important to recognize the multiple determinants of social outcomes. These include levels of private incomes, especially amongst the poor, and the effectiveness of government programs. The latter are in turn influenced by political and institutional factors such as the extent of elite capture and clientelism and bureaucratic capacities. Poorer states in terms of economic wealth may also be poorer in terms of such institutional variables. There can also be equitable or inequitable patterns of spending within states, mirroring the great diversity in incidence of spending at the national level discussed in part A of this chapter. A full analysis would need to look at the impact of government efforts (including transfers) on *improvements* in social outcomes—controlling for the range of other influences.

A recent review of the poorest three states—Chiapas, Guerrero and Oaxaca (World Bank 2003c)—concluded that relatively weak social outcomes were a product of multiple influences, including lack of funding, inefficient use of funds and difficult initial conditions (from high levels of income poverty to highly dispersed populations and relatively underdeveloped infrastructural networks).

In this section we have provided some illustrations of differences in public effort across states that suggests that there are issues both with respect to resource allocation and with respect to how resources are used. Differences in the apparent “efficiency” of public action appears to be not only a matter of different initial physical conditions but also of institutional conditions and reform efforts. There is potential for action at state level, even in poorer states. For example, Veracruz, the fourth poorest state in terms of income per capita has introduced efficiency-increasing institutional reforms to improve service coverage and quality in both their educational and health sectors (Box 4.2). It has begun to witness improvements in indicators such as infant and maternal mortality

since 1999, but more time, and more in-depth analysis will be needed to arrive at a full interpretation of the potential for action within poorer states.

Figure 4.14 Geographic patterns of outcomes in relation to federal transfers 2000
Education (drop-out rates), health (child mortality) and water and sanitation (uncovered population)



Source: Webb and Gonzalez (2003) and INEGI 2000.

Box 4.2. Veracruz—the potential for effective action at the state level

Veracruz is the fourth poorest state in Mexico and receives transfers per person below the national average. It has taken innovative measures to improve the performance of its educational and health sector.

In the area of education, two state-led institutional changes are notable since decentralization began in the early nineties: the integration of parallel federal and state educational systems and changes in the role of teacher unions in supervision. Previously, the federal and state systems operated almost independently, each subsystem with a full administrative superstructure and little coordination between them. Veracruz is one of the few states that was able to successfully adjust to educational decentralization and integrated these two systems since 1994. With respect to the role of teacher unions, the federal SEP negotiates teacher wages with the national union leaving the state powerless in wage-setting decision making. In addition, states also lack responsibility to monitor educational outcomes, even teacher attendances, because school supervisors are also union representatives. In Veracruz, while union supervisors remain in the federally run system, the state was able to replace union supervisors in the state system with state appointments by offering the union supervisors retirement packages.

In the area of health there have been also some promising institutional reforms. These have included better integration and coordination between agencies in the state health sector that is characteristically fragmented. In addition, the creation of a state-payroll tax has helped to increase the state's contribution to health expenditure which increases the incentives of the state to ensure its effective use. The institutional changes have helped the state achieve its goal of reaching universal first-level coverage for its open population over the last three years. For this achievement the state was consequently awarded a certificate of universal coverage by the World Health Organization (WHO). This was mainly achieved through the leadership of *Servicios de Salud de Veracruz* (SESVER) which has the main responsibility of providing basic health packages to the open population. SESVER was created by the government of Veracruz in 1997 and has since increased cooperation between the other agencies in the fragmented health system, including those run by the federal government, such as **IMSS-SOLIDARIDAD**, in order to help cover those not reached by these agencies. The state payroll tax, in 2001 contributed 32% of total health spending in relation to roughly 10% of state spending by other poor states. More analysis is needed in order to assess the full effects of these reforms.

Source: World Bank, 2002a.

Decentralization and community driven approaches

Accelerating poverty reduction and social development will require effective action across many levels –federal, state and local government, and communities. We finally look at issues at the level of communities and their interactions with government. Community Driven Development (CDD) programs might be one powerful instrument to achieve poverty reduction (De Janvry and Sadoulet, 2003a). In CDD programs, organized community groups are given access to resources and power over their use.

They manage investment funds and make decisions on planning, selection and supervision of projects using these funds. These programs have expanded rapidly in the World Bank's loan portfolio, for example, reaching US\$2billion in mid-2003 and accounting for 11% of the total portfolio. The EU's **LEADER** program follows a CDD approach, whereby Local Action Groups are charged with the responsibility of preparing local development plans, selecting investment projects and transferring EU funding toward those. In Mexico's programs, several programs relate to the CDD category, particularly programs run through the **CONSEJOS MICRORREGIONALES** (SEDESOL) and **CONSEJOS MUNICIPALES** (SAGARPA). The case for territorial approaches to income generation in rural areas is developed in Chapter 5.

This approach is part of a "new" philosophy in rural development strategies coming in contrast to state-led "integrated" programs and seeking instead an "integral" approach to rural development (see De Janvry and Sadoulet, 2003). The main dimensions of the approach include features that have all been pursued in Mexico:

- Decentralization to the municipal level.
- Devolution of management of common property resources to communities.
- Participation of civil society organizations and collective action.
- Use of a territorial as opposed to a sectoral approach.
- Implementation of coordination mechanisms between macro, sectoral and rural policies (e.g., *Comisión Intersecretarial para el Desarrollo Rural Sustentable, Gabinete de Desarrollo Social y Humano* in Mexico; Rural Lens in Canada).
- Reconstructing a set of rural institutions following descaling of the role of the state and introducing new institutions to overcome market failures.

As an element of this approach, the modality of CDD offers much promise. It is, however, not free of risks and difficulties that largely remain to be resolved. We discuss both in what follows, drawing from experiences beyond Mexico. Solving the challenges offered by the approach will determine whether its promise will turn into a reality.

Advantages of the CDD approach include the following:

Access to and use of local information and local social capital. With much private information locally public in agrarian communities but not available to outsider agencies, decision-making on the allocation of public goods and the choice of projects is better done at the local level. This allows projects and services to be adjusted to respond to the heterogeneity of poverty, to monitor project implementation through local information, and to use local social capital to enforce contracts. Empirical studies of decentralized targeting schemes by Galasso and Ravallion (2001) in Bangladesh; Alderman (2002) in Albania, and Faguet (2001) in Bolivia have all found that decentralization helped better target the poor or better identify local needs.

Real participation. Community bargaining over resources can lead to a first best outcome for program definition and implementation if three idealized conditions prevail (see Binswanger and Aiyar, 2003):

- Equal information and foresight across community members.
- All community members have equal bargaining power.
- There is a single overall budget constraint.

While these conditions are typically not met, they set standards for what to achieve in order to improve efficiency and equity in CDD outcomes.

Contribution to empowerment. Giving to communities control over resources is an instrument for empowerment. Implementation of the CDD *process* and participatory evaluation are learning mechanisms about collective action and local governance that can serve as catalyst for further local initiatives. Hence, through the process it puts into place, CDDs can be expected to strengthen participative culture, enhance local capacities in negotiation and collective action, increase self-esteem of local populations, improve access to information and create a shared vision for local society on its possible future.

But there are also risks with the CDD approach that need to be taken into account to secure success with the approach. These include the following:

Risks of capture and clientelism. This is the most frequently mentioned reservation about a CDD approach and about decentralization in general (see for example Bardhan and Mookerjee, 2001). The benefits of CDD's can be captured by local elites. They can also be used as populist and clientelistic tools by local politicians. Some localities may well have less corrupt and clientelistic administrations than state and national governments, but the opposite may also be true. Experience with **LEADER** Local Action Groups (LAG) shows that objectives differ according to the relative importance in the LAG's of civil groups versus democratically elected officials (Sumpsi, 2002). Municipal representatives tend to favor infrastructure and equipment projects while private sector representatives favor income generation projects. Hence, how decentralization affects resource allocation remains an empirical question. Certainly, heterogeneity of outcomes across localities is to be expected and needs to be explained in terms of forces in the local political economies.

Parallel administrative structure and lack of democratic representation. CDD's sometimes establish a parallel structure to the elected local government and to deconcentrated bureaucratic institutions (e.g., Local Action Groups under the **LEADER** program in the EU; *Consejos Microrregionales* in Mexico). This may make project implementation more efficient in the short run but is not sustainable in the long run. This approach, which has been extensively used for the management of social funds, has been criticized for this very reason (Tendler, 1998). The capacity of democratic local institutions and long-run

accountability may also be weakened. It is notable in particular that local committees set up by CDD's tend to have weak by-laws and usually do not offer recourse mechanisms to local stakeholders. Hence, they tend to lack accountability mechanisms both to their principal (EU, SEDESOL) and to their stakeholders. CDD's are not a substitute for institutional level development, both at the ministerial and sectoral level and at the municipal level. This suggests that CDD should be designed to complement democratic and sectoral administrative structures, not a substitute, and possibly folded into local democratic governance in the longer run.

CDD's should perform as part of a triangular power arrangement that includes effective local governance and strong local civil society organizations as the other two nodes. If these two other entities are in place CDD's serve as a place for consultation, coordination and joint priority setting for government and civil-society organizations (CSO's). "Real participation" can then happen. Without them, local committees acquire a life on their own as they are not representative and can undermine the strength of both local governance and CSO's.

Lack of local administrative capacity. Local capacity to plan development, set priorities, manage decentralized funds and monitor projects may be weaker than at the central level. Teams constituted to manage CDD activities may lack professionalism. If undertakings are relatively simple this may, however, not be a major problem as observed by Faguet (2001) in his study of municipal-level decentralization in Bolivia. What is important is that appropriate efforts be made to train a sufficiently large number of professionals in the management of local rural development to perform at the level of the *consejos* and municipalities.

Local committees not specialized by types of projects. Local committees must decide equally on all projects submitted, whatever their content. Lack of specialization implies that there tends to be insufficient expertise in support of the more technical and sectoral undertakings. This suggests the importance of endowing local committees with budgets they can use to hire consultants to advise on specialized projects.

Bottlenecks on disbursement. Some CDD programs have suffered from low disbursement capacity with funds allocated to principals by donors or central governments but remaining largely idle. This is due to several causes:

- Low administrative capacity of committees.
- Complex administrative procedures introduced to check on moral hazards.
- Many small projects with high fixed costs in selecting and monitoring.
- Lack of a sufficient number of intermediary facilitators such as NGO's or private sector consultants.
- Complex mechanisms of participatory appraisal with uncertain methodologies.
- Lags in taking action due to low incentives for committee members.

Scaling up problems. CDD's tend to work well at a small scale and with long time horizons. Scaling up the approach has proved difficult due to several factors (see Binswanger and Aiyar, 2003):

- Lack of available budgets to secure the sustainability of projects and support their scaling up.
- Lack of a sufficient number of effective intermediary agencies (NGO's, private consultants).
- Public administration is not used to working following principles of subsidiarity and ex-post rules of accountability. As a result coordination in the co-production of services between central government, local government and the community is difficult and restricts expansion of programs.
- Long learning process needed to reduce management costs before programs can expand in scale.
- Legal contexts may not allow direct disbursement to communities.
- There may be strong difference in objectives between principal and communities, generating conflicts and limiting expansion.
- Practices followed have not been adequately adapted to heterogeneous local contexts.
- There are diseconomies of scale in project management.
- Effective decentralization is not in place, constraining community actions.

An important instrument in support of scaling up is to organize horizontal cooperation across local committees. This requires formation of a network that can serve to exchange information and advice. Local committees should also have the legal capacity of forming associations when considering projects that have larger scale than the administrative unit (municipality) where they are located (*Mancomunidades* in Mexico, communities of communes in France).

D. CONCLUSIONS AND ISSUES FOR FUTURE WORK

The federal budget in Mexico is an important mean for redistributive action. It already has a large impact in terms of services and transfers for the poor. While a fully comprehensive analysis is not feasible the evidence suggests that the budget is already much more equal in its effects than private incomes. For the taxes and spending that can be analyzed it appears to raise incomes very roughly in line with incomes or spending, and spend in the social arena, on average, broadly equal amounts per citizen.

But there is also large potential for further improvements. Mexico's overall tax effort is low for its income level and all spending was hard-hit by the 1994-95 crisis. While there has been substantial subsequent growth in social spending and targeted poverty reduction spending reached a peak in 2000-2002, this has in large part financed by

reduced economic sector spending. Moreover within social spending there is enormous variation in distributional impact ranging from highly regressive spending (ISSSTE programs, tertiary education, IMSS pension-related programs) to moderately regressive (electricity subsidies, probably much agriculture spending) to highly progressive (notably **OPORTUNIDADES**). Moreover, despite substantial progress in service provision and human indicators there remain major gaps in deprivation. There is a strong relationship between gaps and measures of income poverty with the extreme poor systematically suffering greater deprivation. There are some programs that have significant reach amongst the poor population: **OPORTUNIDADES** and **PROCAMPO** in rural areas, SSA services, as well, of course, as basic schooling, water and electricity. But for many the reach of services is inversely related to patterns of deprivation with greater coverage of the non-poor.

The analysis of policy design suggests an important agenda for the future. This chapter focused on three major areas:

- (a) outstanding issues in the design of the social protection system, including gaps in coverage for the extreme poor, reaching the moderate poor (who largely miss out on both **OPORTUNIDADES** and IMSS) and the ongoing implementation of policies to manage health risks for the extreme and moderate poor, especially under **SEGURO POPULAR**;
- (b) the challenge of achieving quality in service provision and the need to complement specific measures (for example on teacher quality) with a much broader approach to strengthening the accountability framework for service provision;
- (c) the major issues around service provision under decentralized auspices to the state, municipality and community levels that in particular needs shape policies that both reap the benefits of greater information and local responsiveness whilst managing the potential risks associated with weaker institutions, whether due to greater clientelism or exclusion or of lower bureaucratic capacities at local levels.

These three areas all need further and will be the subject of future work drawing on analysis of Mexico's conditions and international experience. There is both a major need and a huge opportunity to structure the wealth of natural experimentation going on in the wide array of government programs and local experiences to provide much more concrete and often contextualized results of what does and does not work. This will also involve a major deepening of the current evaluation agenda that SEDESOL has been pioneering. Some of the issues and techniques are discussed in Chapter 6.

ANNEX

Table A.4.1 Redistributive Instruments

	<i>OPORTUNIDADES</i>	Residential electricity subsidy (RES)	VAT Fiscal Expenditure	<i>OPORTUNIDADES</i> + RES	All
Public Expenditure (MMx\$)	16,105	37,206	81,217	53,311	134,528
Deciles	Distributional incidence				
1	36.5%	3.4%	1.9%	13.4%	6.4%
2	23.4%	4.8%	3.4%	10.4%	6.2%
3	15.2%	6.3%	4.5%	8.9%	6.3%
4	10.0%	7.2%	5.7%	8.0%	6.6%
5	6.7%	9.8%	7.1%	8.8%	7.8%
6	3.4%	11.4%	8.2%	9.0%	8.5%
7	2.6%	12.1%	9.5%	9.3%	9.4%
8	1.8%	13.1%	11.5%	9.7%	10.8%
9	0.4%	16.4%	15.2%	11.6%	13.8%
10	0.1%	15.6%	32.9%	10.9%	24.2%
CC	-0.581	0.242	0.410	-0.006	0.245
	Share of autonomous pc hh expenditure)				
1	17.5%	3.7%	4.5%	21.2%	25.7%
2	6.3%	3.0%	4.7%	9.3%	14.0%
3	3.0%	2.9%	4.6%	5.9%	10.5%
4	1.6%	2.6%	4.5%	4.2%	8.7%
5	0.8%	2.9%	4.5%	3.7%	8.2%
6	0.4%	2.7%	4.3%	3.1%	7.4%
7	0.2%	2.4%	4.0%	2.6%	6.6%
8	0.1%	2.0%	3.8%	2.1%	5.9%
9	0.0%	1.8%	3.6%	1.8%	5.3%
10	0.0%	0.7%	3.1%	0.7%	3.8%

ENIGH 2002, 3er Informe de Gobierno, Fox. SHCP (2003).

Population deciles ordered by autonomous per capita expenditure.

Table A.4.2 Redistributive implications of expanding OPORTUNIDADES financed through reductions in the *Residential Electricity Subsidy (RES)* and *Fiscal Expenditures on VAT*

RES					
	Current	100% to OPORTUNIDADES current coverage	100% to OPORTUNIDADES, full coverage of poorest 20%	50% to OPORTUNIDADES (full coverage poorest 20%)	
				RES current distribution	RES targeted to poorest 50% (proportionately)
Deciles	Distribution				
1	13.4%	36.5%	44.1%	29.9%	38.8%
2	10.4%	23.4%	37.6%	26.1%	33.7%
3	8.9%	15.2%	9.0%	8.0%	11.4%
4	8.0%	10.0%	4.3%	5.3%	7.8%
5	8.8%	6.7%	2.3%	4.9%	6.2%
6	9.0%	3.4%	1.3%	4.8%	1.0%
7	9.3%	2.6%	0.8%	4.7%	0.6%
8	9.7%	1.8%	0.4%	4.9%	0.3%
9	11.6%	0.4%	0.1%	5.8%	0.1%
10	10.9%	0.1%	0.1%	5.5%	0.0%
CC	-0.006	-0.581	-0.714	-0.380	-0.667
Incidence (% autonomous pc hh expenditure)					
1	21.2%	58.0%	70.1%	47.5%	61.7%
2	9.3%	20.9%	33.6%	23.4%	30.2%
3	5.9%	10.1%	6.0%	5.3%	7.6%
4	4.2%	5.2%	2.2%	2.8%	4.0%
5	3.7%	2.8%	1.0%	2.1%	2.6%
6	3.1%	1.2%	0.5%	1.7%	0.4%
7	2.6%	0.7%	0.2%	1.3%	0.2%
8	2.1%	0.4%	0.1%	1.1%	0.1%
9	1.8%	0.1%	0.0%	0.9%	0.0%
10	0.7%	0.0%	0.0%	0.3%	0.0%

Table A.4.2 Continued

Deciles	OPORTUNIDADES Current	VAT		VAT + RES		
		20/80 OPORTUNIDADES / Public Spending	Current	VAT 20/80: OPORTUNIDADES/ Pub. Spend. RES 50%: <i>Oportunidades</i>	100% OPORTUNIDADES, present coverage	100% OPORTUNIDADES, full coverage poorest 20%
				Distribution		
1	7.6%	18.4%	6.4%	18.8%	36.5%	44.1%
2	6.7%	13.7%	6.2%	13.8%	23.4%	37.6%
3	6.3%	11.6%	6.3%	11.3%	15.2%	9.0%
4	6.4%	9.4%	6.6%	9.2%	10.0%	4.3%
5	7.0%	8.8%	7.8%	8.6%	6.7%	2.3%
6	7.4%	7.6%	8.5%	7.5%	3.4%	1.3%
7	8.4%	7.9%	9.4%	7.7%	2.6%	0.8%
8	9.9%	8.6%	10.8%	8.3%	1.8%	0.4%
9	12.8%	7.8%	13.8%	8.0%	0.4%	0.1%
10	27.5%	6.2%	24.2%	6.7%	0.1%	0.1%
CC	0.230	-0.193	0.245	-0.196	-0.581	-0.714
				Incidence (% autonomous pc hh expenditure)		
1	22.0%	53.5%	25.7%	75.6%	146.4%	177%
2	11.0%	22.3%	14.0%	31.1%	52.8%	85%
3	7.6%	14.0%	10.5%	19.0%	25.4%	15%
4	6.1%	8.9%	8.7%	12.0%	13.1%	6%
5	5.4%	6.7%	8.2%	9.1%	7.1%	2%
6	4.7%	4.8%	7.4%	6.6%	2.9%	1%
7	4.3%	4.0%	6.6%	5.5%	1.9%	1%
8	3.9%	3.4%	5.9%	4.5%	1.0%	0%
9	3.6%	2.2%	5.3%	3.1%	0.1%	0%
10	3.1%	0.7%	3.8%	1.0%	0.0%	0%

CHAPTER 5. INFLUENCES ON GROWTH, DISTRIBUTION AND POVERTY REDUCTION

Growth in incomes of the poor has been particularly weak over the last two decades, especially when compared with gains in human and physical assets of the poor (Chapters 2 and 3). This chapter discusses some of the influences and policy options. While specific government programs are part of the story, economy-wide and sectoral influences on the level and pattern of growth are generally of greater importance. The environment for new investment is fundamental to this, understanding this to include the range of market, infrastructure, regulatory and institutional influences on investment decisions. This matters both to the overall level of investment and to the patterns of investment across large and small firms, self-employed entrepreneurs and farmers, that jointly shape both the overall level of growth and the extent to which growth is poverty-reducing.

This chapter discusses the various influences on the investment environment, inequality and growth. It is divided into four sections. First, the discussion is motivated by illustrative quantitative scenarios that show that both growth and inequality matter to the changes in income poverty. Second, the influence of a range of economy-wide influences on both growth and inequality are discussed. This relates past and proposed economy-wide structural reforms to the poverty reduction challenge. The third and fourth sections then focus on the conditions of two key groups amongst the poor — urban households living in moderate poverty and rural households living in extreme poverty— and discuss the very different policy issues around improving the investment environment and developing a growth strategy for these groups. There are, of course, also urban households living in extreme poverty and rural households living in moderate poverty that may have distinct needs. However, we chose to concentrate on the moderate urban poor and extreme rural poor policy issues to give more focus to the questions. The conclusion both summarizes and notes questions and issues for debate and future work raised by the preceding analysis.

A. GROWTH, INEQUALITY AND FUTURE PROSPECTS FOR INCOME POVERTY REDUCTION

The pace of poverty reduction is a product of interactions between changes in average incomes and income inequality. The higher the growth rate, the faster the pace of poverty reduction. However, the impact of growth on poverty is generally lower when income inequality is higher (that is the elasticity of changes in poverty rates to the changes in average incomes is smaller). A reduction in inequality that increases the share of the poor has both once-off effects and increases the responsiveness of poverty changes to growth. We show the quantitative importance of these factors by a simple

projection of alternative scenarios for incomes and inequality in Mexico through 2015. It asks the question, what would happen to poverty if incomes and inequality followed certain paths?

To design possible scenarios we need assumptions on both growth prospects and plausible changes in inequality. The base used is the level and distribution of incomes observed in the 2002 ENIGH. For growth a range was chosen from 5% annual growth from 2002 to 2015 in a “high” case to 2% annual growth in a “low” case with per capita income growth just under 1% lower in each case owing to population growth. It is assumed that average incomes measured in the survey grow at the same rate as aggregate growth. For changes in inequality, we assumed a range of scenarios from a modest worsening through to a “large” improvement. The distribution of income can change in many ways and not all matter for the poor (for example a shift from the very rich to the rich does not affect the poor). For convenience we assume that the Lorenz curve moved in or out by a given percent —5% for modest changes, 10% for large changes. A 5% worsening would take Mexico’s level of inequality back to that prevailing in 1998-2000, a 5% improvement would take it to roughly that of Venezuela, and a 10% reduction to that of Argentina in the early 1990’s.

The scenarios vividly show the influence of both growth and inequality —selected results are shown in Table 5.1. Two percent growth with no inequality change leads to very little progress on extreme poverty by 2015. With inequality improvements there can be large reductions even with slow growth. Growth of five percent per annum leads to a dramatic reduction in extreme poverty with its virtual disappearance with inequality declines. There is also large variation for moderate poverty. For example, with five percent annual growth, moderate poverty declines from 52 to 28% with no inequality change, but to 20% with a “large”, 10% reduction in inequality.

It is important to note that both growth and inequality improvement also help reduce the poverty gap and the squared poverty gap (these are measures of how far incomes of the poor lie below the poverty line. The squared poverty gap gives greater weight to the poorest with the largest gap). We should be more concerned with such measures of the depth of poverty than with the proportion of people who cross the poverty line. The squared poverty gap in particular is sensitive to changes in distribution.

Table 5.1 Both growth and inequality make a difference to the pace of poverty reduction

Alternative scenarios for food and assets-based poverty in 2015

	2002	2015							
Scenario		2.0				5.0			
Average real GDP growth		5	0	-5	-10	5	0	-5	-10
Inequality change									
Gini coefficient	50.77	53.32	50.78	48.24	45.70	53.32	50.78	48.24	45.70
Share of the bottom quintile	4.17	3.37	4.17	4.96	5.75	3.37	4.17	4.96	5.75
Extreme poverty headcount	21.22	18.25	15.30	9.85	8.32	6.36	5.51	3.69	1.73
Extreme Poverty Gap	5.31	4.94	3.90	2.53	1.68	1.08	1.20	0.54	0.14
Squared Extreme Poverty Gap	2.10	1.86	1.49	0.86	0.46	0.22	0.36	0.11	0.02
Moderate Poverty Headcount	51.79	46.01	45.06	43.10	40.83	29.58	27.45	23.90	19.79
Moderate Poverty Gap	21.61	18.81	17.33	15.02	12.81	9.86	8.39	6.26	4.48
Squared Moderate Poverty Gap	11.24	9.84	8.65	6.88	5.38	4.35	3.53	2.35	1.51

Note: The inequality change is the coefficient a from the equation $L(p)^* = L(p) + a[p - L(p)]$, where $L(p)$ is the 2002 Lorenz curve and $L(p)^*$ is the simulated 2015 Lorenz curve.

Source: WB Staff estimates.

These scenarios are intended only to motivate the discussion and illustrate the fact that both growth and inequality matters to poverty reduction. As noted, just how the income distribution shifts over time matters to poverty dynamics. Inequality could decline but leave out the extreme poor. Alternatively, the distribution could shift in a way that particularly benefited the extreme poor but helped the moderate poor less, as occurred between 2000 and 2002. Finally, these simulations have neither policy nor behavioral content. We now turn to a discussion of policy issues.¹

B. STRUCTURAL AND POLICY INFLUENCES ON GROWTH AND DISTRIBUTION

The hardest question to answer is the following: what is the potential influence of external, structural and, especially, policy variables on both growth and inequality? This section examines this in terms of economy-wide factors, leaving to the next two sections the particular issues relevant to urban and rural poor.

¹ More sophisticated approaches can increase the behavioral content of such simulations. For example micro-simulation models can take account of decisions on education, labor force participation and fertility (Ferreira and Leite, 2003.) But there is no magic technique (yet?) for simulating with confidence the effects of policies on the full range of influences on growth and distribution.

There are very large literatures on the determinants of income growth and inequality and, indeed, considerable work on Mexico. This section draws on selected results of recent work to explore the potential forces on growth and inequality. It should be stressed that the state of the art (indeed the state of the economic and social world) is far from a situation in which we can predict with any confidence the impacts of alternative structural changes or policies on incomes and inequality. However, we can say something on probable directions based on past experience. This is done in three steps: first, we review what international cross-country analyses have to say on the relationships affecting Mexico's future growth and inequality; second, we look at evidence on patterns of change in the labor market that is particularly relevant to inequality and poverty; third, we discuss what this implies for the relationship between Mexico's structural reform agenda, inequality and poverty.

Lessons for Mexico from international evidence on external, structural and policy influences on growth and inequality

The first way we look at the relationships between factors associated with growth and inequality is through use of some recent work in the tradition of cross-country analysis. This body of work compares the contrasting experiences across countries to draw conclusions on relationships between factors such as trade, external conditions, education and growth. This is complemented by work from the smaller literature on relationships with changes in income inequality. Care needs to be exercised in drawing causal lessons from this literature to the experience of a particular country —since, even with sophisticated econometric techniques, it can be difficult to assign causation from observation of patterns that appear to move together. But, with this caveat, the results provide useful information on the likely relationships.

While income levels and the income distribution are jointly determined, it is presentationally useful to start with results on determinants of growth. Here we look at the implications for Mexico of the results of a recent analysis of growth between 1960-99 from a global data base of 135 countries, 113 developing and 23 developed (see Loayza, Fajnzylber, and Calderón; 2002, Tables III.2 and III.4). Using a global database such as this makes possible much more precise and reliable estimation of the relationships than would otherwise be possible. Moreover, the results from the global analysis track well the experience of Latin American countries. The authors of the study statistically disentangled the influence of a wide range of factors on observed growth. A few aspects of this work are highlighted here. Growth determinants are divided between short-run cyclical effects (such as bouncing back after a recession), the influence of structural reforms, stabilization policies, and external conditions. Amongst structural measures, they used proxies for education, financial depth, trade openness, government burden,

provision of public services and infrastructure, and governance.² For stabilization, measures of price stability, output volatility and systemic banking crisis were used. Finally, terms of trade and period-specific dummies (to capture global conditions) were used as indicators of external influences. These various factors can be thought of as shaping both the overall investment environment and the efficiency of resource allocation.

The application of the analysis to explaining Mexico's past growth performance (to 1999) is summarized in Table 5.2, where the model-predicted change in growth between various periods is compared with actual changes. As can be seen, the results capture reasonably well the growth decline in the 1980's, the growth recovery in the 1990's, as well as the average change between the first and second half of the 1990's (the actual growth in the latter period was actually higher than the model predicted). It is noteworthy that the analysis indicates that there were growth enhancing structural changes for all the periods with the fluctuations across periods explained by changes in stabilization policies, cyclical effects and external conditions.

Table 5.2 Contributions to Mexico's past growth changes predicted by a global analysis of growth determinants

Contribution to growth rates in income per capita							
	Actual change	Projected change	Transitional convergence	Cyclical reversion	Structural reforms	Stabilization policies	External conditions
<i>1980s vs. 1970s</i>	-3.87	-2.61	-0.49	-0.39	1.08	-0.98	-1.84
<i>1990s vs. 1980s</i>	1.72	1.80	0.05	0.19	1.51	0.24	-0.19
<i>91-95 vs. 86-90</i>	0.00	-0.17	0.03	0.45	1.02	-1.11	-0.56
<i>96-99 vs. 91-95</i>	3.88	2.29	0.03	1.23	0.66	0.31	0.06

Source: Loayza, Fajnzylber, and Calderón, 2002, Tables II.4 and II.5.

The model results can also be used to project Mexico's growth and we use this exercise to show the estimated influence of different structural policies. Two exercises are undertaken in the study. The first is based on values of the explanatory variables based on the projection of past trends —this can be interpreted as projected growth for the first decade of 2000's relative to the 1990's. The second sets the explanatory variables to levels prevailing for countries in the 75th percentile of the world distribution —that can

² The variables used were: secondary school enrollments for education; private financial credit over GDP for financial depth; total trade over GDP, adjusted for size and other country characteristics for trade openness; government consumption over GDP for government burden; and main telephone lines per capita for infrastructure.

be interpreted as the secular growth that would obtain if Mexico had these characteristics, ignoring transitional issues of how it could move to such a position.

Table 5.3 Mexico's predicted *future* long-run growth, based on a global analysis of determinants of growth

Contribution to growth rates in income per capita

	At levels of explanatory variables projected from past trends	At levels of explanatory variables of the 75th percentile in the world
Growth in income per capita, 1991-1999	1.42	1.42
Predicted change in growth	2.29	3.25
Projected growth in the 2000s	3.72	4.67
<i>Contribution of structural factors</i>	<i>1.98</i>	<i>2.03</i>
Education	0.88	0.60
Financial depth	0.03	0.63
Trade openness	0.57	0.00
Government consumption	0.02	0.00
Infrastructure	0.48	0.8
<i>Contribution of macro factors</i>	<i>0.74</i>	<i>1.22</i>

Note: The total also includes contributions from external, transitional convergence and cyclical factors; these are not shown in order to focus on policy-relevant factors.

Source: Loayza, Fajnzylber, and Calderón, 2002, Tables III.2 and 4.

The results based on values projected from past trends suggests that Mexico could achieve an annual per capita income growth of 3.7% (and not far short of 5% in terms of total growth) with significant contributions from education, infrastructure, trade openness and macro stability. By contrast, if Mexico had the characteristics of a country at the 75th percentile of the global distribution for all variables, an even higher growth rate is predicted owing to larger contributions from financial depth and infrastructure (areas where Mexico has a relative deficit) as well as from macro stability (while it is assumed that a banking crisis would not occur, the history of macro instability is a negative factor in the projection for Mexico relative to the 75th percentile). In this scenario, the contribution from education and trade openness is lower, indicating that Mexico is above the 75th percentile for these variables (however, the education variable used—secondary enrollment— does not take account of the quality issues discussed in Chapters 3 and 4. As emphasized there, additional efforts on education will be important to both growth and poverty reduction).

These projections are no substitute for an in-depth analysis of Mexico's short and long run growth potential. But they are indicative of what is achievable based on past international patterns and they underline the positive potential contribution of education, infrastructure, finance, trade and macro stability to growth. The pursuit of

effective public action in these areas looks consistent with the achievement of the 5% medium term growth rate in national incomes used in the rapid growth projection shown in Table 5.1.

So far the analysis has not taken account of distributional changes. We first look at some work from cross-country analyses that are close in spirit to that just presented. This uses results of a recent exercise by López (2003), who used the same data set and approach as Loayza, Fajnzylber, and Calderón (2002), but with the addition of variables on income distribution from a global data set with information on changes over time for 133 cases. He finds considerable inertia in measures of income inequality—in line with other work—but also interesting patterns of association with the variables treated as growth “determinants”. As with any multivariate analysis of this kind, the results for any variable refer to patterns of association after controlling for the influence of other variables. Outcomes for income inequality reflect the product of the interaction of competing influences. Key results are summarized in Table 5.4.

Table 5.4 Structural factors and macro-stability are associated with changes in inequality

Variable	Influence on inequality (as measured by changes in the log of the Gini)
Education	Decreases (not robustly significant)
Financial depth	Increases
Trade openness	Increases
Government burden	Decreases
Infrastructure	Decreases
Governance	No significant relationship
Price instability	Increases
Cyclical volatility	No significant relationship
Banking crisis	Decreases

Note: results from Generalized Method of Moments econometric analysis on a cross-country database. For variables used for structural conditions see note 2 above.

Source: López, 2003.

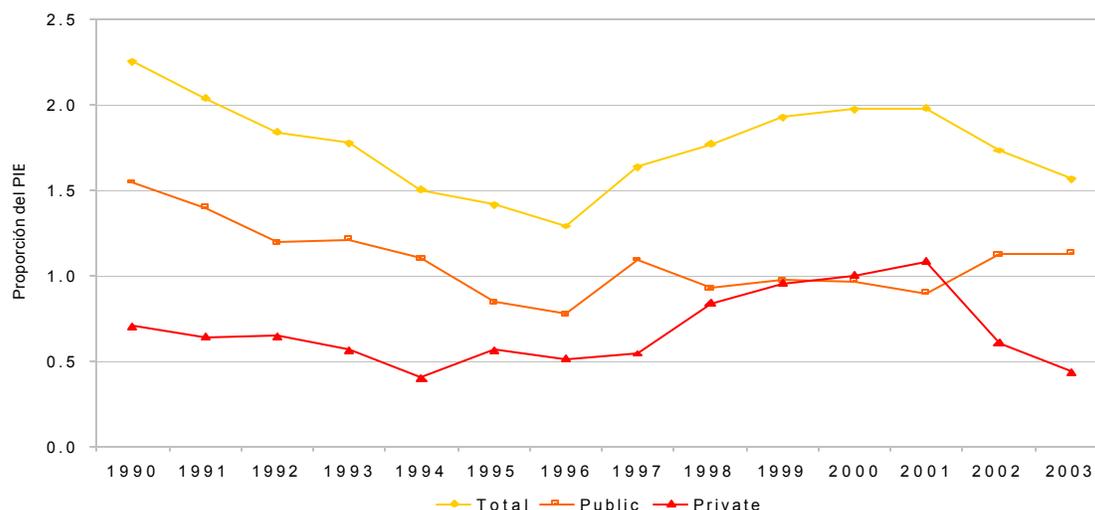
Education is associated with lower inequality—as well as higher growth—but the result is not robustly significant across specifications. The lack of robustness probably reflects the fact that secondary enrollment is a very poor indicator of determinants of returns to education that reflect the interaction between the relative supply and relative demand for skills amongst workers now in the labor force. Secondary education influences the relative supply of skills but only over time. Moreover, in Mexico, as in much of Latin America, the key divide has been between tertiary education and lower levels of schooling. This is discussed further in the next subsection.

Inequality-increasing associations were found with *greater trade openness and financial depth*—two areas of structural reforms that are associated with higher growth (Table 5.3). A negative influence of trade openness is consistent with studies on Latin America that interpret increased trade as mediating skill-biased technical change (see De Ferranti et al., 2003; and Sánchez-Páramo and Schady, 2003). The influence of greater financial depth could be interpreted as working through a lowering of the cost of capital, encouraging use of more capital-intensive technologies (that tend to be complementary with more skilled, better paid workers). These channels of influence on inequality are consistent with country-specific work on Mexico that has focused on impacts of trade-opening and capital investment on the labor market (see Hanson, 2003, and discussion of the labor market below). It is also typically the case, and true in Mexico, that those working in the financial services sector earn relatively high salaries.

Infrastructure expansion is associated with reduced inequality as well as promoting growth. This is further supported by other recent country level analysis (Calderón and Chong, 2003; Calderón and Servén, 2003). The latter work uses similar data sets and approaches to the above studies but with a much more extensive set of information on infrastructural variables, including data on the stock of telecommunications, electricity and land transportation (roads and railways), as well as measures of service quality. These studies find that more and better quality infrastructure is good for both growth and income inequality. With respect to growth effects, it is the quantity, not the quality, that is significant in the econometric analysis. After controlling for a range of other influences on growth, Calderón and Servén (2003) find that about a quarter of the variation in growth in 1996-2000, relative to 1981-85, is explained by difference in infrastructure stocks. With respect to income inequality, both the quantity and quality of infrastructure has a significant negative influence: more and higher quality infrastructure is associated with lower inequality after controlling for other influences. Calderón and Chong (2003) estimate that an increase in infrastructure equivalent to moving up one quartile of the global distribution of infrastructure stocks is linked with a reduction in the Gini of 2.2 points in the following five year period and 12 points in the subsequent 35 years. Such a long-run effect is equivalent to a shift from the level of inequality prevailing in Mexico to below that in Costa Rica.

The cross-country result on infrastructure resonates with the high degree of spatial heterogeneity that was discussed in Chapter 3—since better infrastructure can be a major source of greater spatial integration. In Mexico, during the 90's, investment levels have been at best flat and, after a short-lived boom in telecommunications in the late 1990's, private investment recently displayed a significant decline. Public investment has recovered since 2001 particularly in sectors such as electricity, roads and water. However, levels of investment remain low by international standards, and more effort will be needed to reactivate investment in infrastructure in both the public and private sectors.

Figure 5.1 Investment in infrastructure in Mexico and Latin America fell steeply in the 1990's



Note: Investment in infrastructure includes roads, electricity, railways, airports, ports, water and telecommunications. Data for 2003 are estimates.

Source: Anexo del Tercer Informe de Gobierno 2003.

We would finally note the more complex relationship between *macro stability* and inequality in this analysis. On one hand, greater price stability —that in Latin America means avoiding high inflation— is associated with lower inequality. This is consistent with country-specific analyses that find higher inflation goes with more inequality possibly because the rich have more financial and other instruments to cope with high inflation (See Ferreira and Litchfield, 1996, for Brazil).

On the other hand, *banking crisis* are associated with lower inequality as measured in the household surveys used in this analysis. This is consistent with the finding that the premia to tertiary workers tends to decline in the wake of such crises, as noted in Chapter 3 for Mexico, and as observed more generally for Latin America (Sánchez-Páramo and Schady, 2003). However, this is likely to be only a small part of the distributional story of banking crisis. Recent work by Halac and Schmukler (2003) on Mexico and several other Latin American countries finds that banking crisis and government rescues are strongly regressive but that the action takes place in the interactions with the financial sector and fiscal position. These are likely to be captured poorly, if at all, by household surveys. For Mexico, they estimate the total fiscal and quasi-fiscal costs of the 1994-95 crisis to be \$135 billion, about a quarter of Mexico's 2000 GDP —or about two years worth of total tax revenues. This primarily benefits those within the financial system —shareholders, depositors and borrowers— who are relatively wealthy within the Mexican income and wealth distribution. The transfers were financed by higher budgetary surpluses than would otherwise have been needed. On the basis of average incidence estimates, this was paid for roughly proportionally by all the population —poor and rich alike. And the lost spending could have hurt the poor

disproportionately at the margin, since the expansion of spending in many programs has been even more progressive (Chapter 4 and World Bank, 2004a).

As banking crisis unfold, it is also usually the case that the larger and better-informed depositors move their money out of domestic assets first, potentially reaping capital gains when domestic assets prices fall (notably via exchange rate effects) and bigger and more influential equity-holders and borrowers get favored treatment in bailouts. The ENIGH, while only capturing a fraction of total capital incomes does register *gains* in financial income at the top of the distribution between 1994 and 1996 (De Ferranti et al., 2004, Chapter 8) in the context of generalized declines in total incomes from all groups.

These considerations only sharpen the conclusion on the deep costs of macroeconomic instability in general, and the 1994-95 crisis in particular, for poverty and inequality. Chapter 3 showed how severe was the impact of the crisis on poverty reduction.

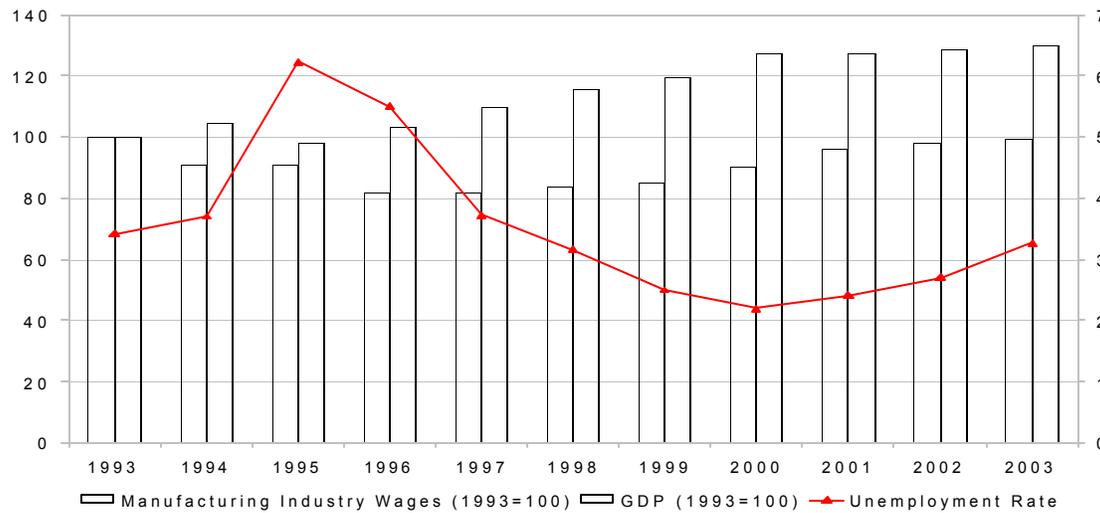
Inequality dynamics in the labor market

Labor incomes account for a large part of household incomes of the poor and a significant part of the action between policy and structural changes and inequality occurs via the labor market. The linkages between the labor market and the household income distribution are mediated by decisions on household formation, labor force participation and choices over household size, so rises or falls in wage inequality are not always directly reflected in changes in household income inequality.³ But it remains an area of interest for structural changes and potential policy which is of particular importance to the poor. There are several areas that affect wage dynamics.

The economic cycle. The level of economic activity has a powerful influence on aggregate labor demand, the level of wages and unemployment. As Figure 5.2 shows, workers were hard-hit by the 1994-95 crisis in terms of high unemployment and falling wages. Unemployment increased sharply from about 3.5% in 1993-94 to over 6% in 1995, but then fell back to pre-crisis levels by 1998. The relatively quick recovery of employment is partly due to high wage flexibility: manufacturing wages fell almost 20%, recovering to 1994 levels in 2000 and to 1993 levels only in 2003. As seen in Chapter 3, these labor market dynamics was closely mirrored in poverty changes. Avoiding crisis and supporting stable growth is clearly good for wage developments.

³ See Bourguignon, Ferreira and Lustig (1998) for a discussion of the methodological approach of micro-simulations for analyzing the various channels of influence on household income distribution.

Figure 5.2 Average wages, growth and unemployment

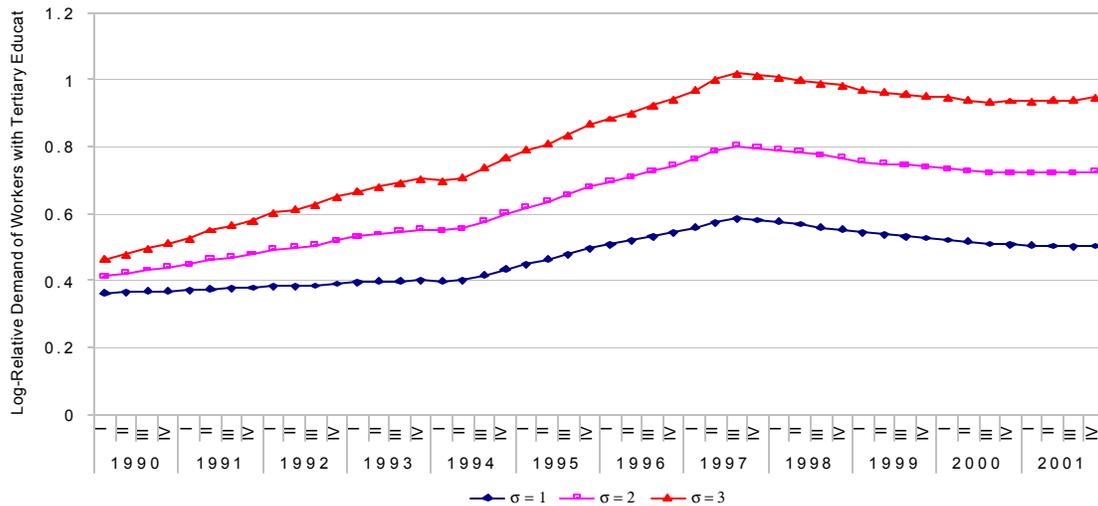


Source: WB staff calculations based on INEGI.

The supply and demand for skills. The structure of wages is as important for poverty as average wage levels. Mexico has a steep wage hierarchy, both with respect to schooling and spatial differences. This is partly because of the long-run inheritance of unequal schooling. Furthermore, it experienced rising differentials, especially for workers with college education, in the late 1980's and much of the 1990's, followed by declining differentials since about 1997. This can be interpreted as a product of the interactions between changes in the relative supply and relative demand for different skill categories.

Educational expansion of the past two decades has led to a gradual increase in the relative supply of workers with secondary education and tertiary education —whose share in the workforce rose by some 50 and 40% respectively between the late 1980's and late 1990's (De Ferranti et al., 2003, pp. 51 and 54). Since the premium to education (especially for tertiary education) rose, this implies shifts in the relative demand for skills more than offset these increases in relative supply. While observed wages are a product of the interaction between supply and demand changes it is possible to derive the implicit shifts on the demand side by making assumptions on the extent to which different skill categories can substitute for each other in the production process (see Sánchez-Páramo and Schady, 2003). The results of such an analysis is presented in Figure 5.3: this shows that there were large increases in the relative demand for college graduates in the 1990's, followed by a modest decline after 1997.

Figure 5.3 The evolution of the relative demand for workers with tertiary education, Mexico Urban Areas, 1988-2001



Notes: The estimation of relative demand follows Schady and Sánchez-Páramo (2003) in assuming three levels of elasticity of substitution (ξ) between upper secondary and tertiary education workers. The evolution of demand considers three year moving average estimations including 12 quarters per observation.

Source: WB staff calculations using third quarter of ENEU from 1988 to 2001.

Mexico's pattern of rises in wage differentials for tertiary education is shared by most middle-income Latin America countries (Behrman, Birdsall and Székely, 2001; De Ferranti et al., 2003). It is generally associated with the radical opening to trade and investment that started in the late 1980's and, for Mexico was consolidated with NAFTA. This opening mediated a process of skill-biased technical change as firms adopted new techniques and modernized internal and external organization processes. The phenomenon of a levelling off, or partial reversal, of the relative demand changes also occurred in Chile in the late 1990's. Since Chile and Mexico are the two countries that have experienced the deepest international integration this supports the view that the boost to increased demands for high skills from opening up may be a once-off phenomenon.⁴

Just as the rise in skill differentials in the early 1990's tended to sustain or increase household income inequality, so the falling differentials between the late-1990's and 2003 will be an equalizing force for household incomes and was one of the influences behind the distributional improvement for 2000-02. The timing of the change around 1997 suggests that it was a structural rather than a cyclical phenomenon. While wage differentials may rise somewhat with the recovery, the overall past pattern provides some hope that further educational expansion will be associated with further declines in

⁴ This is consistent with theories that skills matter more during periods of major change in production.

differentials and not be offset by further large increases in relative demand. This should be good news for both inequality and poverty.

International migration and remittances. An additional major influence on the structure of wages is the large-scale migration to the US. Over the past few decades this migration has been biased toward more skilled workers reducing their relative supply in the Mexican economy. Chiquiar and Hanson (2002) show that in 1990 the education group of Mexicans most represented in the US was that with 12-15 years of schooling, corresponding to upper high-school and the level just above, which fall in the middle and upper segments of Mexico's wage distribution. Mishra (2003) estimates that this has been an additional force for rising skill differentials in Mexico.⁵ Moreover, migration has historically been concentrated in some states, notably Zacatecas, Michoacán, Guanajuato, Nayarit and Durango where Mexican labor was sought by US employers and labor agents through temporal employment contracts. Between 1998 and 2001, 42% of the temporary migrants crossing the Northern border to US still came from the traditional sending states located in the Northern part of Mexico (CONAPO, 2002). This was an additional force for rising spatial differences in incomes.

While migration has been inequality increasing it has also reduced poverty. As discussed in Chapter 3, at least part of the flow has been from very poor rural areas and remittances have had a large (and rising) influence on the reduction of extreme poverty of households involved. In terms of the spatial distribution, there has been a steady increase of emigration from some central and Southern states such as Puebla and Oaxaca, and from the state of Mexico.

Institutions and labor market functioning. Labor market institutions, both formal and informal, can modify market-determined patterns of wage differences. Three features of the Mexican labor market are of particular relevance to inequality and poverty.

First, the labor market has historically been highly flexible in terms of wage adjustment—including downward real wage declines in crisis. This has been complemented by significant flows between formal and informal work, with a contracyclical, as well as a large structural component to informal employment. These factors have led to low open unemployment rates or only brief spells of high unemployment in response to crisis (see Figure 5.2), in sharp contrast to countries such as Argentina and Chile (Maloney, 2003). This may be changing: the achievement of low inflation rates appears to have reduced downward real wage flexibility and the labor market appears to be moving to a pattern of greater quantity adjustment to adverse demand developments—as in the relatively higher unemployment in the recent mild recession (García Verdú, 2002b). This increases

⁵ This appears to apply less to the top of the skill distribution (graduates and post-graduates). Tremblay (2002) shows that relative to other developing countries, the number of such highly-skilled Mexican migrants in the US is not high. For this part of the distribution the high top salaries in Mexico has tended to keep Mexicans in the country.

the importance of developing social protection instruments to manage unemployment risks in an efficient fashion (see Chapter 4).

Second, the influence of unions on labor markets is very different between most of the private sector and the public sector. In the private sector, the effect of unions appears not to increase wage-differentials with non-unionized sectors but rather to reflect bargaining for employment (Maloney 1999). This is good for poverty reduction since it tends to raise formal employment, a factor that is of especial value for the moderate poor. Unions of course have a range of other functions, including protection of worker rights and ensuring observation of health and safety standards. In the public sector unions are commonly associated with preservation of work-practices or firm structures that inhibit efficiency-improving reforms, notably in teaching, electricity and oil and gas (López-Acevedo and Salinas, 2001, Larre and Bonturi, 2001, López-Calva, 1998).

Third, there remains an important division between the formal and informal sectors. While there are significant movements between formal and informal work, a significant part of which is voluntary (Maloney, 1999), high levels of informality are associated with lower wage and the absence of formal social security. This is of particular relevance to the moderate poor in urban areas and is discussed further in the section on this issue below.

Spatial and rural-urban developments. The 1990's rise in wage differentials had a spatial dimension with areas closer to the border more integrated into international markets and with a higher concentration of foreign direct investment experiencing relative wage gains (Hansen, 2003). In many cases these were the initially better educated and higher income areas. This was an important factor behind rising spatial differentials in incomes noted in Chapter 3. Overlaid on this are large differentials between rural and urban wages. However, at an aggregate level there has been a reduction in rural-urban wage differentials in the past decade, apart from in 1994 (Table 5.5). This is possibly due to rising integration in the national labor market and, as noted in Chapter 3, has coincided with rising income inequality within the rural area. Rural wages were particularly buoyant between 2000 and 2002, but it is too early to tell if this will be sustained.

Table 5. 5 There are large but declining differences between rural and urban wages

	Mean hourly wages by area					
	1992	1994	1996	1998	2000	2002
Rural	1,208	1.5	2.1	3.3	5.1	6.3
Urban	4,398	5.6	7.1	10.1	15.2	15.9
Rural/Urban Wage Ratio	27.5%	27.0%	29.7%	32.5%	33.6%	39.6%

Source: WB staff calculations using ENIGH 1992-2002.

The structural reform agenda and poverty reduction

We can now draw on the previous subsections to turn to the question of the relationship between Mexico's structural reform agenda and poverty reduction. Structural reforms have been a topic of considerable public debate in Mexico. This has been heightened in the recent past by the China's symbolic overtaking of Mexico in terms of shares of the US market. This has led to rising recognition of the need for a new round of structural reforms to increase competitiveness. Reliance on the gains from macro stabilization and NAFTA will be insufficient to sustain rapid growth. The present government has sought to undertake reforms in a range of areas including tax, labor, electricity and competition reforms, but these have been resisted by various segments of Mexican society, and there has been little or no passage of actual reforms.

There are many considerations around the design of structural reforms. Here we provide a qualitative summary on what the experience reviewed above suggests for the relationship with poverty reduction and inequality (Table 5.6).

Table 5.6 Potential impact between selected structural reforms, inequality and poverty

Structural reform area	Potential effects on poverty and inequality in Mexico
Macro stability	Instability and crisis are pernicious for growth and regressive in their impacts. Macro stability is essential for poverty reduction.
Trade and Foreign Direct Investment (FDI) opening	Mostly consolidated in NAFTA. Opening increased trade and FDI but tended to increase wage and spatial inequality, at least until the late 1990's. Complementary measures are thus of central importance.
Human capital	Despite past progress, there is a major education agenda that is important to growth and essential for inequality and poverty. However, effects on inequality and poverty are gradual and felt in full over the long-term. Health policy matters for human capital of the very poor and to reduce income costs associated with major illness/catastrophic shocks.
Infrastructure — investment and institutional reform	Essential for growth, and has the potential to reduce inequality if used to integrate poorer rural regions and urban neighborhoods into economic development.
Electricity	Current structures are both inefficient and inequitable —reforms are necessary to growth and can be designed to be strongly pro-poor. In other countries use of private sector has led to equitable expansion as well as efficiency gains. There is a strong case for reduction of subsidies (see scenarios in Chapter 4).
Labor reform	Current labor regulations raise investment costs, are inefficient and encourage informalization. Labor reform can help the moderate poor and improve the investment environment; some (mainly non-poor) workers in the formal sector may suffer reduced job security.
Competition policy	Can reduce costs of market power (e.g. in telecommunications) and help growth; hurts relatively better-off beneficiaries of current concentration —potentially both owners and workers.
Fiscal reform	Fundamental input for poverty and inequality-reducing change through providing resources for education, infrastructure and transfers and compensation for any losers.

These structural reforms can be divided into four categories.

First, macro-stabilization, trade and investment integration are now firmly established, especially under NAFTA. These are central elements of a favorable investment environment, have been good for growth, but tended to increase inequality in the 1990's —through the form of crisis resolution after 1994-95 and the (possibly transitional) effects on wage differentials of trade and foreign investment.

Second, human capital development is fundamental to reducing income inequality and poverty reduction but the effects of education, in particular, are a matter of decades, rather than years. There is no controversy over the importance of human development, though there are major policy and institutional challenges of both design and implementation (see Chapter 4).

Third, there are a set of reform measures that are important to current challenges of competitiveness and the investment environment —including infrastructure, energy, labor, competition— that have so far proven more difficult to implement. Our reading of the international evidence is that these can be inequality reducing, as well supporting competitiveness provided they are well designed.

Fourth, fiscal reform is perhaps the lynch-pin of all the reforms since increased finance is central to many of the other reforms. Moreover, as argued in Chapter 4, a fiscal reform that increases the tax effort and allows higher social and economic sector spending will have an automatic tendency to be inequality reducing and can be designed to be strongly pro-poor.

These conclusions are no substitute for careful assessment of the effect of specific reform packages. However, the general message is clear. Competitiveness-oriented structural reforms are essential for income growth of the poor. Those who may lose in the transition are more likely to be in currently protected activities of the upper segments of the income distribution. However, economy-wide and sectoral reforms alone are not enough. To assure different groups amongst the poor participate fully in the economic benefits of reform, there will be a need to shape policies to respond specifically to their needs and potential. The next two sections illustrate this with respect to two groups — the moderate urban poor and the extreme rural poor.

C. STRENGTHENING INCOME GROWTH FOR THE MODERATE URBAN POOR

In 2002 there were some 19 million people living in moderate poverty in urban areas (as well as a further 12 million in rural areas). The government has recently focused on the conditions of this group and has proposed a strategy, **IMPULSO**, to respond to their

needs and potential (*Presidencia*, 2003). This section draws on the latter diagnosis and discusses element of the strategy.⁶

Diagnosis of the conditions of the moderate urban poor.

The moderate poor generally have enough resources to satisfy food and some other basic needs but not enough for a fuller array of housing, schooling, transportation and other requirements to pursue a decent life. Many heads of households in this group have at least basic education. While a third have less than primary, some 30% have primary and 27% lower secondary schooling (in 2002). The moderate poor have some assets with close to 70% owning their house, although only 5% reported that they were paying for their house—an indicator of the predominantly self-financed process of house acquisition and construction. Their dwellings have on average 2.5 rooms and a bathroom and are usually built of long-lasting materials such as cement and bricks. Close to 90% of these households owned a television, almost three-quarters a refrigerator, and somewhat less than a half a washing machine. About 20% have a car. While average per capita income is 1,063 pesos per month in 2002, ownership of such assets indicates some capacity for savings. It could also reflect the significant churning in the income distribution, noted in Chapter 3, with those now classified as moderately poor having previously earned more and fallen on harder times.

In terms of economic activity, a quarter of household heads were self-employed and 70% were workers. Most worked in services, commerce, manufacturing and construction (Table 3.10). Amongst all economically active members of households, about two out of three work in the informal sector. As Figure 5.4 illustrates, while there is considerable variation and overlap across employment categories, most self-employed and informal workers have much lower labor incomes than formal workers.⁷

The wages of the urban moderate poor are closely linked to overall macroeconomic and labor market conditions in the economy since they work in activities that are typically integrated into the national economy. Their incomes are then especially influenced by wages for unskilled and semi-skilled work and to developments in the informal economy. General influences on wages were discussed above: for much of the late-1980's and 1990's, low-skilled wages were hit by the combination of poor overall wage growth (especially due to the crisis) and the strongly skill-biased pattern of labor

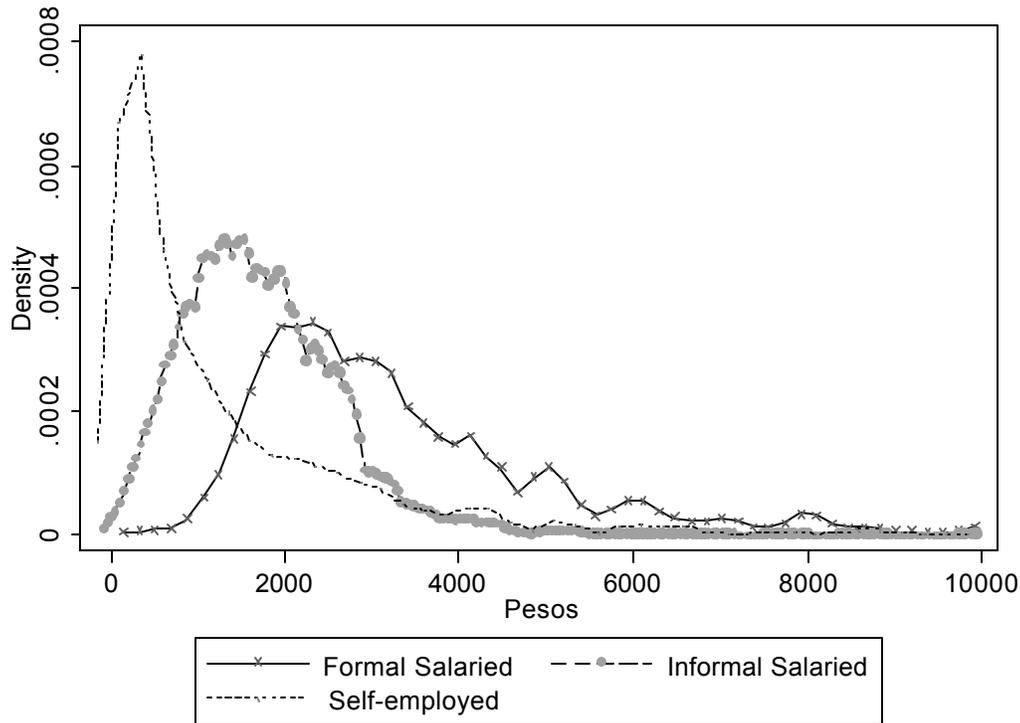
⁶ In their diagnosis *Presidencia* uses a definition of moderate poverty of those in between the capacities poverty line and the assets-based line. This differs slightly from that used in Chapter 3 where, to simplify the presentation, we used the term moderate poverty for those in between the food-based and assets-based poverty line. Since the food- and capacities poverty lines are close, this does not make a significant difference to the analysis.

⁷ However, controlling for relevant individual characteristics there might be no differences in labor income (Maloney, 1999).

demand. As noted in the previous section, there is hope that the peak of this bias may have passed in the late 1990's.

Figure 5.4 There are large differences in the pattern of wages amongst self-employed, informal and formal workers

Frequency distributions of wages

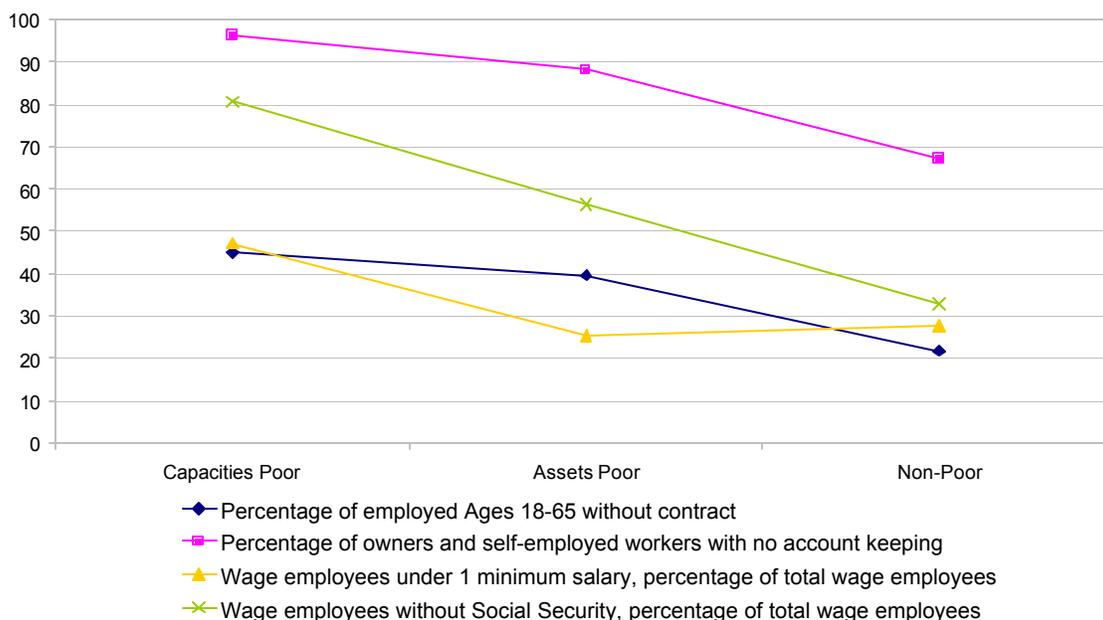


Source: ENE 2002, 2nd quarter.

A primary focus of the diagnosis behind the **IMPULSO** strategy concerns the nature and implications of informal employment. A majority of the moderate urban poor work in the informal sector and levels of incomes are lower than in formal activities. A higher fraction work without labor contract or social security (Figure 5.5).

Most informal work is in what is sometimes termed the “unstructured” sector in terms of production units. The International Labor Organization defines this as including economic units of less than 15 employees in manufacturing or less than 6 employees in other activities, that are not registered by labor or fiscal authorities, often have no established premises and whose workers do not have labor contracts or social security.

Figure 5.5 Poorer workers experience greater informality across many dimensions.

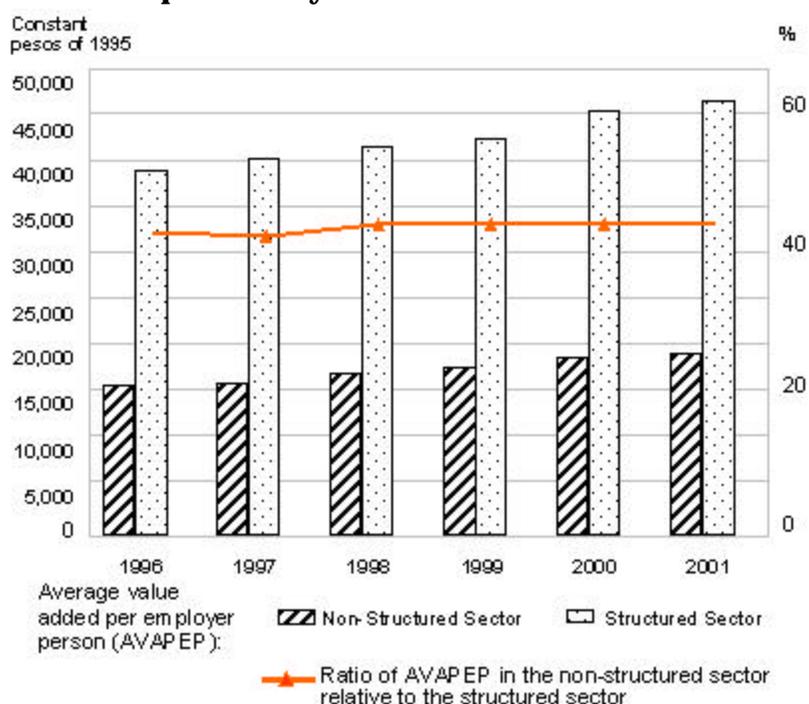


Source: *Presidencia* (2003), from ENIGH.

In 2003, Mexico’s non-structured sector included 4.9 million establishments,⁸ 3.9 million of which were classified as self-employed individuals. Average labor productivity is significantly less than in structured activities (Figure 5.6) as a consequence of lower capitalization and the sectoral composition. Two-thirds of employment is in units with five or less workers. Within these micro-units, 37% are self-employed, 40% workers, one percent employers and 15% unpaid family workers. Almost 80% of employment is in services and construction and the rest in manufacturing. This partly reflects technological factors: in many manufacturing activities economies of scale make self-employed and very small-scale production uneconomic. Larger production units are more likely to be observed by the authorities and also more likely to be unionized. Both factors increase the probability of observance of tax, labor and other regulations.

⁸ ENET 2003. In most national statistics, firms (businesses, enterprises) are those units that make up a legal or administrative entity whereas establishments are production units at a single location. Thus, there is at least one establishment per firm. For micro-enterprises and often also for small enterprises the two categories coincide.

Figure 5.6 Labor productivity in the structured and non-structured sectors



Source: *Presidencia* (2003) from INEGI-STPS, Encuesta Nacional de Empleo (ENE) e INEGI, Sistema de Cuentas Nacionales de México.

In 2002, nearly 73% of the micro firms obtained financing from friends and relatives and only 0.2% from government programs. They very often rely on family ties and informal connections for labor contracting. About 70% of the micro firms did not pay taxes. Informal firms rarely comply with the various registration obligations. Finally, while most informal work is in the unstructured sector, it also exists in registered establishments in the form of employment without a labor contract or social security.

Does informality of employment and production have social and economic costs? In assessing this question it is important to distinguish between whether informality makes sense from the perspective of individual workers and firm owners, from the broader question of whether it has costs to households and society. Choosing informal work or enterprise status is likely to be a rational response to the costs of regulation in activities in which self-employed or small-scale production makes economic sense, because of the low economies of scale. There is evidence from both economic and ethnographic analysis that movements between formal and informal work are often voluntary (see Maloney, 2003 for a review). Individuals may prefer informal work because of more flexible working conditions —this applies particularly to women, who are more likely to work less than full-time and also to both younger and aged workers. Some workers work in a formal job, save and then move into higher-return and higher-risk self-employed or micro enterprises. Households may place one of their members in formal work in order to acquire social security rights, and others in informal activities.

Informality can, however, have costs. For the micro or small firm and self-employed, avoidance of regulations —and associated illegality— increases insecurity, reduces the probability of obtaining formal finance, can increase transaction costs in trading and investment decisions and vulnerability to extra-legal process (such as paying bribes or protection money to policy, officials or informal enforcers). Workers typically enjoy poorer labor rights and security —though the absence of formal social security may be partially offset by informal mechanisms. Since firms and households are often joint activities, business insecurities over incomes and property rights translate directly into household insecurity.

Strategies for growth of the moderate urban poor

Based on an overall diagnosis along these lines, the government has proposed the **IMPULSO** strategy which involves a mixture of accumulation, formalization and institutional change. It has two broad thrusts: improving the productivity and formalization of the unstructured enterprise sector; and raising the potential productivity of workers. These are illustrated in the diagrammatic presentation of the strategy in Figure 5.7. The firm-oriented part involves a combination of changed regulations to reduce the costs of formalization, including a particular focus on labor market reform, extension of property rights, direct support to the micro and small-scale sector and finance. For workers, the policy orientation is primarily to education and training. The remainder of this subsection looks at experience in these areas.

Figure 5.7 The policy framework of the IMPULSO strategy



Source: Presidencia (2003).

Regulation and the cost of formalization. Mexico's regulatory environment is typically much more burdensome than in OECD countries and in many areas is comparable to or more costly for businesses than the Latin American average (Table 5.7). This is particularly marked for labor legislation. This hinders the entry of new innovative and potentially highly-productive firms or slow the exit of low-productivity ones, impedes and creates incentives for informality. On-going regulatory costs in Mexico are thought to comprise 24% of total costs for micro firms.

Table 5.7 Mexico has a high regulatory burden in international context.

	Mexico	Average for LAC	OECD average
GNI per capita (US\$)	5,910	2,987	23,135
Informal economy as share of GDP	30	42	17
<i>Starting a business:</i>			
Duration in days	51	74	30
Minimum capital (% GNI per capita)	88	86	61
<i>Hiring and firing workers</i>			
Flexibility of hiring index	81	56	49
Conditions of employment index	81	79	58
Flexibility of firing index	70	48	28
<i>Enforcing contracts</i>			
Duration in days	325	363	233
Procedural complexity index	62	70	49
<i>Getting credit</i>			
Public credit registry index	0	35	18
<i>Closing a business</i>			
Cost as % of estate	18	15	7

Source: World Bank (2004b).

A number of weaknesses continue to weigh on Mexican enterprises and especially small and medium sized firms. Institutional infrastructure (for example bankruptcy procedures and the judiciary system) has to be strengthened and bureaucratic processes simplified. Well-designed bankruptcy rules contribute to increasing aggregate productivity by helping poorly performing firms to exit the market. It was only in 2000 that a new bankruptcy law in line with international best practices was enacted, as well as a law on guarantees. However, the new law has hardly been applied, suggesting that there were still shortcomings and that further reform is needed. The law on guarantees has already been reformed in 2003.

In March 2002, a new system to start a business within one day (*Sistema de Apertura Rápida de Empresas -SARE*) was created for most activities. The Federal Regulatory Improvement Commission (*Comisión Federal de Mejora Regulatoria*, COFEMER) has signed SARE agreements with several state and municipal governments to ensure full cooperation and participation of these local levels, where an important part of the formalities related to the start-up of a business is concentrated. In particular, COFEMER agrees with local authorities to assist them in implementing the SARE with the counterpart that local authorities are committed to report monthly on the results obtained. By easing firm creation, the new system is likely to make formal activities more attractive, but it is too early to assess the efficacy of the measures.

...and the special case of labor policy. Amongst regulations, labor policies are of particular interest to the moderate poor. Strict employment legislation contributes to increase labor costs and creates incentives to opt for informality, especially for SME's. The absence of a probation period combined with relatively high severance payments increases the cost of hiring people on permanent contracts. At the same time, fixed-term and temporary contracts are strictly regulated, limiting the possibility of firms to circumvent hiring costs in the formal market. Overtime hours are paid double the normal time rates and therefore much more than in most developed countries. In addition, red tape and administrative burdens reinforce incentives to hire workers informally. One study found labor obligations to be those most often evaded partly because, when fully complied with, they account for 50-60% of annual profits (as opposed to 17-30% for Chile). In general, firms comply with some regulations and not others.⁹

The labor reform proposal sitting on Congress could represent a step in making the formal market more attractive. Some issues covered in this law include: the introduction of probation periods; first steps in easing regulations concerning permanent contracts (with the introduction of a system of cumulative work hours); efforts to modernize industrial relations; emphasis on merit-based promotions; some simplification of bureaucratic requirements for SME's; measures to promote labor force training and measures to reduce corruption and legal uncertainty. However, the new law does not address the main issues affecting the labor market, in particular those that could increase the flexibility of hiring and firing. Beyond changes to labor market legislation, other initiatives should also be taken into account to improve the balance between the formal and informal sectors. They include enhancing the quality of services provided to formal workers and reducing the tax wedge associated with formalization, in particular employers' social security contributions for low-skilled workers (Santamaría and Lopez-Acevedo, 2003).

Property rights, land and slum upgrading. The supply of urban land and weak property rights represents a major problem for urban households. While Mexico-specific evidence

⁹ Levenson and Maloney (1998).

is weak, De Soto (2000) has argued that the absence of property rights is a major constraint on investment in developing countries, via effects on investment incentives and finance.

An estimated 32,000 hectares of land are currently available for urban use —sufficient to meet only two years of demand. Myriad complex and costly building and subdivision regulations have contributed to making low and moderate-income land development an uneconomic venture for the private sector. The lack of agreement on basic legal and administrative principles, operational inefficiency and the antiquated and insecure information systems of state property rights registries has helped make real private property ownership difficult and expensive in Mexico. Widespread insecurity of tenure and informal ownership has followed as moderate poor households opt out of this costly, cumbersome system.¹⁰ The bulk of residential land development in urban areas occurs informally, at costs far higher than that of formal-sector development.

About two-thirds of the land on the periphery of medium and large towns consists of *ejidos*, while high-end private sector developers control most of the remainder. This form of communal landownership, dating from the Mexican Revolution, has had a complicated legal regimen that contributes to making private freehold ownership assembly of parcels of significant size and rational land development difficult and expensive. Since 1992, *ejido* lands can be privatized but the process is cumbersome and centralized under the federal government. Municipalities must then get the explicit authorization of the federal authorities —which is often slow in coming— to intervene, raising the cost of subsequent regularization. Many of Mexico's cities show discontinuous spatial patterns as formal development leapfrogs over *ejido* lands in search of lower-cost parcels far from cities and employment centers, creating much higher costs for infrastructure provision and congestion (extra traffic, air pollution). These problems have resulted in government provision of virtually all the parcels used in social housing projects, massive government purchase of informally-urbanized *ejido* land in order to subsequently regularize and transfer title of these lots to their de-facto occupants and the accumulation of land reserves by government —often, a problematic process— for these two other purposes (social housing projects and *ejido* regularization).

A demand-driven program of land regularization, **PROCEDE**, was created in 1993. World Bank (2001b) found that land markets in *ejidos* that have undergone **PROCEDE** function reasonably well, possibly even better than in the private sector. At the same time, there is strong evidence that producers remain severely credit-constrained, implying that the award of certificates and titles did not increase credit supply. Further interventions should thus focus on improving investment and management skills, something where *ejidos* still appear to lag the private sector. World Bank (2001b) concludes that in order to successfully complete **PROCEDE**, the capacity for conflict

¹⁰ Freyre, 2002.

resolution, especially through alternative mechanisms and out-of court settlements, needs to be strengthened, and that opportunities for reducing the costs of the program need to be sought. Conflict resolution will be of increasing importance in any effort to complete **PROCEDE**.

Slum upgrading has occurred —if at all— in piecemeal fashion, without planning, neighborhood participation, sequencing of investments or integration of physical and social improvements. The fragmentation of these functions within different government agencies at all levels of government has impeded a comprehensive urban development approach. Only within SEDESOL there are three agencies that are involved in urban development including *Comisión para Regularización de la Tenencia de la Tierra* (**CORETT**); *Fondo Nacional de Habitaciones Populares* (**FONHAPO**); and the *Comisión Nacional de Fomento a la Vivienda* (**CONAFOVI**).

Within SEDESOL, another program, **HÁBITAT**, was designed to face the challenges of the urban poverty through a model of action that combines, among other aspects, the improvement of infrastructure and the equipment in the urban-marginalized areas, the implementation of social services and community development actions and regularization of tenure. With its different modalities, **HÁBITAT** tries to support the urban population in moderate poverty with particular attention to the needs of women, people with different capabilities, children, adolescents, young adults, and the elderly.

Financial services. As noted above, a large share of micro and small firm are self-employed individuals with little access to regulated financial institutions (unbanked). A recent World Bank study (2004b) found that the unbanked are far from being a homogeneous group. While they tend to be poorer and less educated as a group compared to those who have access to formal financial institutions, they also include individuals from high-income groups. Around half of the top decile of income earners are unbanked and around ten percent of those with elementary school education have checking accounts. This study also found that more than half of the unbanked work in the informal sector. This is with formal bank requirement which emphasize steady employment references from employers (Table 5.8).

Table 5.8 The use of formal financial instruments increases with income

Type of Financial Instrument	Income group of median user (decile)
<i>Informal banking instruments:</i>	
Tandas*	5 th
Savings at home	6 th
“Caja Popular”	6 th
<i>Overall Unbanked</i>	<i>5th</i>
<i>Formal Banking instruments:</i>	
Savings, debit card or “AFORE” account	7 th
Checking account	9 th
Investment account	9 th
<i>Overall Banked</i>	<i>8th</i>

* *tandas* are informal rotating savings club.

Source: World Bank, 2004b.

The government is trying to improve the regulatory framework of all the different types of financial intermediaries, particularly those used by the unbanked. In this regard, Congress approved the Popular Savings and Credit Law (*Ley del Ahorro y Crédito Popular*) in June 2001, which regulates all institutions that accept savings and deposits and gives credit to people with low incomes. Savings and loans institutions and credit unions operating under the previous legal framework have to change their status and become Popular Financial Societies (*Sociedades Financieras Populares*) by 2004. This law establishes a supervision system that includes the National Banking and Security Commission (*Comisión Nacional Bancaria y de Valores*, CNBV) for this category of institution. A working group has been created to propose a new framework for the savings and loans sector, and the newly created *Banco del Ahorro Nacional y Servicios Financieros* (BANSEFI) could become an important actor in the strengthening of this sector. However, BANSEFI and the newly created *Financiera Rural* are mainly rural. Therefore, much more needs to be done to reach the unbanked in urban areas. The recent entrance of *Sanborns* and *Elektra* (commercial establishments) into banking for low-income household seems to be an important step in that direction. *Banco Azteca* (*Elektra*'s bank) is in a unique position at the moment because *Elektra* has a credit history of its clients. However, interest rates in *Banco Azteca* are still very high and this bank faces little competition.

Education and training. The evidence indicates that firms are more likely to train when they employ an educated and skilled workforce, invest in R&D and technology, are relatively large and emphasize quality control methods, or have foreign capital participation and export to foreign markets.¹¹ Thus there are strong complementarities between training and schooling and critical links between firms' training, technology,

¹¹ De Ferranti et al. (2002).

and competition in product markets. Employers' decisions to train and the productivity outcomes of training depend on the stock of education and technical skills that individuals bring to the labor market. It is more cost-effective to impart training to workers who are adept at learning. Even public vocational training increases in effectiveness at higher education levels: as education has improved, vocational training institutes in many Latin American countries have reverted to their original mission of training for productive employment instead of implementing remedial adult education programs.¹² More rapid technical change necessitates a stronger education base. Given the complementarities between formal education and more technological dynamic firms, training is unlikely to play a central role in upgrading workers in the small-firm sector.

Overview of strategies for income growth amongst the moderate urban poor. The government's new emphasis on the moderate poor represents an important complement to policies to the extreme poor and the diagnosis of the situation is sound. This will imply in particular a firm-based approach, including the self-employed, and within this policies to reduce the costs of formalization while expanding services to the firms. There is already an array of support policies and new initiatives, but it is unclear that these are effectively tackling the costs of formalization. Both a deepening of the strategy and careful ongoing evaluation of ongoing initiatives are needed.

D. INCOME GROWTH FOR RURAL HOUSEHOLDS IN EXTREME POVERTY

The core of government strategy for the extreme rural poor has been on social development and there is relatively weak coordination with productive programs. Yet the extreme poor need more than basic human capacities, that are largely directed at the next generation under education and health programs, **OPORTUNIDADES** and welfare transfers, also provided by **OPORTUNIDADES**. They also need improved income generation opportunities. There are some programs specifically under **CONTIGO** that relate to productive activities, especially a range of credit programs and aspects of **MICRORREGIONES** under SEDESOL. However, while valuable, these are probably far from being the most important determinants of incomes of poor households. There is a case for more extensive and articulated treatment of economic development strategies for the poor. An explicit income generation strategy is also necessary for them and it needs to be specified and differentiated from a strategy for the moderate poor. This requires looking at what the extreme poor do and what options they could have.

¹² Lopez-Acevedo and Salinas, 2001.

The challenges of rural income growth for the extreme poor.

Many of the extreme rural poor are unemployed. In the marginal rural communities covered under the initial phase of **PROGRESA** the following question was asked to adults: “What did you do during the last week?” (ENCASEH, 1997). Answers from 60,057 adults indicate that 51.8% of the adults in these communities did not work.¹³ The answer is partially cultural, as women tend to respond that they do not work, discounting work in the family’s farm and underestimating effective work. Yet, it is striking that so many of the poor do not work.¹⁴ It is also striking that among school-age young adults who do not go to school, many do not work. In the 15 to 18 age group, an average 13% of the males and 56% of the females do not go to school and do not work (Table 5.9). This is puzzling as cash transfers to those who go to school are meant to compensate for the opportunity cost of working. In fact, these young adults who qualified for **PROGRESA** transfers do not have paying occupations nor do they consider that they are working for a family enterprise.

Table 5.9. School attendance and work participation among 15 to 18 years old in marginal rural communities

Proportion by gender and age				
	School, no work	School and work	Work, no school	No work, no school
Males				
15	40.4	8.8	34.8	13.4
16	25.8	6.9	49.1	13.6
17	14.9	4.7	63	12.3
18	10.9	3.4	67.2	11.4
Females				
15	39.2	2.5	11.7	45
16	22.6	1.9	16.7	56.2
17	16.5	1.7	19.9	57.8
18	8.6	2.2	19.3	66.2

Source: **PROGRESA** data.

Note: "Work" includes any amount of work, unpaid work in family production, and cases where the person holds a job even though she/he did not work during this particular week.

Rural non-farm work is of rising importance. Amongst the extreme poor some 72% of heads of households say their primary occupation is in agriculture, a proportion that falls to 47% amongst the moderate poor (Table 3.9 and 3.10 in Chapter 3). However, this overstates the importance of agriculture as a source of employment and income. Most

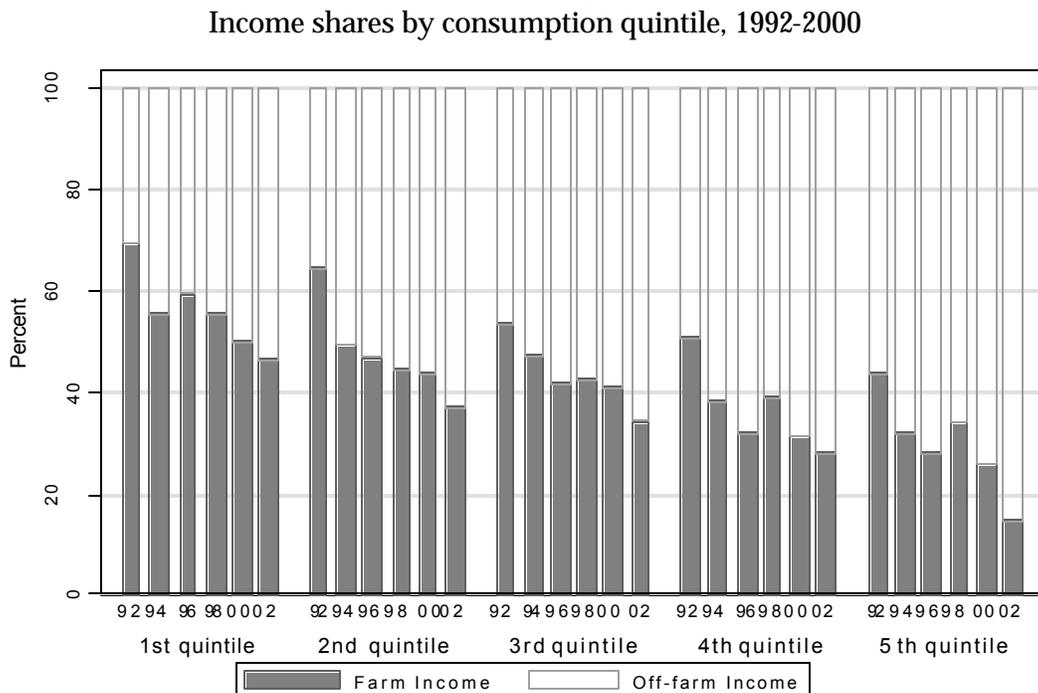
¹³ Araujo, de Janvry, and Sadoulet, 2001.

¹⁴ Note that unemployment as measured by the labor force surveys is lower than this.

households —and many individuals— receive income from multiple sources, including agriculture, rural non-farm work and transfers plus, for the majority of households, the imputed rental income from living in their own home. As Figure 5.8 shows, the share of agricultural income fell sharply between 1992 and 2002. While the share of agriculture is larger for poorer households it has fallen for all groups. Even the bottom quintile has experienced a fall from about a 70 to below 50% share of income from agriculture in total income.

For the extreme poor, the fall in agricultural income has been concentrated in farm production —in crops, fishing, forestry and livestock, including consumption of own-produced goods (Table 5.10). The share of agricultural labor income has risen slightly to over 20%. Increases for the poor were spread over rural-non farm work and enterprise income, private remittances and transfers and a large increase in public transfers — dominated by **OPORTUNIDADES** and **PROCAMPO**. The even more dramatic rise of rural non-farm income amongst the non-poor is primarily due to a surge in rural non-farm work, especially in relatively well-paid activities.

Figure 5.8 The share of farm income in total rural income has been falling, even for the extreme poor



Source: WB staff calculations from ENIGH, 1992-2002

Table 5.10 The composition of rural income in 1992 and 2002

	Poor ^a		Non-poor ^a	
	1992	2002	1992	2002
<i>Agricultural income</i>				
Crop income	13.2	7.9	18.9	4.6
Other agriculture ^b	8.8	3.0	12.5	4.6
Self-consumption	16.1	5.9	7.2	2.6
Agricultural labor	19.6	21.9	10.8	9.6
Subtotal	57.7	38.7	49.4	21.4
<i>Non-agricultural income</i>				
Non-farm labor	15.9	17.2	21.3	39.2
Enterprise income	4.8	6.8	8.8	5.5
Remittances	1.3	3.8	3.0	6.2
Other private transfers	3.9	5.5	4.2	4.2
Public transfers	0.4	16.1	0.2	4.5
Other	15.9	11.8	13.1	18.8
Subtotal	42.2	61.2	50.6	78.4

Notes: (a) in terms of the food-based poverty line (or extreme poor).

(b) other agriculture includes fishery, forestry and livestock.

Source: WB staff calculations from ENIGH, 1992 and 2002

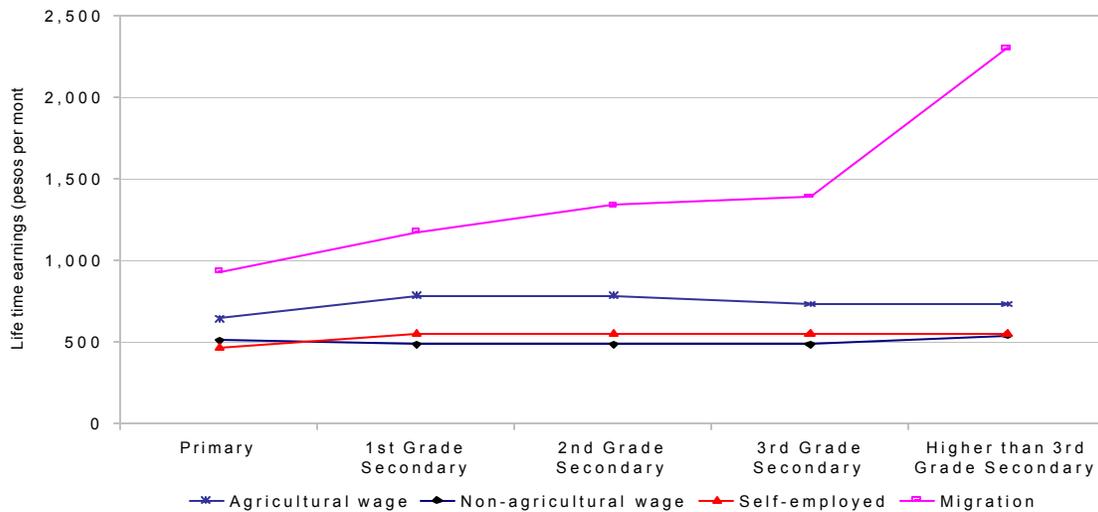
This information from the national surveys is supported by results from poor areas covered in the ENCEL surveys of the late 1990's. In the *ejido*, individuals with no secondary education work mainly on the agricultural labor market and in construction (De Janvry and Sadoulet, 2001). By contrast, those with secondary education work more on the non-agricultural labor market and in non-agricultural self-employment. The low skill, easy entry, labor market offered by agriculture and construction is thus important as a source of income for poorest rural individuals. Agriculture remains an important source of employment for these individuals, as well as construction which is largely linked to agriculture and to remittances through income expenditures. Public work employment could potentially also be an important source of income for them. Yet, in the **PROGRESA** communities surveyed, only 1.5% of the households have a member participating to the **PET**.

Amongst non-agricultural activities some are linked to agriculture, particularly in services, and others are linked to regional manufacturing activity located in urban clusters. As a consequence, while individual household members tend to specialize, rural households typically have highly diversified sources of income (so called pluriactivity). In the *ejido* sector, that is primarily composed of a farming population, 55% of total household income comes from off-farm activities (De Janvry and Sadoulet, 2001). In the **OPORTUNIDADES** communities, 63% of the adults work as agricultural

workers; 24% as entrepreneurs in their own farms or micro enterprises, and 14% work as non-agricultural workers or employees. For a given availability of non-farm income opportunities the major determinants of who is able to capture these opportunities are secondary education, proximity to urban centers and membership in migration networks.

Education has a low return in marginal rural communities. Calculation of expected lifetime earnings by educational levels in marginal rural communities shows the low returns to education offered in that context (Figure 5.9). In all three main occupations (agricultural wage employment, non-agricultural wage employment and self-employment), education buys nothing in these communities —at least in the late 1990’s at the time of the survey. Migration yields substantially higher incomes for all education levels with significant returns to secondary education and very high returns to tertiary education — though the latter may also reflect selection biases or unobserved effects for the relatively few in the rural community who really make it, whether through talent or connections to urban or international networks.

Figure 5.9 Returns to education for children from marginal rural communities

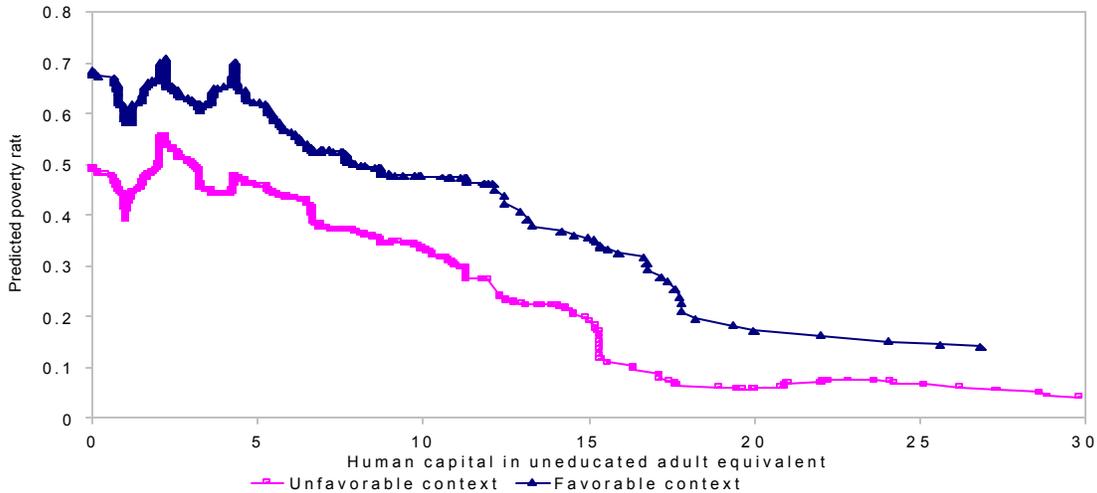


Source: Sadoulet, Finan and De Janvry 2001.

There is also significant heterogeneity across marginal rural communities. Some offer more opportunities than others. In Figure 5.10, the very poor communities covered by **PROGRESA** in the late 1990’s are classified into two groups with those with a more and less favorable economic context, especially in terms of infrastructure and proximity to markets. Human capital is measured in uneducated male adult equivalent using the marginal income effect of education as a weight in constructing the index. The index can thus increase with the number of adults in the household and with their educational levels. The vertical axis measures the predicted poverty rate in the community from the econometric analysis of the patterns. This shows that human capital is important in reducing the incidence of poverty in a community but that the quality of the economic

context is also very important in helping value human capital investments and reduce poverty. This is a vivid illustration of the complementarity between human investments and factors affecting economic context, such as infrastructure, and connectivity to markets.

Figure 5.10. Role of assets (human capital on horizontal axis) and economic context (vertical shift) on the incidence of poverty in 506 Mexican rural communities (PROGRESA data for 20,895 households)

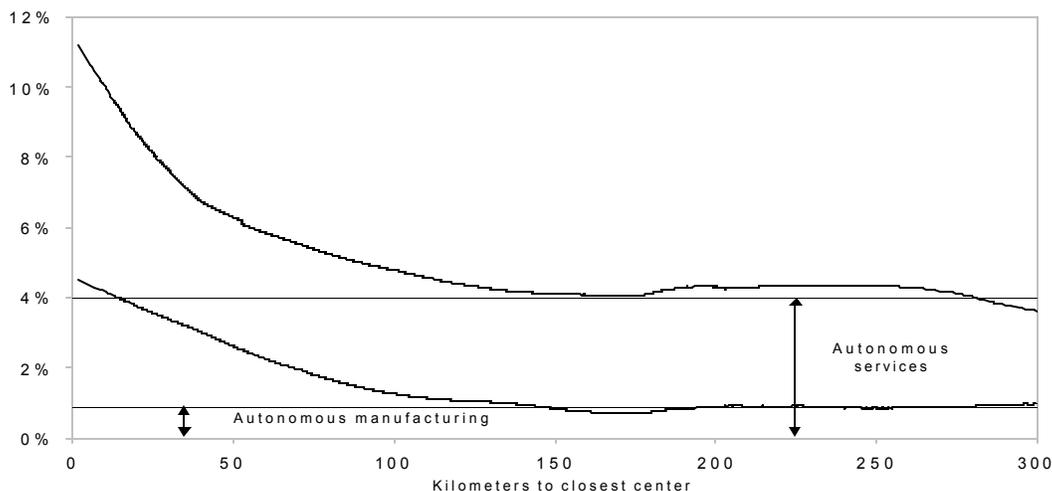


Source: De Janvry and Sadoulet (2003).

Given the importance of off-farm incomes as an instrument for poverty reduction, it is useful to analyze the role of geographical location. Looking at the growth in employment in semi-urban and rural municipalities in the 1990-2000 period (Figure 5.11) shows that:

- (i) Proximity to a cluster of industrial employment is very important for growth in industrial employment in semi-urban and rural municipalities. Employment growth that is distant from a cluster (beyond 100 km) is rather low with a level of “autonomous” employment growth of some one percent per annum.
- (ii) Growth in services employment is also affected by proximity to an industrial or services cluster, but it is less dependent on proximity to a cluster than industrial employment. “Autonomous” employment remains relatively high at almost five percent per annum, further away than 100 km from a cluster. The main determinants of growth in services employment are:
 - A high growth potential in agriculture (cultivation of dynamic crops).
 - A high level of education.
 - High connectedness with surrounding municipalities (infrastructure).

Figure 5.11 Role of geographical location relative to a cluster for growth in manufacturing and services employment in semi-urban and rural municipalities



Source: Araujo, De Janvry and Sadoulet (2003).

Current income-generating projects in rural areas. There in fact exists a multiplicity of programs to help residents of rural communities engage in productive projects. These include in particular programs under SAGARPA (notably **ALIANZA PARA EL CAMPO** and **PROCAMPO**), SRA and SEMARNAT. A list of some of the major programs is given in Table 5.11. Apart from **PROCAMPO**, most of these programs are primarily oriented toward commercial agriculture and are thus of only minor direct significance for the poor. As noted above, SEDESOL has its own programs with a more explicit orientation to the poor. These include **CRÉDITO A LA PALABRA**, **PRIMER PASO PRODUCTIVO** (belongs to FONAES, Ministry of Economy since 2001), **FONDOS DE FINANCIAMIENTO**, **ACOMPañAMIENTO A LA FORMACIÓN EMPRESARIAL** (AFE), **CAPITAL DE RIESGO** (belongs to FONAES, Ministry of Economy since 2001), *Fondo Nacional para el Fomento de las Artesanías* (**FONART**), **PROYECTOS PRODUCTIVOS PARA MUJERES** and **MICRORREGIONES**. INDESOL also supports productive projects for the poor through civil society organizations. Yet these programs are only weakly coordinated with the other and more important productive programs listed in Table 5.11. This is in part because they depend on secretariats other than the three main participants to the **CONTIGO** strategy.

Table 5.11. Programs in support of incomes in rural areas

PROGRAM	PROGRAM DESIGN AND BENEFICIARIES	QUALITATIVE COMMENT ON INCIDENCE AND EVALUATION
PROCAMPO	<p>Subsidy consisting of a lump sum per ha. paid to farmers according to the number of ha. cultivated in the base period. The payment is of the order of 80 USD per ha. and per season.</p> <p>The program provides income support to 2.8 million producers, of which 2.3 million are farmers on <i>ejidos</i>. In 2002, it had a planned expenditure of 12.4 billion pesos (1.2 per cent of public programmable spending).</p>	<p>Preliminary analysis shows significant impact on the income of subsistence farmers, favoring not only increased consumption but also investment. Larger farmers benefit proportionally more. The subsidy benefits owners as well as tenants. The money transfers received through the program have reached up to 40 per cent of household income for low-income families.</p>
ALIANZA PARA EL CAMPO	<p>Farm modernization program. Collection of subprograms whose purpose is to promote the technological improvement of farms.</p> <p>In 2002, it provided 8.7 billion pesos to 4.3 million producers for support investment. Only 11 per cent of <i>ejidatarios</i> participated in the program in 2000.</p>	<p>The medium and large farmers benefit the most from ALIANZA, as reported by FAO and SAGAR's evaluation (OECD, 2003). Positive impact of the program on farm technology and productivity parameters.</p>
ACERCA (<i>Programa de Apoyos a la Comercialización</i>)	<p>Contingent price support subsidy to grain producers.</p> <p>To reduce market distortions, it compensates producers for the gap between a previously established target price and the market one.</p>	<p>Favors the better off farmers since it targets regions where agriculture is highly commercial, but further analysis is required.</p>
PET (<i>Programa de Empleo Temporal</i>)	<p>Income support program that provides wage employment in marginal rural zones to build or improve productive and social infrastructure. In 2000, over 1 million temporary jobs were created. Since then the number has been decreasing to about 900,000 in 2002.</p>	<p>It benefits poor communities.</p>
PIASRE (<i>Programa Integral de Agricultura Sostenible y Reconversión Productiva en Zonas de Siniestralidad Recurrente</i>)	<p>Program to prevent and cope with emergency situations due to recurrent crop failures. It operates in regions where agricultural risks are particularly high, promoting the sustainable use of natural resources in those regions.</p>	
PROMUSAG (<i>Programa de la Mujer en el Sector Agrario</i>)	<p>Supports the economic integration of women in <i>ejidos</i> and communities through the financing of productive projects for women groups.</p>	

PROGRAM	PROGRAM DESIGN AND BENEFICIARIES	QUALITATIVE COMMENT ON INCIDENCE AND EVALUATION
FAPPA (<i>Fondo Para el Apoyo a Proyectos Productivos de las Organizaciones Agrarias</i>)	Supports productive projects for dwellers of social sector villages (<i>ejidos</i> and communities) who are not community/ <i>ejido</i> members and own no land.	
PROCEDE (<i>Programa de Certificación de Derechos Ejidales y Titulación de Solares Urbanos</i>)	Land-titling program for the social sector which has the purpose of providing tenure security and operates in a voluntary basis. The purpose was to give farmers property titles that could be used as collateral for loans, so as to facilitate their access to credit. By the end of the 1990's this program had issued certificates to more than 3 million households.	It has increased household welfare by allowing participation in off-farm labor markets. However, there has not yet been much increase in credit (OECD, 2003).
PRODEFOR (<i>Programa de Desarrollo Forestal</i>)	Pilot program to improve forest management, promote forest development and diversify income sources of forest dependent populations by means of both technical and financial assistance.	
PRODEPLAN (<i>Programa de Plantaciones Comerciales Forestales</i>)	Supports the development of commercial forest plantations with a subsidy of 65% of the installation costs for the initial 7 years.	
FIRCO (<i>Fideicomiso de Riesgo Compartido</i>)	Temporary employment programs, programs for the productive transformation agriculture, renewable energy programs and programs for the management of small watersheds.	
FIFONAFE (<i>Fideicomiso Fondo Nacional de Fomento Ejidal</i>)	Trust fund that administers <i>ejidos</i> and communities funds generated in particular through indemnities from expropriation of <i>ejido</i> lands. The fund sponsors loan programs in support of female rural entrepreneurs and young 16 to 24 <i>ejido</i> farmers and training programs for land reconversion.	
FIRA (<i>Fideicomisos constituidos en Relación con la Agricultura</i>)	Programs of access to financial services.	OECD (2003) considers that it has prevented the development of a well-functioning rural financial market.
OPCIONES PRODUCTIVAS	Grant supports to the population in poverty in order to promote development and the formation of productive assets or working capital, promote sustainable production and the diversification of productive activities and of self-employment.	

Source: OECD Economic Surveys: Mexico 2003; Alix, De Janvry, and Sadoulet 2003; SEDESOL.

This preliminary review of conditions raises a number of issues for strategies for income-generation in rural areas. It is clear that an education and transfer-oriented strategy—however important—is not enough. In the more remote areas returns to education are very low. Creating the framework for income growth will be central. However, many existing government programs for income growth are oriented toward commercial agriculture. By contrast, the rural poor will require attention both to the special problems of production in poor areas and amongst small farmers and attention to the growing importance of rural non-farm work. Taking such an integrated approach is important in light of the non-viable character of most small farms because of their small size and/or poor agroecological conditions. More generally there are problems of lack of private investment in rural areas because of low savings and a malfunctioning rural finance system. One promising approach involves geographic or territorially oriented strategies—these are discussed next. Finally, it should be mentioned that other work indicates that land reform remains an important issue for the poor in many parts of Mexico (World Bank 2001b, Finan, Sadoulet and De Janvry, 2002). In some areas the challenge is in facilitating the individualization of tenurial systems under the 1992 land reform. In others it is a case of supporting indigenous groups who prefer to keep communal systems (see Box 5.1 below). Issues of land conflicts are important in many areas. However, resolving land issues will only yield benefits if complemented by measures to strengthen the competitiveness of land beneficiaries with close links between titling, technical assistance to manage land independently and structural measures to raise productivity.

A geographically oriented approach

Territorial approaches to rural development are receiving growing attention as a component of “new” rural development strategies or **NUEVA RURALIDAD**.¹⁵ Many countries have put in place elements of a territorial approach. Within Mexico there are a number of initiatives that would fall within this general approach including the approach under the *Ley de Desarrollo Rural Sustentable* under SAGARPA and **MICRORREGIONES** under SEDESOL (Caballero, 2004). We introduce the issues with a discussion of **MICRORREGIONES**, by way of illustration, and then discuss issues in designing a more integrated approach.

MICRORREGIONES program is an innovative response to the challenges of integrated rural development. The **MICRORREGIONES** program focuses on marginal municipalities (numbering 1,334). Within these municipalities, localities with potential to serve as Strategic Community Centers (CEC, by its acronym in Spanish) are identified (numbering 263). These are localities which have the capacity of providing increased services in infrastructure, social services, and productive capacity to dispersed localities

¹⁵ Schejtman and Berdegú, 2002.

in their spheres of influence. It is consequently a local development strategy that seeks to both increase the provision of infrastructure, services and projects in poor municipalities and at the same time avoid dispersion of investments toward areas where population is excessively dispersed and economic potential insufficient. In the long run, populations in the neighborhood localities may well move toward these regional centers. The **MICRORREGIONES** program in principle tries to achieve a balance between the decentralization of infrastructure, social services and projects toward poor localities, and an effort to seek economies of scale around the CEC's with greatest potential in the municipality.¹⁶ It thus tries to avoid a common critique of efforts at reducing poverty in a decentralized fashion, namely that dispersion of assistance can be inefficient.

MICRORREGIONES program faces several challenges both conceptually and operationally. **MICRORREGIONES** is not yet an integrated territorial program but a combination of programs/investments from different ministries (Caballero, 2003). There is a particular need to coordinate the actions under the **MICRORREGIONES** program and those under the SAGARPA's territorial programs, including *Ley de Desarrollo Rural Sustentable* (see Dimension 2 below).

With respect to the **MICRORREGIONES** strategy, the following are a few initial observations. With 35% of national poverty and 53% of national extreme poverty located in rural areas and high levels of congestion in the major cities there is a logic to pursuing a decentralized approach to poverty reduction that seeks to offer employment and investment opportunities in the regions (but not necessarily in the exact localities) where the rural poor are located. This is especially important for poverty associated with indigenous populations for whom territorial attachment is particularly high. As noted above, a territorial approach to rural development offers the possibility of going beyond the traditional sectoral focus given to rural development, where agriculture was the main instrument focusing instead in an integral fashion on all potential sources of income (Caballero, 2004).

We conclude from this that for a *micro region* to provide non-agricultural employment opportunities its belonging to a larger region with linkages to urban growth centers, favorable agriculture and connectedness to other municipalities are important. The micro-regional approach to poverty reduction could thus be seen as part of a two-pronged territorial strategy:

Dimension 1: Regional development to generate local employment and investment opportunities. Regional development involves both an increase in the productive capacity of a region based on its comparative advantages and institutional development in support of expansion of its productive capacity. Regional development can be induced. Organizations for coordination, planning and promotion are essential. A region needs to

¹⁶ See **CONTIGO**, 2003.

define its comparative advantages, seek recognition for its specialties (quality, labeling, culture), seek economies of scale and linkages around its main economic activities (e.g., following the Agricultural Research for Developing Countries –CIRAD– Localized Agricultural Systems approach), promote its products, allocate public investments to attract private investment (e.g., in maquilas), etc. Successful regional growth can thus generate local opportunities that can be seized for effective rural development (read poverty reduction). Under the new *Ley de Desarrollo Rural Sustentable* this regional effort could be achieved at the level of “districts” if functionally defined for this purpose (a definition which is still in progress).

Dimension 2: Rural development strategies to help the poor participate to the opportunities offered by regional development. SEDESOL’s **MICRORREGIONES** approach can usefully be seen in this perspective as well as the role of the *Consejos Municipales de Desarrollo Rural*. The objective of these local efforts is to help the poor by increasing their asset endowments (*ampliación de capacidades, formación de patrimonio*), improving the quality of the context where they use their assets (*generación de oportunidades*) and providing them with protection to allow them to take entrepreneurial risks (*provisión de protección*), so they can take advantage of the supply of employment and investment opportunities offered by successful regional development.

The **MICRORREGIONES** approach is an innovative and promising concept but it is unclear how it can be effective as currently designed. It should not be played in isolation, either in terms of links to other programs, or in terms of links between the poor and the non-poor. The worst that can be done for income generation is to isolate the poor from the non-poor. The non-poor inevitably must be the main agents in the promotion of regional development. This requires well-orchestrated regional development with strong institutional development in support of the promotion of a regional dynamics. The **MICRORREGIONES** and *Ley de Desarrollo Rural Sustentable* strategy, with channeling of resources to local areas, has the potential to be an effective instrument to attract regional employment and investment opportunities to these locations and their areas of influence. It is thus essential that these be fully integrated within broader strategies of regional development.

The role of migration. Migration is highly heterogeneous in terms of residence, return flows and migrants profile (UC San Diego Institute for Mexico-United States Studies, 2000). Migrants also differ in terms of their legal status. Although difficult to estimate precisely, the numbers of non-authorized Mexican migrants —who have either entered the US without permission or have overstayed the term of their visa— are very large. Migrants profile is changing from being men, with little schooling, working in agriculture and with low earnings, to being more balanced between genders and better educated (Chiquiar and Hanson, 2002). Over time however, although there is no single comprehensive and reliable source to analyze the profile of Mexican migrants, data from the various sources including CONAPO and the UC San Diego Institute for Mexico-

United States Studies (2000) suggest that the characteristics of migrants are becoming increasingly diverse.

Remittances are a major reason for migration to the US, especially for temporary migrants. As discussed in Chapter 3, remittances sent by migrants working in the US have increased from US\$9 billion in 2001 to almost 10 billion in 2002, and over 13 billion in 2003. A recent study from the Inter-American Dialogue (2003) concluded that appropriate government policies could substantially increase the already considerable remittance flows —both for the people receiving them and for national development. Policies could further reduce the costs of sending remittances from the US, particularly by expanding competition among the institutions that transfer the money. In addition, every effort should be made to encourage remittance senders and recipients to make use of banks and other financial institutions to exploit the full range of economic opportunities they offer. A recent study by the IADB (2004) concluded that remittances are almost entirely used by migrants' families for consumption expenditures.

The recently created BANSEFI could play a valuable role in improving the access and lowering the cost of remittance for the rural poor. Another initiative is the 3x1 program. This program supports citizen's initiatives in poor and high migrant localities. This program is funded with resources from the three government levels and from migrants (residents abroad). The projects are developed in the areas of basic social infrastructure, services, socio-productive projects, natural resources conservation, health and education, environmental restructuring, agricultural infrastructure, housing and urban improvement, highway and road infrastructure, and recreational projects. The program matches the municipal resources increasing the number of public works activities that can be performed and promotes citizen's participation. The program benefited over a million people in 2003. Evaluations have indicated that even though the project does not benefit the poorest localities the investments made in this program have had positive externality effects on high poor regions.

Growth-related projects for indigenous groups. There is a particular agenda around income growth of rural indigenous groups (Box 5.1). This is both because these groups suffer high levels of poverty and also because of distinct preferences and practices —for example in attitudes to the natural world and a preference for collective modes of organization. There are promising models of indigenous development in the productive sector in Mexico. Where an external agent has directed or assisted the initial process there are common characteristics including (a) initial seed capital (not loans) by a grass-roots development agency a large dose of technical assistance, but provided with a view to maintain an exit strategy; and (c) building upon local models of intervention and a local socio-cultural vision of the goals and objectives.

Box 5.1 Examples of income generation programs amongst indigenous groups

Communal forestry. The *ejido* and indigenous community forestry enterprises are an interesting example of programs that have both suffered from the center-periphery relationship and, in a growing number of cases, have resolved it in favor of local groups. Due to the particularities of the *ejido* and *comunidad* land tenure systems, between 70-85 percent of the Mexican forests are within the boundaries of 7000 to 9000 *ejidos* and *comunidades*. Historically, from the past century into the early 1970's, the state allocated rights to timber extraction to capital-intensive initiatives, both Mexican and foreign, and *ejiditarios* and *comuneros* served as low-cost labor for extraction. Processing was concentrated in the urban centers preventing strengthening of labor movements between extracting and processing laborers and allowing extraction from different peripheral sites when old sites were no longer economic to exploit.

The Union of Forest *Ejidos* of the Mayan Zone (OEFM) in Yucatán includes 18 *ejidos* with 2,791 *ejidatario* members. In Oaxaca, where 90 percent of the forest estate is within *ejido* and *comunidad* boundaries, and 45 percent of it is managed commercially, there are 54 forest *ejidos* and *comunidades* which harvest their own timber and may have a processing mill; 30 are grouped in unions which have an industrial capacity and a formal enterprise. San Juan Nuevo Parangaricutiro in Michoacán has an advanced forest industry and is actively training neighboring *ejidos* in technical and administrative skills. A movement has begun in Chiapas to create forest enterprises along the models of the Mayan experience. A number of Tarahumara and Tepehuan-populated *ejidos* in Chihuahua and Durango have forest enterprises although these are more problematic due to the degraded state of their forests and the traditional domination of the marketing by non-indigenous traders or *ejido* members.

Coffee Cooperatives in Chiapas and Oaxaca. Over the past 15 years, thirty affiliated organizations in Oaxaca have managed an umbrella organization for marketing, credit, warehousing and processing of coffee. The organization *Coordinadora Estatal de Productores de Cafe* (CEPCO) was founded in 1989. This process has fostered parallel organizations such as UCIZONI and UCIRI (Zapotecos and mixes in the Ixtmus of Tehuantepec) and the UCI (Southern Zapotecos). This cooperative has been successful in organizing market niches in the European coffee market capitalizing on its social identity. These organizations have benefited from NGO support and some financing to their members from coffee credit schemes and more recently **PROCAMPO** and the **ALIANZA PARA EL CAMPO**. To address the problem of fluctuating prices and reach higher-value markets, a growing amount of the coffee produced is organic. Organic coffee production is an increasingly important product in Chiapas as well. *Unión de los Ejidos de la Selva (La Selva)* is a Tojolobal and Tzotzil organization that involves 57 communities and 1,304 families in the area of Las Margaritas near the Montes Azules Reserve. About 1,000 hectares have been put into organic production with the objective of certification when the land has completed four years of strictly organic inputs.

Urban Adaptation and Employment in the Yucatán. The Maya in the Yucatán peninsula have adapted to a diverse economy. Traditional farmers maintain traditional agricultural practices in small communities in the historical settlements and large numbers of farmers spend significant periods of time working in land preparation and harvesting activities in the cash crop areas of the peninsula and elsewhere in Central Mexico. Urbanization has created jobs in the service sector where indigenous people find employment as domestics or as unskilled labor. Tourism has

created jobs in the resort areas as well as created a market for small-scale commerce and sale of handicrafts. Because the process is so recent and the urban regions have not been studied, it is difficult to estimate the population which considers itself indigenous—even when no longer speaks Maya or their native language. What is known at the local level is that there are neighborhoods in the urban centers of the Yucatan that are recreating indigenous community lifestyles, adapted to the nature of urban employment and recreating religious and social events that maintain an indigenous affiliation and identity. This is a new frontier for indigenous peoples in Mexico which needs study to understand the trends, potentials and problems.

E. CONCLUSIONS AND ISSUES FOR FUTURE WORK

There has been much weaker longer-run progress with respect to income poverty than social dimensions of well-being in Mexico. Future income gains amongst the poor will depend on both overall growth and the pattern of growth, and especially the pattern of job-creation. Scenarios show that both growth and inequality matter for poverty dynamics. Slow growth, of 2% per annum between 2002 and 2015, would have little impact on poverty if inequality does not fall or reverts to the higher levels prevailing in 1998-2000. But if inequality fell by 10%, extreme poverty would fall to 8% by 2015. Growth of 5% per annum would bring extreme poverty rates to 6% by 2015 if inequality reverts to 1998-2000 levels and to 2% if inequality fell by 10%.¹⁷

The core of any job-creating strategy lies in the environment for private investment. In other words, a poverty reduction strategy is inseparable from the design of a competitiveness and growth strategy. This relates to the overall competitiveness agenda which is currently under public scrutiny in light of the Mexico's poor international performance relative to competitors such as China, especially after the initial gains from NAFTA were realized. This is a complex agenda in which international evidence suggests that macro stability, infrastructure provision, tackling of protections of private sector and range of measures to improve logistics are all important.

Economy-wide measures to strengthen competitiveness will need to be complemented by strategies specifically oriented toward income growth of the poor—both the extreme poor (mostly in rural areas) and the moderate poor (mostly in urban areas). Current government strategy to the extreme poor is much more developed in the social arena than the productive arena; this is a priority for the future. With respect to the moderate poor, the government has recently formulated a new strategy termed **IMPULSO**. This is based on sound diagnosis but there is an important agenda in policy design and execution. With respect to the rural poor there have been large changes occurring with a relative fall in agriculture and rise in rural non-farm activities. Much current support is for commercial farmers. A very different approach will be required for income growth of the rural poor. A promising approach is that of the **NUEVA RURALIDAD** that

¹⁷ See scenarios in section A of this chapter.

involves territorial strategies, integrated approaches and local participation. Both *Ley de Rural Desarrollo Sustentable* and **MICRORREGIONES** fall broadly within this approach but there are major questions over whether the institutional design will be adequate to realize their objectives.

The issues around income growth in urban and rural areas will need considerable further investigation on both conditions and current policy efforts. This will be a major focus of future analytical work. There is also a broader agenda of learning about the processes behind observed effects and for understanding the role of local context. Both are key for the improvement of the design of interventions. Chapter 6 turns to questions of monitoring and evaluation to the Mexican case.

CHAPTER 6. THE ROLE AND DESIGN OF MONITORING AND EVALUATION

A key challenge for effective public administration is the establishment of a reliable and effective monitoring and evaluation (M&E) system. The Mexican state has a long tradition of implementing a variety of programs, including large-scale social programs that aim to relieve poverty through improving the coverage and quality of public education and health as well as the provision of basic services. However, as in most developing countries these programs have rarely been effectively monitored and evaluated. As a result, opportunities have been lost to reform individual programs and policies as well as to allocate resources across the portfolio of social programs based on their relative performance. This lack of information regarding the impact of social programs and the extent to which they achieve their proposed objectives has posed dilemmas for past administrations aiming to manage such programs efficiently, and has limited the government's ability to channel resources into the most effective programs.

In recent years, the government of Mexico has taken some important steps forward to prioritize and improve both the monitoring and evaluation of its social programs. *Monitoring* is the continuous tracking inputs, outputs, and often outcomes, sometimes relative to targets. *Evaluations* involve an assessment of performance. Impact evaluations address causality by measuring outcomes and attributing them to a specific intervention by estimating the counterfactual state of what would have occurred in the absence of the intervention (see Box 6.2). In the mid 1990's, the **PROGRESA**¹ conditional cash transfer program was developed incorporating the monitoring of input, output and outcome indicators, as well as a rigorous evaluation of the program's impact. In the mid-1990's the federal administration instituted a system of performance targets for all public sector agencies as the cornerstone of an effort to improve public sector performance, accountability and transparency. In 1999, Congress introduced a mandate calling for the external evaluation of all programs that use government funding. In 2003, the Social Development Law was enacted and calls for the establishment of an independent council to review and evaluate Mexico's social programs.² These efforts have been part

¹ In March 2002, **PROGRESA** changed its name to **OPORTUNIDADES** and introduced several changes to its objectives and operational features, including coverage expansion to urban areas. However, this chapter focuses on the design and evaluation of the original program and hence uses its previous title.

² The Law establishes that the evaluation of the Social Development Policy will be the responsibility of Evaluation National Council. The Council can carry out its duties by itself or through one or more independent agencies. Its objective is to review periodically the achievement of the social objective of the programs, goals and actions of the Social Development Policy in order to correct, modify, add, reorient or to suspend them totally or partially. Institutions of higher education, of scientific research and nonprofit organizations can all participate as evaluation agencies. When the evaluations are carried out by an agency other than

of a broader attempt to reform public sector institutions which has emerged region-wide as an important element of the development agenda. This reform agenda includes efforts aimed at implementing civil service reform in federal government, laws and institutions for public access to information, introducing transparency and anti-corruption measures, and improving macroeconomic planning, financial management and tax administration.

Notwithstanding the merits of the initiatives described above, Mexico has yet to establish a systematic approach to M&E within any of its ministries, much less introduce an integrated government directive for results based management (RBM)³ such as those implemented in the US or Chile.

Even without a national directive, individual ministries and program operators would benefit from taking a more systematic approach to RBM and introducing rigorous impact evaluations of key social programs as was done in the **PROGRESA** program. A RBM approach based on the use of reliable, relevant monitoring data could benefit ministries responsible for managing a diverse set of social programs, often with uneven degrees of coverage, performance, targeting and costs. Additionally, the strategic application of impact evaluations could be carried out beyond **PROGRESA** to assess the effectiveness of Mexico's main social development (and indeed other) programs that have high degrees of national coverage and absorb substantial resource allocations. Impact evaluations could also be used to pilot promising new social programs to inform decisions regarding their expansion based on an assessment of their effectiveness.

The president's Social Cabinet, which is responsible for coordinating development policy, is committed to furthering the government of Mexico's more ambitious long-term goal of incorporating M&E practices throughout all its ministries as a cornerstone for effective management. SEDESOL⁴ has launched an initiative to improve the M&E of the social programs under its administration. SEDESOL's goal is to create an M&E system that provides accountability through both performance monitoring and objective assessments of social policies and programs based on impact evaluations. This system is intended to form a continuous feedback loop for refining the design and mix of social programs in Mexico.⁵ It is hoped that the SEDESOL system will become a model for

the Council itself it is still the responsibility of the Council to select the outside evaluation group through a bidding process.

³ RBM uses performance measurement —the measurement on a regular basis of the results (outcomes) and efficiency of services or programs— to inform administrative decisions, particularly reforms to programs and budget allocations.

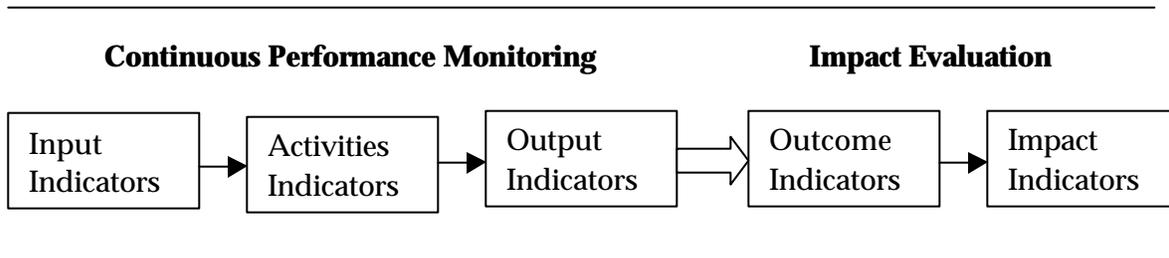
⁴ SEDESOL is charged with guiding and coordinating government efforts regarding social and human development. SEDESOL implements more than 20 social programs covering a range of interventions from workfare to food distribution to conditional cash transfer programs.

⁵ A World Bank financed Institutional Development Fund (IDF) grant will support SEDESOL's attempt to combine both the monitoring of performance indicators and the impact evaluation of

other ministries in moving towards RBM. These efforts are central to the government’s social development strategy **CONTIGO**, since they will provide a mechanism for improving the performance of poverty reduction programs prioritizing the allocation of public resources.

The goal of SEDESOL’s M&E system will be focused on principles of RBM. Figure 6.1 below represents the general logical framework of RBM.

Figure 6.1. RBM Framework



RBM measures progress toward short-term results (outputs) and longer-term results (outcomes) that can provide feedback to improve performance. A full RBM system also includes the strategic application of impact evaluations to assess whether the outcomes observed are indeed attributable to the program or policy that has been implemented. The integration of both monitoring *and* evaluation activities is crucial. Reliable, timely monitoring systems are needed for effective management and are a key tool used by high performance organizations. However, a monitoring system cannot assess impacts since they provide no estimate of the counterfactual needed to address whether the program was indeed responsible for the observed outcomes. This is what impact evaluations do. Furthermore, the credibility of impact evaluations is enhanced when they are carried out by impartial, objective evaluators using rigorous methodologies.

The creation and implementation of a results-based M&E system does not come without challenges. The system first requires the identification of input, activity, output, outcome and impact indicators that are relevant to decision making. Reliable baseline values for output, outcome and impact indicators and realistic targets are also essential, increasing the need for foresight in the planning of each evaluation. As a corollary, the system needs a reliable information base to continually monitor these indicators and a framework to continually analyze the achievement of related targets. The continual monitoring and analysis of RBM allows for flexibility and provides the basis for needed corrections, increasing its effectiveness as a management strategy. However, these requirements are often hampered by low capacity in M&E activities in developing countries.

programs and in so doing, assist SEDESOL’s effort of being more responsive to the congressional mandate.

This chapter describes the evolution of M&E in Mexico with emphasis on the foundations towards building an RBM system, as reflected in the SEDESOL effort. The chapter reviews the experience with the **PROGRESA** impact evaluation and SEDESOL's designs for an RBM system in the context of similar regional efforts in sections A and B respectively. The international lessons for designing and implementing an RBM system is addressed in sections C and D of this chapter, highlighting issues of evaluation design, coverage and implementation. Section E addresses the challenges of an RBM system. The chapter concludes with some reflections on possible next steps and policy options for improving the M&E of public social programs as part of the operational implementation and refinement of the **CONTIGO** strategy.

A. MEXICO'S PIONEERING ROLE IN IMPACT EVALUATION

Mexico has been a pioneer in Latin America regarding the importance placed on the impact evaluation of social programs. As early as 1998, Mexico's influential conditional cash transfer program (CCT) **PROGRESA**, incorporated rigorous evaluation methodologies in its design as a key element for informing program design and expansion. **PROGRESA** (now **OPORTUNIDADES**) provides monetary transfers to poor families conditional upon investments in human capital, such as sending children to school or bringing them to health centers on a regular basis. The use of demand-side interventions to directly support beneficiaries represents a marked departure from traditional supply-side mechanisms, such as general subsidies and capital investments in schools and hospitals. The program introduced additional design innovations, including both a short-term focus on poverty alleviation through transfers and long-term focus through incentives for investing in human capital; an explicit creation of synergies in education, health and nutrition; and a focus on co-responsibility between the state and its citizens. The interest in assessing the effectiveness of these innovations prompted the incorporation of a robust impact evaluation design into the initial stages of the program.

PROGRESA went beyond collecting output indicators to focus on measures of impact such as malnutrition impact as measured through the height and weight of children. The main instrument of data collection used was program specific household surveys. In terms of methodology, in order to assess the net impact of the program, **PROGRESA** used randomized control designs. In the past, the central problem of impact evaluation had been assessing causality by isolating the net impact of programs (changes in the value of outcome variables among participants compared to what they would have experienced had they not participated). This obstacle of evaluation arises due to the difficulty of constructing control groups and observing such groups simultaneously with the groups participating in the program. **PROGRESA** was able to avoid such difficulties by carefully planning evaluation within the program's original design. The program utilized an experimental evaluation that involved the random assignment of

beneficiaries into those who received support (treatment group) and those who met the criteria for support but did not receive intervention (control group).⁶ This random categorization of control and treatment groups allows one to attribute differences to the program and not to chance. The early planning of data collection was also essential to **PROGRESA**'s design, as it allowed for the compilation of baseline data, as well as repeated observations of treatment and control groups from which program impact could be assessed through difference-in-differences estimators. Without such planning and data collection the experimental nature of the evaluation design would not have been possible.

The impact evaluation of **PROGRESA** provided the government with evidence of the program's success in reducing poverty, which aided the subsequent administration in deciding to continue and expand the program under the name **OPORTUNIDADES**. Not only did its evaluation results influence the program's own future but also the creation of similar CCT programs in many countries in Latin America and a growing number outside of the region. Many of these programs have included robust impact evaluations as part of their program design, a testimony to the high standards set by **PROGRESA** for the evaluation of social programs. Programs in Honduras and Nicaragua have experimental designs based on random assignment while the Colombian and Brazilian programs have quasi-experimental designs but still rely on baseline and follow-up surveys of treatment and comparison groups.⁷

There can be resistance to the use of experimental evaluations with random assignment when governments feel they cannot exclude some groups from participation. When randomization is not feasible, a second best is use of a quasi-experimental design that involves the generation of a comparison group through quasi-experimental approaches meant to approximate the effect of random control group selection, for example through matching methods or reflexive comparisons. Matching is a statistical technique used to pair non-program participants with program participants who share characteristics. In a reflexive comparison the counterfactual is constructed by assessing indicators of participants before participation in the program. Thus, program participants are compared to themselves before and after the intervention and function as both treatment and comparison group.⁸ However, such before and after approaches are much weaker in explanatory power since they cannot control for influences on outcomes over time that are unrelated to the program.

The **PROGRESA** impact evaluation has set high standards for other social program evaluations, both in Mexico and regionally. In addition, **PROGRESA** instituted other

⁶ Rawlings and Rubio, 2003.

⁷ Rawlings and Rubio, *ibid*.

⁸ Such a methodology is currently being used in the World Bank's current study of the evaluation of programs that support Mexico's micro, small and medium enterprises (SMEs) with information included in the ENESTYC panel survey (Tan and Lopez-Acevedo, 2003).

M&E innovations that, though less well known than the impact evaluation, are good examples of how a comprehensive RBM system can be designed. These elements include constructing a registry of beneficiaries (*padrón único de beneficiarios*), a survey of beneficiaries perception of SEDESOL's social programs, constructing a *Manual Ciudadano* (a booklet of information on how to access SEDESOL's social programs), and implementing a comprehensive monitoring system accessible to program managers throughout Mexico that regularly tracks key performance indicators. The objectives of these innovations are in line with the lessons learned from international experience implementing similar RBM approaches. The following section discusses in greater detail lessons learnt from the Mexican experiences with RBM.

B. RBM: THE MEXICAN EXPERIENCE WITHIN A GLOBAL TREND

In an attempt to manage public institutions and programs more efficiently, governments have begun to move away from traditional forms of management. Instead of solely focusing on the monitoring of inputs there is a global trend to implement M&E systems, which are instead driven by results and impacts. These approaches are characterized as RBM or performance measurement.

Besides installing a performance-based culture and commitment to information management, RBM systems aim to establish the necessary bridges between evaluation and policy formation, political decision-making and resource allocation by linking evidence on the outcomes and impacts of public programs to management decisions, including on resource allocation. Furthermore, the RBM approach aids institutional and capacity development and facilitates information exchange between beneficiaries, civil society and the government through the dissemination of evaluation results.

In general, the international literature on RBM has the following results.

First, according to reports from the OECD, improved performance of the public sector is a central factor in maintaining the social and economic welfare of individuals and the competitiveness of the economy. Consequently, performance management is a key aspect of public sector reforms in many OECD member countries. In developing countries, performance management is also a key aspect of poverty reduction strategies and social reforms.

Second, there are three types of actions that form essential building blocks toward establishing performance-based M&E systems. These include creating an environment that expects and values high performance, designing and executing a well-defined system for monitoring and evaluation, and aligning budgets with programs and goals.

Third, there appears to be no one right way to introduce performance management into the many institutions and policy-making activities of government. Often, depending on the presence (or absence) of certain elements, governments try one or more strategies: 1) comprehensive or whole-of-government; 2) sector-specific or 3) customer-focused approaches.

In the whole-of-government approach, a number of countries have introduced government-wide strategic plans, performance indicators and annual performance plans and integrated them into annual budget documents (Australia, US). Other related approaches include putting into annual financial reports program performance indicators that can be audited (Finland, Sweden, US), or using performance agreements between ministers and heads of government agencies (New Zealand, UK). Romania at the national level and Argentina at the state level have initiated program-based budgeting strategies, while Malaysia has embraced the total quality management approach focusing on process reengineering and achieving strict quality standards. Total quality management has generally been introduced after reform processes are well underway, but the focus of quality management on customers is relevant to reform efforts at all stages. Furthermore, total quality management focuses on monitoring results and using information for problem solving and decision-making and, therefore, it provides elements for a sound monitoring and evaluation system.

Other countries have chosen a sector-specific approach, such as the Philippines, which is piloting performance M&E as part of their rural development sector performance information and management system. Still others have found it useful to focus on the users or beneficiaries of government services or on one client group such as women or children (e.g., UK's Citizens' Charters, and in Egypt, the National Council of Women). This strategy includes developing key performance indicators that cut across line ministries with a specific focus on improving those government programs that support a particular population group.

While some OECD countries have moved straight to whole-of-government approaches to introduce performance management, other countries (such as the US) began with pilot initiatives. By first piloting in a few programs and sectors, governments attempt to create favorable conditions for public sector learning and experimentation before mainstreaming the effort. Other countries have found that encouraging and supporting actors that are committed to results-based management in sectors where a clear reform effort is underway (e.g. the health sector in Bangladesh, Ghana and the Kyrgyz Republic; the state health and education sectors in Santa Fe, Argentina) allows promising efforts to move forward regardless of whether national commitments have been made to implement a more comprehensive approach. This strategy can also help move forward a national agenda in a program area, rather than waiting for the entire government to embrace performance management.

In developed countries, RBM systems have been applied to service delivery agencies such as health and education, to public services, to financial agencies such as treasuries and central banks. RBM systems were adopted by UK and New Zealand in the 1980's, by Canada in the early 1990's and by the US and many OECD countries in the late 1990's. A number of donor agencies, both at the multilateral and bilateral levels, are also making use of RBM approaches in managing their own programs.

The introduction of performance management strategies in developing countries is still very new. As these governments move forward with their own strategies they are trying new and innovative approaches that are enriching the pool of data and experiences. Matsuda (2003) indicates that there have been efforts throughout LAC since the late 80's to implement RBM's, notably in Costa Rica, Uruguay, Honduras, Chile, Colombia and Bolivia. Box 3 in the Executive Summary reviews these international experiences in terms of context, design and implementation based on a report commissioned by the World Bank from IDEA (2003).

Thus far, one thing is clear. There is no one particular strategy or approach that is best for all countries. First, reform involves multi-year efforts and strategies inevitably evolve over time. Second, each country is unique in its socio-cultural and political context and its views of what is feasible in performance management. In practice, countries may use a combination of approaches from those sketched in Box 3 and adapt and test experiences from other countries to their own circumstances.

International experiences provide lessons for the design (see Section C) and implementation (see Section D) of an RBM system, in addition to indicating challenges specific to countries such as Mexico seeking to implement an RBM system (Section E).

C. INTERNATIONAL LESSONS FOR THE DESIGN OF RBM SYSTEMS

International experience demonstrates that there is no blueprint for the design of an RBM system and it is essential to shape systems around the political and institutional context. Incentives, leadership and building capacity on the supply and demand side are all important (Box 6.1). Key elements of design common to successful cases include:

1. A clear articulation of goals and related measurable outcomes, outputs, activities, and inputs based on a logical framework approach.
2. The systematic monitoring of key performance indicators through a Management Information System (MIS).
3. A series of external and internal evaluations.
4. Institutional capacity-building activities.

5. Feedback mechanisms to link M&E results to policy decision-making and ultimately budget allocations.
6. The annual publication of performance results.

Box 6.1 Building RBM systems: lessons learned

The following lessons are based on World Bank work in supporting the establishment of performance management systems in Bangladesh, Egypt, the Kyrgyz Republic, the Philippines and Romania.

- **It is important to understand the political and institutional context in a given country before moving forward with the actual design of a results-based M&E system.** There is no single blueprint for constructing these systems, and the process is lengthy.
- **Incentives for governments to produce information about their own performance are necessary.** A sustained source of both internal and external (from the Parliament, civil society, the private sector and others) demand should be encouraged and supported for performance information that puts the government “on notice” that they will need to demonstrate that the policies and programs being implemented are meeting expected results.
- **A successful results-based M&E system needs to go well beyond having a capacity to manage data; it also must have sustained government leadership reviewing whether government is delivering effective services to its citizen.** Without a strong champion who is willing to take on ownership and agree to the transparency and accessibility of performance information, the M&E system will not be built, and even if it is, it will not be used.
- **Just as there has to be demand so there has to be supply –capacity within the country to design, implement and use a results-based system.** Skills from social research, public management, statistics and data management must be mobilized to contribute to a systematic process of regularly assessing government performance.

Source: Rist and Kusek, 2004.

Several Mexican initiatives are in line with these best practice guidelines, including Mexico’s Congressional mandate calling for annual performance data; the establishment and monitoring of presidential goals; SEDESOL’s registry of program beneficiaries, and SEDESOL’s *Manual Ciudadano* which provides information on SEDESOL’s functions in addition to providing a medium for citizens’ complaints and suggestions.

Developing monitoring systems

International experience with RBM reveals the need for a monitoring or information collection system in order to compile periodic measurements of performance indicators. Information on key indicators of inputs, activities and outputs should be frequent (e.g., every month or quarter) to allow for the rapid identification of problems in program implementation. Based on such information, managers are able to make timely adjustments to their programs. In Chile, one of the principal objectives of the public

sector reforms titled **PROGRAMA MARCO** is the implementation of a management information system within its institutions that includes easy-to-use databases. In New Zealand, departments in charge of government programs must provide a full set of financial statements to their minister and to the Treasury Department every month. These statements are done on an accrual accounting basis.

Unfortunately, information management and collection has been especially challenging to developing countries which are often faced with financial resource constraints and weak institutional capacity. This has translated into delays in information collection, unreliable data and inaccessible information —problems that erode the validity of the link between results and policy decisions.

Designing integrated evaluations

A comprehensive evaluation is defined in the literature as containing process evaluations, cost-benefit studies and impact evaluations. Any single approach to evaluation contains its limitations. Hence, it is increasingly recommended that an evaluation strategy contain a mix of types of evaluations, depending on the needs of policymakers and that this mix draw on both quantitative and qualitative methods. In particular, the question of when it is appropriate to conduct an impact evaluation is critical since these often involve more resources, time and technical complexity than other types of evaluations. Impact evaluations that assess whether a program is directly responsible for observed outcomes should be strategically applied to projects that are innovative, replicable, involve substantial resource allocations and have well-defined interventions.

Finally, the question of who conducts the evaluation is important. External evaluations have the advantage of providing objective measures of program performance, enhancing their credibility. However, internal evaluations are important management tools that help build institutional capacity and give those responsible for the design and implementation of programs greater control over their work.

Integrating monitoring and evaluation

Both monitoring and evaluation are critical to effective public management. The challenge often consists of designing and applying the best combination of monitoring and evaluation approaches in support of the production of timely, reliable data useful to program managers, beneficiaries and policymakers.

Box 6.2 Definitions: Monitoring and Evaluation

Evaluation

Evaluations involve an assessment of performance. Evaluation is the systematic and objective assessment of an on-going or completed project, program or policy, regarding its design, implementation and/or results. The aim is to determine the relevance and fulfillment of objectives, development efficiency, effectiveness, impact and/or sustainability.

Evaluations are usually selective, discreet activities. Impact evaluations examine causality — whether a particular intervention is responsible for a particular outcome— through the construction of a counterfactual state estimating what would have occurred in the absence of the intervention.

Monitoring

Monitoring is a tracking function. It is a continuous activity that uses the systematic collection of data on specified indicators to provide management and the main stakeholders of an ongoing development intervention with indications of the extent of progress in the achievement of objectives and use of allocated funds.

Monitoring is ongoing, comprehensive activity. Good monitoring is essential to effective management and often involves tracking indicators relative to targets.

Both monitoring and evaluation should provide information that is credible and useful, enabling the incorporation of lessons learned into the decision-making process of both recipients and donors.

Source: Adapted from the Development Assistance Committee, OECD Working Party on Aid Evaluation.

In the case of Mexico, Sadoulet and De Janvry (2003) propose an integrated monitoring and evaluation scheme with the following two goals: a) to serve as tool for improving the design and functioning of specific programs and; b) to ensure the state's accountability to Congress. To achieve these goals, they proposed an integrated monitoring and evaluation approach with two key components i) interactions between internal and external evaluators, stressing the importance of beneficiary participation; and ii) a combination of short-term analysis (continual monitoring) with long-term impact evaluation. These two key components can be partially combined into a single process to reinforce the quality of each component as well as to maximize learning, accountability and transparency as part of a results-based management approach.⁹

⁹ For an application of this proposed monitoring and evaluation approach to the **MICRORREGIONES** program and INDESOL's set of projects, see Sadoulet and De Janvry (2003).

SEDESOL is moving towards an integrated monitoring and evaluation strategy that includes a quantitative, qualitative and institutional approach.¹⁰ Based on a common, established set of social development goals, they are designing a strong performance monitoring system combined with selected evaluations of key programs, including impact evaluations. The quantitative component encompasses both short-term and long-term performance monitoring (external and internal), ex-ante simulations of program impact, internal program feasibility and sustainability studies, and social policy evaluations. The qualitative focus involves beneficiaries in both monitoring and evaluation, and the institutional focus will concentrate on measuring performance in terms of institutional capacity and human development.

The selection of indicators for monitoring and evaluation is an important aspect of system design. Emmanuel Jimenez, during the May conference on Social Policy Best Practices (2003), stressed the importance of selecting indicators that illustrate the program's performance both in the short and long term. The majority of indicators that measure socio-economic and human development outcomes are not revealed in the short term. Nevertheless, short-term variables such as the following often serve as good predictors of long-term effects as well as aid managers in program administration:¹¹

1. Indicators of administrative efficiency and effectiveness.
2. Indicators of the rate of use of services and supports provided.
3. Perceptions of beneficiaries.

Furthermore, these indicators should be delivered and accessible not only to various levels of government, but also to members of civil society –those who have incentive to instigate reforms if these indicators are unsatisfactory. Sadoulet and De Janvry (2003) suggest that indicators chosen should capture the objectives and intended outcomes as well as unintended consequences. Beneficiaries' participation can be useful in the selection of indicators with these characteristics.

Building capacity

International experience suggests that the creation of a sustainable RBM system involves incorporating specific capacity building activities. In Chile, 180 professionals from different institutions and ministries were trained in program evaluations and a network of institutional experts give continual assistance to the system's operators. In Australia, a separate branch within the Ministry of Finance was created with the specific objective of providing evaluation advice and support and training in accounting and auditing

¹⁰ SEDESOL, 2003.

¹¹ When monitoring data and impact evaluations share common indicators statistical analysis can be applied to identify variables that serve as good predictors of long-term program impact; these variables are ideal candidates for key performance indicators.

activities.¹² The Mexican RBM plans to provide internal and external courses, lectures and seminars, in conjunction with the University of the Americas and the *Consejo Nacional de Ciencia y Tecnología* (CONACYT), covering relevant M&E topics.

Capacity building activities are especially important to developing countries, which often lack a culture of evaluation and whose personnel are unfamiliar with the tenets of RBM. These activities will aid developing nations in meeting the challenges of RBM and enhancing their ability to carry out strategic planning, data collection, monitoring, evaluation and communications. Although international consultants are useful in the training process by offering their perspectives, it has been shown that importing an RBM system without considering the country-specific context is ineffective. Hence, most training should be handled by national specialists and complemented by international experts in order to build a sustainable RBM approach.

It is also useful to create Technical Advisory Panels for each evaluation or for evaluations of similar programs with the objective of overseeing the process and incorporating the perspective of the various actors that have a stake in the evaluation process. The panels would be made up of evaluation experts, policy experts, members of Congress, beneficiaries and program operators. Evaluation experts would ensure the technical soundness of evaluation methodologies. Policy experts can advise evaluators on what indicators are most useful and relevant during policy decision-making in order to focus the evaluations and prevent excess spending on less useful information. Members of Congress should be involved as a way of building their understanding of the details and processes involved in carrying out the mission. Finally, it is often useful to include a representative of the programs' participants or operators. These individuals help to ensure that the evaluation is practical, focusing primarily on policy-relevant indicators. In particular, it helps to ensure that the evaluation has credibility among these groups who are key to the long-term success of policy change.

Ensuring feedback mechanisms

To be more than a bureaucratic exercise, RBM systems must include a feedback mechanism to link evaluation results to the budgetary process and policy decision-making. Without such mechanisms, efforts to build RBM systems are squandered. Linking the budgetary process to impact results creates incentives for managers to successfully run their programs.

In Australia, each piece of policy advice must be linked to 11 criteria tied to the provision of strategic plans and previous impact evaluation of programs. In Chile, program funds are allocated through a mechanism called *fondo cursable* —a Central Fund

¹² IDEA International, 2003.

for Governmental Priorities.¹³ For new programs or the reformulation and extension of programs, ministries must make applications to this fund presenting in standard format a budget proposal based on its strategic plans and past performance evaluations. In Mexico, as stated by the 1999 mandate, yearly results of evaluations must be presented to Congress.

Unfortunately, linking impact results to the budgetary process has been an especially challenging aspect of RBM for developing nations. For impact information to be useful, the timing of evaluations must be sequenced to provide decision-makers with performance information necessary to make resource allocation decisions. Such timing is often difficult for developing countries due to data constraints and other factors. During the evaluation of Nicaragua's conditional cash transfer program, the collection of follow-up data was delayed due to coordination issues and hence impact results were postponed. Weak information systems have further consequences. In Mexico, **PROGRESA** payment records revealed that 27% of the total eligible population in the evaluation sample had not received benefits after two years of program operations. These deficiencies were undetected by the information system.¹⁴ If evaluation results cannot be delivered in sequence, in a timely fashion, they cannot be used as inputs in decision-making. Hence, such coordination is vital to the success of the RBM and special priority should be given to increasing organizational capacity and systems of data collection.

Disseminating results

International experience with RBM highlights the importance of disseminating performance results in order to promote commitment, participation and accountability. The dissemination of results is also often accompanied by a public awareness campaign to educate the public in the new orientation in public service management. In Chile, performance results are made available to the Ministry of Labor, Congress and the public. Australia publishes reports on the individual performance of federal and state programs, allowing for cross-program and cross-regional comparisons. Along these lines, the public provision of annual evaluation results is included in the Mexican congressional mandate. However, accuracy, clarity and reliability of results should be ensured before disseminating information to general public. SEDESOL's *Manual Ciudadano* introduces the public to available public programs and hence acts as a tool of public awareness, which in terms helps the public in understanding the results once published.

¹³ IDEA International, *ibid.*

¹⁴ Rawlings and Rubio *ibid.*

D. INTERNATIONAL LESSONS FOR THE IMPLEMENTATION OF RBM

Lessons from international experience indicate that the implementation of RBM should be an incremental process.¹⁵ It is essential that the implementation begins with a strategic road map with specific milestones and remains flexible, as opposed to an approach with strict plans and regulations. The implementation should be carried out in a step-wise manner which includes first assessing preconditions for the compatibility of the existing institutional framework with M&E, creating a plan and design of a simple system and implementing a pilot phase. Varying political, institutional and technical situations in each country present unique challenges for respective governments. The pilot exercise can postpone costs and allow agencies to learn the language and technology of measurement M&E. The pilot phase of implementation should be approached as an opportunity to resolve implementation headaches before the system is expanded. In addition, to increase the sustainability of the system, each step of the process should be participatory. The involvement of senior management, staff and other stakeholders gives them ownership of the process and increases its likelihood of success.

Box 6.3 Engaging relevant government and non-government actors in the design and implementation of a RBM in Mexico¹⁶

Ministry of Public Function (Secretaría de la Función Pública, SFP). This office is in charge of carrying out the financial, operational, performance and human and material resources of federal programs. For the audit exercise at the state level, there are coordination agreements with the state and municipal control units. In addition to the audit function, they have the responsibility for quality assurance of those programs where stipulated presidential goals have been established in collaboration with the Office of the President. The Federal Audit Office has suggested certain actions to improve evaluations in Mexico including: improving the capacity of government officials to produce good terms of reference for evaluations; simplifying the rules of operation to reduce the number of administrative procedures for the evaluators to gain access to program data; and improving ministries' incentive structures for contracting and supervising evaluations.

Presidencia. At the beginning of the current administration *Presidencia* started the construction of a presidential goal system (*Sistema de Metas Presidenciales*). This system was conceived as a tool that would allow movement from a norms-based government to one based on results. It is part of the strategic model for improving the quality and innovation of government. The first monitoring system developed to track the Presidential goals was based on a scorecard. However, it was considered that the scorecard was not producing the intended results and it was changed to a

¹⁵ IDEA International, *ibid*.

¹⁶ The information is based on a forthcoming World Bank M&E Readiness Assessment, 2004. From December 8 through 12, 2003 a World Bank mission had a series of interviews with Mexican government officials involved in M&E.

short-term indicator system. This new indicator system is expected to be completed during the beginning of 2004. It is not clear at this point how soon the *Sistema de Metas Presidenciales* will be implemented.

Ministry of Finance. From the perspective of the Ministry of Finance there is not yet a useful and coherent M&E system of social programs. The current indicators do not go beyond tracking inputs and outputs (e.g. expenditure, number of beneficiaries, people trained, etc.). Most of what is available to the Ministry of Finance are output indicators which do not help to detect deviations from the expected program's goals. In linking outputs to decision making, expenditures are generally based on past allocations and in only a few programs, such as **OPORTUNIDADES**, is the budget based on impact evaluation results. In the Ministry of Finance's view the implementation of a pilot to assess a program's cost-effectiveness should be mandatory in order to respond effectively to the need of the population. They have indicated that they would be hard pressed to nominate any existing M&E systems as best practice, which in turn could serve as an example to other programs wanting to build a consistent M&E system.

Academia. In general, academics involved in the area consider that recent legal changes incorporated in the Social Development Law (below) a good first step in promoting a sound discussion of a program's design and net impact. They also noted that there is more of an evaluation culture in the country at present in comparison to the recent past (2000). However, there is also a consensus on the existing difficulties in moving from measuring outputs to outcomes, given the lack of sufficient incentives to do so. Again, they expect that the new Social Development Law will be of great help in this regard, given its emphasis in the measurement of outcomes.

E. CHALLENGES OF RBM

In addition to recommendations for the design and implementation of a results-based M&E in Mexico, international experience also illustrates some associated challenges. Matsuda (2003) argues that Latin American countries face challenges at different levels in their desire to move towards RBM systems. Low-capacity governments and even some sectors within high capacity governments, like Brazil's federal administration, are not equipped with a sufficient number of technically capable staff to manage the analytical tasks involved in program and organizational performance evaluations. Weak analytical capacity hinders each phase in the logic chain of RBM, ultimately breaking down the link between evaluation results and budgetary and policy decision-making. Focused capacity-building efforts can alleviate this constraint, especially in those countries that already have a reasonable pool of civil service professionals and a developed network of academic institutions and policy analysis think tanks.

In OECD countries, finance ministries have often been the driving force behind RBM initiatives. By linking performance requirements with the budget process, finance ministries are in a strategic position to foster performance orientations within the public sector. Unlike cutting-edge reformers in OECD countries, however, in most of Latin

America the finance ministries have not led public sector reform efforts. More often than not, finance ministries activities have primarily been driven by concerns about expenditure control for fiscal management purposes, often neglecting other aspects of good public expenditure management, namely the effective allocation of budgetary resources to the government's policy priorities, and the fostering government-wide operational efficiency. A key challenge is therefore to help ministries of finance gain the technical capacity to lead or at least fully take advantage of RBM efforts.

The first implication of international lessons to SEDESOL is that a unified M&E system cannot be designed all at once and cannot be implemented all at once. Incrementalism will have to come in two ways —first, the design over time of the technical system to be more and more inclusive of the information needs of managers across the ministry and, second, the expansion over time of the organizational units who come under its umbrella. Since all of this seemingly cannot happen at once, the logic of systematically piloting/expanding the design and construction of an M&E system over time within SEDESOL is well justified.

A second implication is that the performance goals for SEDESOL will have to be clear and legitimate for all parts of the organization. Building a performance based system will require that the goals of the president of the country and the goals of the minister of SEDESOL are accepted and thus frame the formulation of second order goals for each of the units within the ministry. There will have to be an alignment within the ministry around goals and outcomes that at present is not evident. The optimum situation would be one where the higher order goals and outcomes cascade down through the organization so that all parts of the ministry see their own mission and responsibilities in light of the overall mission. There needs to be a “line of sight” on the mission of SEDESOL from the top of the organization all the way to the bottom. Stated differently, the technical construction of the system (indicators, baselines, targets, etc.) cannot proceed if there is not a clarity around and acceptance of the goals and outcomes to be achieved. Indicators can only be constructed and reporting can only begin when it is clear what goals or outcomes are to be monitored and evaluated.

The third implication is the need for redefining the congressional mandate for annual program evaluations. The mandate has been interpreted to be call for conducting annual impact evaluations of *all* programs, an interpretation that has led to frustrations in terms of fulfilling the mandate. First, as stipulated in the mandate, each program must be separately evaluated despite the overlap of several programs' objectives and geographic target populations. This raises the overall cost of evaluations, exacerbating financial constraints. Second, due to budget and time constraints, well-qualified external evaluation institutions, which are few in Mexico, have little interest in participating in the evaluations process. Third, the annual impact evaluation requirement does not allow the ministries to design more efficient evaluation instruments. Lastly, the evaluation of social programs in Mexico often lacks a mechanism that provides feedback for

improving the design and efficiency of current and future programs. Consequently, the lessons taken from the results of separate program evaluations obtained each year are not shared across programs, hampering the improvement of future program design. The congressional mandate would perhaps be better served if re-interpreted as a directive for performance measurement, based on monitoring data provided in annual reports, as well as occasional evaluations including longer-term impact evaluations, linked to an integrated feedback mechanism that leads to better allocation of resources and design of programs.

The fourth implication is that with the approval in 2003 of the Social Development Law the evaluation mandate now acquires the status of a legal requirement and thus its continuation into the future. An evaluation requirement is no longer explicitly needed in the PEF every year. Previously, the PEF yearly stipulated the main guidelines for evaluation and these guidelines had each year to be validated by the Congress.

F. CONCLUSION AND RECOMMENDATIONS

Mexico has come a long way in building better M&E systems and in fostering an evaluation culture. Influenced by the successful evaluation of **OPORTUNIDADES**, the government has moved to institutionalize evaluation through the Congressional mandate of 1999. The system of presidential performance targets and the recently enacted Social Development Law of 2003 are also important reforms aimed at using M&E to support public effective sector management.

More recently, through SEDESOL, Mexico is attempting to broaden the scope and increase the effectiveness of program evaluation through the creation of an integrated RBM system. International experience provides several lessons for this type of initiative:

- The development and successful implementation of an RBM system is an incremental process that requires strong leadership and a continual commitment from all of those involved.
- The active participation of the Ministry of Finance should be encouraged in order to eventually allow program performance data to inform budgetary allocations.
- Although the system has technical requirements to ensure the collection of timely, reliable data, the primary focus of the RBM system should be on management and on ensuring that the results are valued and used as key inputs to decision making.
- The system should be crafted to the needs of managers and policymakers, accessible to all stakeholders—including civil society—and involve capacity-building activities to ensure its effective implementation.
- The RBM system should draw on a mix of internal and external evaluations, should provide regular performance data and should use impact evaluations strategically

for programs that are innovative, replicable, involve substantial resource allocations, and have well-defined interventions.

Without a clear mandate for transition to an RBM system and strong leadership, efforts at improving the performance of public sector institutions can fail. Strong leadership, commitment and involvement in RBM implementation are key to sensitizing different constituencies to the importance and benefits of RBM as well as increasing ownership of the process. The recently enacted Social Development Law building on the congressional mandate of 1999, the system of presidential performance targets and a strong track record in the impact evaluation of **Oportunidades** has positioned Mexico and SEDESOL to take a leadership position in implementing a successful RBM system. These efforts are all indications of the government of Mexico's commitment to performance management. SEDESOL's initiative to implement an M&E system that is result-based is an opportunity to ensure that the objectives of the congressional mandate are properly fulfilled.

Apart from leadership, international experience indicates that further work is also needed in other areas in order to successfully implement a RBM system. More work is needed on leadership and incentives and in resources, roles and responsibilities. For example, with respect to incentives, it is not yet clear why government agencies in Mexico would commit to supporting the development of a RBM. Fundamentally, the cultural shift that will be required to move to a performance orientation will need to be supported by a broad array of incentives to do so. These incentives will need to be carefully constructed to include both carrots and sticks —rewards and sanctions. But they do not exist at present. They will have to be constructed just as negative incentives will have to be removed.

ANNEX

Table A.6.1 International Experiences with Results Based Management Systems

Type of program	Country	Lessons learned						
		Context	Design	Capacity-building	Implementation	Reference to other systems	References	Year of implem.
3	Thailand	<p>Public service reform for more than 30 yrs became unavoidable in 1997:</p> <ul style="list-style-type: none"> - New constitution - Financial crisis - Public information law - Fast growing public service - Public sector management reform plan in 1997 including plan to transform management practices from input control oriented to a RBM system 	<p>Project aims to encourage all gvt dpts and agencies to improve efficiency and effectiveness.</p> <p>Thai gvt allocates 4.5 billion Baht per year to reward dpts providing proof of performance improvement.</p> <p>Committee on improving the Government efficiency and effectiveness (CIGEE) — Neutral body appointed by the Public Service Commission.</p>	<p>Advisory services and training on RBM tools.</p>	<ol style="list-style-type: none"> 1) Beginning of fiscal year dpts identify visions, work plans, critical success factors, key performance indicators). 2) Agreement by the CIGEE. 3) At end of fiscal year dpts produce performance report informing CIGEE if they have achieved what was agreed. 4) Criteria: <ul style="list-style-type: none"> - financial performance - internal process - customers and stakeholders satisfaction - ability to learn and grow 5) CIGEE assigns scores to dpts. 6) CIGEE reward dpts depending on scores. 7) Dpt has the responsibility to reward their own staff. 	<p>Links to new forms of output-based budgets must be established.</p> <p>Reform of budgetary system will be completed by fiscal year 2004.</p>	Vajrabhaya (2003)	Oct. 1997

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Type of program	Country	Lessons learned				References	Year of implem.	
		Context	Design	Capacity-building	Implementation			Reference to other systems
1 through 6	Chile	<p>Program for the improvement of management (PMG) or PROGRAM MARCO. Planning system/ management control.</p> <p>Participating institutions:</p> <ul style="list-style-type: none"> - Congress - Min. of Hacienda - Other ministries - Provincial gvts., etc. - MIDEPLAN (Min. of planning and cooperation) - Inter-ministerial committee - Technical unit for program evaluation 	<p>Instruments:</p> <ul style="list-style-type: none"> - Performance indicators (1994). - Program evaluation (1997). - Institutional evaluation (2002). - Central fund for gvt priorities (2001). - Management improvement program (PMG) (1998). - Performance-based incentive for civil servants. - Balance de gestión integral (BGI) (1997) (Public account report). - Financial incentives for civil servants. <p>Instruments integrated to the budgetary process. Feedback mechanisms Interactive process. Systematization of process is important (templates or formats)</p>	<p>Yes</p> <ul style="list-style-type: none"> - Training of the logical framework. - 180 professionals from different institutions and Ministries were trained in program evaluation. - Network of institutional experts. 	<p>Stepwise approach (six steps:</p> <ul style="list-style-type: none"> - Strategic planning - Design of information system - Implementation of IS - Presentation of performance indicators - Establishment of priorities and weighing of indicators - Commitment to achieve a minimum % of priority and weighted targets. <p>Important to internalize processes. Important to identify links between products and services, indicators and the budget.</p> <p>Program evaluation:</p> <ul style="list-style-type: none"> - Evaluation of gvt programs (EPG) or logframe (4 months) - Impact evaluation (6-8 months) (90% social programs) - Comprehensive evaluation of expenses (8 to 10 months) <p>Formulation of PMG more difficult in regional and provincial gvt and regional institutions.</p>	<p>Use of an information system with easy to use databases on programs. Follow up realized through website (2002). Gender monitoring system.</p>	<p>Government of Chile (2003)</p>	<p>Performance indicators in 1994 RBM System in 2000</p>

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Type of program	Country	Lessons learned					References	Year of implem.
		Context	Design	Capacity-building	Implementation	Reference to other systems		
1 through 6	Costa Rica	Improvement of public management. Law of national planning (1974). 1994 creation of the National evaluation system (Sistema Nacional de evaluación (SINE) under the Ministry of planning and economic policy.	A long-term project to promote a new institutional culture. Instrument which enables to : <ul style="list-style-type: none"> - Define priorities - Monitor decisions - Monitor strategic program and project execution - Evaluate the quality of public performance. <p>SINE is composed of all public sector institutions, but to date only 40 institutions are part of the system. Coordinating Unit is the Ministry of planning.</p>	Support process: <ul style="list-style-type: none"> - Generation of statistics - Investigation - Dissemination - Inversions <p>1997: Training program for civil servant in strategic planning, indicators and methodologies of evaluation.</p> <p>Participation in seminars.</p> <p>Development of a course on evaluation and elaboration of indicators — training of 200 civil servants in 2000.</p>	1994: Analysis of international experiences. Conceptual discussions. Analysis of the legal framework. Conceptual framework for SINE. 1995: Creation of SINE Red de enlaces del SINE. Support form BID and WB. Elaboration of methodology of SINE. 1996: Pilot plan of SINE with 8 institutions. 1997: Evaluation of the pilot. Monitoring of 18 institutions. Training program: First phase of systematization process of SINE. Further analysis of international experiences. 1998: Participation of 20 inst. 1999: Initiation of negotiation and presentation of budgets of the strategic actions for the 1999 CDR. 29 institutions participate +7 decentralized inst. 2000: 37 institutions participating. Strengthening of coordination between Min. Hacienda and the General Audit. 2001: 43 inst. Participate CDR made available to the public Phase 1: Elaboration and signing of CDR (Commitment of Results). <ul style="list-style-type: none"> - Definition of evaluation criteria and indicators. - Elaboration of the Institutional performance matrix (MDS). - Elaboration of a programming matrix (MDP). Phase 2: Monitoring of CDR. Phase 3: Final evaluation of CDR: <ul style="list-style-type: none"> - Annual report on the evaluation of the institution. - SINE prepares a final report for the President of the Republic. - Three parts (ranking, analysis of success factors, and difficulties). 	Network system	Fonseca Sibaja A. (2001)	1994

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Type of program	Country	Lessons learned				References	Year of implem.
		Context	Design	Capacity-building	Implementation		
All public programs	Australia (first generation)	Public sector reforms. Tight budget constraints. Strong accountability pressures.	Evaluation system (1987-1997): Each program evaluated every 3-5 years. Each portfolio prepares rolling 3-year evaluation plan. Each new budget approval must have evaluation plan. Every major evaluation must be published. Special unit put in place to support line dpts and agencies.	?	Full integration in the budget where there was a strong resource commitment Setup of evaluation units in every dpt. Between 2—25 staff. Creation of committee to meet regularly, canvas candidate programs for future evaluation and monitor progress of existing evaluations. Time frame of 10 yrs. from development to sustainable implementation.	None	Mackay K., Australia: Lessons from two generations of evaluation system, WB World Bank 1998
	Australia (second generation)	New coalition gvt: - Preferred private sector models - Focused on results - Evaluation decentralized and deregulated - Dpt heads became CEOs - Ideally demand-driven	All dpts must measure performance and report annually to parliament. DOF encourages dpts to conduct evaluation of key policies, programs. CEOs can allocate \$ across outputs to achieve outcomes. CEO performance agreement with Minister. Regular review of contractual performance.	Creation of separate branch within MoF providing evaluation advice, support, training and encouragement s to other dpts Training in evaluation, accounting and auditing	No central management of system. All dpts take different approaches Good practice : Dpt of family and community services: - Good range of performance reported to parliament (outputs) - Quantity, quality, cost - Info on intermediate outcomes - Substantive use of evaluation findings in reports - Research and evaluation plan - 145 research/evaluation projects - Budget US\$20 million per year - Emphasis on behavioral outcome Good practice: education, employment, health.	None	

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Type of program	Country	Lessons learned					References	Year of implem.
		Context	Design	Capacity-building	Implementation	Reference to other systems		
1,2, legal and judicial reform and agriculture/ rural development	Cambodia	<p>Competition between several central agencies:</p> <ul style="list-style-type: none"> - Council of Ministers. - MEF. - Council for development. - Min. of planning. - Min. of interior. <p>Lack of human resources. Many administrative systems. Commitment of senior management in MEF. Decentralization and deconcentration policies. Budget formulation weakly linked to gvt policies, screening and allocation processes. In 2000, introduction of PAP (Priority Action Plan). In 2002, Introduction of MTEF. Low remuneration in civil service. Recent establishment of National Audit Authority. Ownership and leadership is key.</p>	<p>PAP: Decentralized, program-based, result-oriented budget formulation and execution system (4 ministries)</p> <ul style="list-style-type: none"> - accountability for agreed results. <p>No generalized gvt-wide RBM system.</p> <p>In education, strategic objectives linked to operational programs, in turn linked to MTEF.</p> <p>Some performance-based incentives.</p> <p>Performance indicators need good understanding of links between program outputs and policy goals.</p>	Need strong planning capacities	<p>Limited use of performance indicators. Use of performance indicators most advanced in education and health.</p> <p>Attention must be given to management processes.</p> <p>Modalities need to be put in place.</p> <p>Need for strong central agency. Government-wide corporate commitment to managing results. Reforms must be clearly articulated in a long-term perspective.</p>	MTEF (health and education in 2002) Sector-wide approaches	Dom and all (2003)	2000

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Type of program	Country	Lessons learned					References	Year of implem.
		Context	Design	Capacity-building	Implementation	Reference to other systems		
1 through 6	Tanzania	Poverty oriented expenditure program.	<ol style="list-style-type: none"> 1. Performance budgeting. 2. Public finance management reform. 3. Launch of performance mgt system. 4. Decentralization of basic service provision. 5. Cash budgeting system. 	<ol style="list-style-type: none"> 1. Technical working groups. 2. Performance Improvement fund to aid local units with the cost of RBM implementation. 3. Technical and change-management training. 	<ol style="list-style-type: none"> 1. Performance budgeting linked with 2. 3-yr MTEF. 3. Public Service Reform program incl. Performance Management systems. 4. Linking of block grants to specific service delivery targets at local level. 5. Incentive system in form of salary enhancements. 	<ol style="list-style-type: none"> 1. PRS with Poverty Monitoring System. 2. Public Sector Reform Program. 3. MTEF. 4. SWAPs in health, primary education and agriculture. 5. Private Sector Participation Program. 	Ronsholt and all (2003)	1998
1, 2, 4, 6	Uganda	Poverty oriented expenditure program.	<ol style="list-style-type: none"> 1. Established system of reporting but no centralized reporting on performance within central or local government agencies. 2. Currently monthly accountability statements on local Gvt. level, but data questionable and no capacity to analyze it. 3. Newly integrated financial management system with goal of computerized accrual-based accounting system. 	<ol style="list-style-type: none"> 1. Reporting systems build as part of SWAP, but lack of independent mechanism for verifying performance. 2. Independent sector studies used to compensate. 3. Planning meetings at each level of local Gvt. support participatory process. 	<ol style="list-style-type: none"> 1. RBM oriented budgeting as extension to MTEF on sector basis and strongly tied to Poverty Reduction Strategy. 2. Downward protection of Poverty Action Fund as min. % of MTEF. 3. Block grants to fund admin and salary costs, but increase of conditional grants to 75% of local Gvt. budgets. 4. Staff performance appraisals. 5. Inconsistency in RBM terminology used causes weaknesses. 	<ol style="list-style-type: none"> 1. Centrally driven SWAP process. 2. MTEF. 3. Poverty Reduction Plan. 	Williamson (2003)	1998

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APPENDIX

A. Data Sets

What follows is a brief description of each of the data sets at our disposal and the information that can be extracted from each.

1. Barro-Lee

Data set on educational attainment at various levels for the male and female population. The data set includes estimates of educational attainment for the population by age — over age 15 and over age 25— for 126 countries in the world. (See Barro, Robert and J.W. Lee, "International Measures of Schooling Years and Schooling Quality, AER, Papers and Proceedings, 86(2), pp. 218-223 and also see "International Data on Education", manuscript). Data are presented quinquennially for the years 1960-1990.

2. *Conteo de Población y Vivienda 1995*

Data provided by the Conteo comes from two sources: the *Enumeración*, which counted all households in the country, and the *Encuesta* which took a sample of 80,000 households nationally (2,500 per state). The *Enumeración* provides data on the space distribution of the population and characteristics of households at the local level while the *Encuesta* provides information on families, social services, health services, migration and many other themes at the state level.¹

3. ENCASEH

The Survey of Socioeconomic Characteristics of the Households (*Encuesta de Características Socioeconómicas de los Hogares*, ENCASEH) was the principal instrument for the collection of data of **PROGRESA** for the identification of the beneficiary families.

Sampling design: The universe of this study was constructed from households/people belonging to the cities identified by **PROGRESA** as eligible by presenting a high degree of poverty (according to 1995 "Conteo" and population census), located in the states of Guerrero, Hidalgo, Michoacán, Puebla, Querétaro, San Luis Potosí, and Veracruz. Stratified and conglomerated sampling was employed. Information from 506 localities and 24,700 households was collected. As the main objective of the survey was to identify the results and impacts of **PROGRESA**, the sample was randomly divided into two groups: one which received the benefits of the program, 320 localities (treated) and one

¹ Note that there are some problems with the data from Chiapas; the Conteo underestimates the population due to the inability to execute the *Enumeración* in certain areas.

which did not, 186 localities (control group). The beneficiaries of the program were the poorest households in the treated localities.

This survey was carried out previous to the incorporation of the households into the program. An interview to all the households of the locality was carried out. The information obtained from the survey of the ENCASEH served as starting point for the evaluation of the conditions of poverty of the households and permits the identification of the beneficiary households of the program.

The survey shows information of diverse nature on the characteristics of the households that addresses the following subjects: identification of the household head and the people responsible for the expenditure and children care; demographic features of the household and human capital of its members; business activity of the members and their income; conditions of housing and availability of services; possession of goods. There is also a locality questionnaire.

4. ENCEL

The *Encuesta de Evaluación de los Hogares* (ENCEL) was designed as an instrument to evaluate the “Programa de Educación, Salud y Alimentación (**PROGRESA**)” The Evaluation Survey consists of a follow-up survey every 6 months on these same households of ENCASEH. Since household information was collected every six months, a panel of households was created.

5. Encuesta Nacional de Ingresos y Gastos de los Hogares (ENIGH) 1992, 1994, 1996, 1998, 2000, and 2002

The ENIGH surveys collect, periodically and systematically, socio-economic information of the households. This information is representative at the national, rural-urban, and marginality stratum (for 2002 only, according to CONAPO’s classification) levels. The main objective of this survey is to generate information on current income and expenditure structure, financial income and expenditure structure, the value of the goods and services for self-consumption, the socio-economic characteristics of the household members, their labor conditions, and the household characteristics. For each year, the sampling process was stratified, multi-staged and by conglomerates. The final sampling unit is the household and all its members. In every stage, the selection probability is proportional to the size of the sampling unit, so the use of weighting factors is necessary to obtain the appropriate estimates.

6. Sample of the XII Census 2000

Two questionnaires were used for this Census, the basic one, which was applied to all Mexican population, and the augmented (survey) which was applied to a sample. The

sample design for the survey allows generating information at the municipal level for most indicators obtained from the augmented questionnaire. In every municipality the sampling was by single-stage conglomerates, that is, complete geographical areas (primary sampling units) were selected. Such units vary across types of areas (rural-urban) and in the sample design that is applied in each. Thus, the sampling units might be AGEB's, blocks, or rural localities.

Given the main objectives of the sample, a sample size of approximately 700 households per municipality was estimated. However, in municipalities with the same or fewer number of households an adjustment for "finite population" was done. Thus, for Chiapas, Hidalgo, Jalisco, and Veracruz the minimum sample size for municipality was fixed at 500 households; while in Oaxaca, Yucatán, Puebla and Tlaxcala the minimum ranged between 150 and 250 households. In these states, the municipalities with less than 1,000 inhabitants were surveyed completely. The former gave place to 2.2 million households interviewed nationally.

Finally, given the sampling design, it is necessary to use weighting factors to obtain confident estimates.

7. Statistical Annex of the President's Address to the Nation 2001, 2002 and 2003

The Statistical Annex of the President provides a collection of data from the federal administration. The information is obtained from the administrative records of various government ministries. It also collects several indicators at the state level.

8. Employment Surveys: ENE, ENET, and ENEU

During its evaluation, the Employment Surveys have had two sampling design stages. The first stage collected the information every year and was representative for rural and urban areas. The National Survey of Employment (*Encuesta Nacional de Empleo*, or ENE), since 1996, and the National Survey of Urban Employment (*Encuesta Nacional de Empleo Urbano*, or ENEU), since 1987, collects information about the characteristics of the labor force in Mexico at the national and urban level, respectively. These surveys are the basis for calculating official employment statistics. Both ENE and ENEU surveys share the same variables and structure. ENE and ENEU include context variables at the individual level such as: education, labor participation, hours worked, type of contract and benefit received, some questions about social protection coverage or labor force and other basic variables as gender, marital status and age.

The ENEU collected the same sets of information that ENE, but ENEU only focuses on the urban population; this means that the survey is restricted to urban areas with more than 100,000 inhabitants. The geographical coverage on ENEU has changed over time

with the introduction on new urban areas and it currently covers the 45 largest urban areas in Mexico. The main advantage of ENEU is that the survey is based on a panel of individuals that can be followed for 5 quarters. The ENEU is structured as a rotating panel. In each quarterly sample there are five cohorts, each in a different state of completion in the interview cycle: one-fifth of the sample in its first interview; one-fifth in its last (fifth) interview; and three-fifths of the sample in intermediate stages. The ENEU conducts extensive quarterly household interviews in the 16 major metropolitan areas for from 1992 to 2000. The sample is selected to be geographically and socio-economically representative. The questionnaire is extensive in its coverage of participation in the labor market, wages, and hours worked that are traditionally found in such employment surveys. Additionally, a household identification variable permits construction of household incomes.

In the second stage since 2000, ENEU disappears and ENE incorporates both ENE and ENEU employment databases, becoming the ENET and has a panel structure that allows following every individual for 5 quarters. Specifically, since the second quarter of 2001, the ENE consists of a cross sectional database and it is representative for the next mutually exclusive aggregate levels:

- a) National level.
- b) Four locality sizes (these levels allow dividing the sample in rural and urban areas).
- c) 48 mayor cities
- d) 32 mexican states

ENET is the acronym for ENE's new version, which starting 2000 has become a quarterly survey (*Encuesta Nacional de Empleo Trimestral*).

9. Polity IV

The POLITY Project has evolved since the 1970's and has become a widely used source of cross-national, longitudinal data on the authority characteristics of modern polities. It is most widely used for its assessments of the degree of democracy and autocracy in the political structures of nation states. It collects coded annual information on regime and authority characteristics for all independent states (with greater than 500,000 total population) in the global state system and covers the years 1800-2002. The Polity IV Web site is housed at the Center for International Development and Conflict Management at the University of Maryland, College Park.

10. WBI Governance Research Indicators Dataset

This dataset presents estimates of six dimensions of governance covering 199 countries and territories for four time periods: 1996, 1998, 2000 and 2002. These indicators are based on several hundred individual variables measuring perceptions of governance,

drawn from 25 separate data sources constructed by 18 different organizations. These individual measures of governance are assigned to categories capturing key dimensions of governance and the unobserved components model is used to construct six aggregate governance indicators in each of the four periods. The point estimates of the dimensions of governance are presented as well as the margins of error for each country for the four periods. The governance indicators reported are an update and expansion of WBIs previous work, part of a research project on indicators initiated in 1998 (Kaufmann, Kraay and Zoido-Lobaton 1999a,b and 2002).

11. World Development Indicators 2002

The World Bank draws on a variety of sources for the statistics published in the World Development Indicators. Data on external debt are reported to the World Bank directly by the developing member countries through the Debtor Reporting System. Other data are drawn mainly from the United Nations and its specialized agencies, from the International Monetary Fund (IMF), and from country reports to the World Bank. Bank staff estimates are also used to improve actuality or consistency. For most countries, national account estimates are obtained from member governments through World Bank economic missions. Most social data from national sources are drawn from regular administrative files, special surveys or periodic censuses.

B. Estimation of Electricity Subsidy (RES)

Coverage. The ENIGH from 1992 to 2002 report access to electricity (in 2002 it also identifies consumers with a formal contract) as well as household expenditure on electricity. In contrast to total income and expenditure, which are significantly underreported in ENIGH in comparison to the National Accounts, ENIGH *over reports* monthly electricity expenditure in relation to administrative records by a magnitude by a factor close of almost 2. This may be explained by the fact that most households pay a bimonthly electricity bill but may forget to divide this when reporting monthly expenditures in ENIGH.

Public expenditure. We apply the residential tariff schedule covering the majority of households and close to half of total residential electricity expenditure (tariff 1) to impute electricity consumption (kWh) to households on the basis of their reported expenditure (divided by two, for the reason mentioned in the previous figure). The great majority of the rest of households and expenditure corresponds is to tariffs 1A-1C, which are sufficiently similar to the latter to make this a reasonable estimate for them as well. To estimate costs of provision we assumed the highest tariff rate for residential consumption to reflect true marginal cost, which implies a total subsidy for residential consumers close to the estimate reported by the federal government. For 1992-2000 this implies a single tariff schedule with three progressive marginal rates, but the 2002 tariff reform implies three different schedules, making direct imputation of electricity consumption levels more difficult in this year. For this reason, to estimate the distribution of the subsidy in the latter year we have applied the 2002 tariffs to the consumption structure estimated for 2000, assuming the latter to have remained basically stable between the two years.

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