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Mexico: Country Case Study Towards the Millennium Development Goals at the Sub-National Level

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Country Case Study Towards the Millennium Development Goals at the Sub-National Level: Mexico

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I. Introduction

> *The gross disparities of wealth distribution in today's world order, the miserable conditions in which well over a billion people live, the prevalence of conflict in some regions and the rapid degradation of the natural environment all combine to make the present development model clearly unsustainable.*[1]

It is clear that the current development model will not be changed unless world leaders establish thorough common agreements and undertake deep remedial measures with a full sense of commitment. The Millennium Summit offered world leaders a unique opportunity to renew their sense of mission and reflect upon their common future at a time when countries find themselves interconnected as never before. In this era of globalization, states need to be strengthened so that they can properly attend their populations' needs, provide solutions and attempt to foster a more equitable distribution of the rewards of globalization, since even though that process offers great opportunities, its benefits are unequally distributed. The Millennium gathering represented the pinnacle of the agreements achieved in the last decade in terms of peace, security, disarmament, poverty eradication, human rights, environmental sustainability and gender equity – all this under a new framework aimed to restructure the global development agenda.

The Summit resulted in a declaration consisting of a set of eight specific social, economic, political and environmental goals to be attained by each country, as well as forty-eight explicit indicators to measure either advances or full execution of the goals. The General Objectives set forth in the declaration had already been discussed throughout the last decade at various conferences, summits and meetings. These goals encompass poverty and hunger eradication, education improvements, gender equity, environmental sustainability, health issues and matters pertaining to international institutions. The declaration, representing the commitment of the 189 member states of the United Nations towards a better world, was signed by Mexico's President and ratified by its Congress. Since then, strong efforts have been underway to move ahead in the achievement of the specified goals, not only to fulfill the mandate laid out in this declaration, but more fundamentally to improve the Mexican situation as a whole.

The central aim of this study is to offer a brief assessment of Mexico's performance in pursuing the Millennium Development Goals (MDG´s). It is organized as follows. Section II will offer an overview of Mexico's track record regarding a sample of the most important goals in order to provide the reader with an idea of Mexico's overall progress in fulfilling the broader objectives. Section III will disaggregate the different development indicators focusing on a set of five classified sub-groups covering the eight objectives selected in the Millennium Declaration. Section IV will observe the convergence between the different regions of Mexico towards the achievement of the Millennium Goals in order to assess whether the states are moving in the same direction. Section V concludes.

II. Millennium Development Goals – An Overview

Mexico's economic, political and social performance throughout the last decade has experienced constant ups and downs. The signature of the Millennium Declaration in 2000

[1] Annan, Kofi "We the Peoples: The Role of the United Nations in the 21st Century" Executive Summary. Millennium Report of the Secretary General of the United Nations, in <http://www.un.org/millennium/sg/report/>

implied a serious commitment to enhance the country's performance on several fronts. This section's aim is to present a general overview of Mexico's advancements and setbacks in the execution of the Millennium Summit goals. The following table provides useful insights into Mexico's progress as it includes the most important objectives to be taken into account throughout this assessment.

Table 1. Millennium Development Goals: Indicators for the Mexican Case

		1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
1	Percentage of the population whose income is below 1 US dollar per day			14.9			17.9			15.9		13.2		
2	Poverty Gap Coefficient (poverty incidence multiplied by poverty severity)			3.8			6.1	3.5		5.2				
3	National consumption ratio corresponding to the poorest fifth of the population			5.64		5.59		6.26		5.76		5.32		
4	Number of underweight children under 5 years of age (Moderate malnutrition)	11.3 (1988)									6.3			
5	National Illiteracy Index (percentage)	12.5	12.1	11.8	11.5	11.2	10.9	10.6	10.4	10.4	10.2	10.0	9.0	8.8 e
6	Percentage of the population attending primary school with regards to the population aged between 6 to 12 years.						94.1	93.8	93.5	93.7	94.2	94.4	94.9	95.4
7	- Percentage of students that start first grade and complete primary education(terminal efficiency)	70.1	71.6	72.9	74.2	77.7	80.0	82.8	84.9	85.8	84.7	86.3	87.7	88.7 e
8	Ratio of girls to boys attending primary school	0.942	0.942	0.941	0.936	0.939	0.938	0.940	0.943	0.946		0.952	0.953	
	Ratio of girls to boys attending secondary school	0.950	0.954	0.952	0.948	0.944	0.937	0.934	0.935	0.943		0.964	0.970	
	Ratio of women to men in higher education	0.749	0.756	0.858	0.858	0.876	0.901	0.913	0.925	0.934		0.979	0.988	
9	Ratio of women among non-agrarian sector, paid workers (% with respect to economically active population)	18.84										24.44		
10	Mortality rate among children of less than 5 years of age, adjusted by underregistry (per every one thousand expected to be born alive)	44.7	37.0	33.5	32.3	31.8	31.1	30.1	29.1	28.0	26.2	25.2		
11	Observed Infant Mortality Rate (per every 1000 born alive)	27.4	23.9	22.1	21	21.1	20.8	20	19.6	19	18.4	17.9	16.6	16 e
12	Percentage of children aged one vaccinated against measles	75.3	89.2	88.2	79.0	90.0	89.9	93.0	90.5	95.7	94.0	95.5		95.3
	Registered Measles Cases	68,782	5,007	846	172	128	12	2	0	0	0	30	0	0 e
	Basic Scheme Vaccination Coverage		81.1	84.1	75.3	87.4	87.9	91.8	89.6	93.5	92	94.4	93.6	94.5 e
13	Observed Maternal Mortality Rate (per every 10,000 born alive)	6.2	5.9	5.9	5.4	6.0	6.3	5.7	5.6	6.4	6.4	6.1	5.8	5.7 e
	Active Users of Family Planning Systems (thousands)	6,264	6,588	6,610	6,965	7,471	7,995	8,339	8,527	8,815	9,170	9,536	9,812	9,998 e
14	Malaria morbidity rates (per 100,000)	51.9	30.4	18.6	17.9	14.3	8.0	6.7	5.0	15.0	6.5	7.3	4.9	3.5 e
15	Registered and estimated deaths due to tuberculosis in all its forms 15 to 64 years of age	3,723	3,214	3,112	2,981	2,822	2,771	2,643	2,469	2,369	2,111	1,985	1,909	1717 e
16	Proportion of the population with access to potable water (Total)	77.7	79	80.4	81.3	82.2	84.2	85	85.7	86.4	87.4	88.5	89 p	89.3 e
17	Proportion of the population with access to sewage services (Total)	61.3	62.4	63.8	64.6	65.7	72.1	72.4	72.4	72.4	73.1	76.5	76.8	77.1 e
18	Unemployment Rate of the Population aged between 15 and 24													
	12 to 19 years							11.4	8.4	6.9	5.8	5.3	5.6	8.3
	20 to 24 years							8.8	6.5	5.7	4.4	4.1	4.6	5.9
19	Number of telephone lines (per 1,000)	63.9	70.5	77.5	85.9	94.0	95.7	94.3	97.3	102.7	111.3	123.8	136.4	146.8

Sources[2]

[2] Sources: Ind. 1: World Bank Development Indicators, 1992, 1995, 1996, 1998, 2000. World Bank Publications, Washington D.C. 2: Economic Commission for Latin America, Social Panorama 2000/2001, pp. 33. ECLAC, Santiago de Chile. 3: National Institute for Geography, Statistics and Informatics (INEGI), National Survey of Households Incomes and Expenditures, 1992, 1994,1996, 1998, 2000. www.inegi.gob.mx, 4: National Children´s Commission, 1990-2000 Evaluation, Technical Documents #6. National Children´s Commission Publications. 5: for the years between 1990 and 2000, Presidency of the Republic, 6th State of the Nation Report, pp 243. For the following years: Presidency of the Republic, 2nd State of the Nation Report, pp 18. 6: Own authors calculations based on data provided by the Ministry of Public Education and the National Population Council. 7: Presidency of the Republic, 2nd State of the Nation Report, pp 39. 8: For the years 1990-2000, INEGI, Education Statistics, Notebook #6, for further years: Own calculations based on data

The primary goal set in the Summit Declaration was the eradication of extreme poverty and hunger, for which five specific indicators were chosen, they include: percentage of individuals learning less than one dollar (ppp) per day, poverty gap coefficient, national consumption ratio of the poorest fifth of the population, number of underweight children under five years of age and the percentage of the population with an energy food intake below minimum requirements. In the case of Mexico, inequality and poverty are deeply rooted aspects in the country's economic, political and social life. Mexico is among the most unequal countries in the world and its poverty levels have reached high numbers in recent years, raising concern at all levels of government. According to official statistics, 53.7 percent (around 50 million people) of the population was living in poverty conditions in the year 2000.

As observed in Table 1, the percentage of the population living on less than one dollar per day remained constant during the nineties at around 13-14 percent, aside from a big jump during the economic crisis of 1994-1995 when it reached 17.9 percent of the total population. The poverty gap displays more volatility during this decade, reaching its highest level of 6.1 in 1995. There was, however, a sharp decrease only one year later when it went down to 3.5 in 1996. In 1998 it increased again to 5.2, meaning that those living in poverty were worse off than in 1996.

Given these figures, it is no surprise that the national consumption ratio of the poorest quintile of the population has also remained constant through the decade. The highest proportion was attained in 1996, when the share rose to 6.26 percent from 5.59 in 1994. Swelling ranks of poor in the aftermath of the Peso Crisis yielded these figures, which have been gradually decreasing, reaching 5.32 by 2000, a similar level to 1992.

Development opportunities are reflected not only in income and consumption variables but also in health and nutrition indicators. In contrast to the very modest advancement experienced in poverty, health and nutrition have improved somewhat during the last decade. As illustrated in Table 1, underweight among children was practically halved over the course of the decade. However, even though this indicator has reported significant improvements, 6.3 percent of children under five years of age still present it in its moderate form.[3] Moreover, 18.6 percent of total households had a per capita income below the minimum requirement to fulfill their daily energy food intake included in the INEGI-ECLAC's basic food package.[4]

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provided by the Ministry of Public Education. 9: Presidency of the Republic, 2nd State of the Nation Report, pp 125. 10: National Children´s Commission, 1990-2000 Evaluation, Technical Documents #6. National Children´s Commission Publications. 11: Presidency of the Republic, 2nd State of the Nation Report, pp 65. 12: Presidency of the Republic, 6th State of the Nation Report 2000, and onw calculations based on data provided by the National Vaccination Council. 13: Presidency of the Republic, 2nd State of the Nation Report, pp 77. 14 and 15: ibidem pp. 81. 16: Ministry of the Environment and Natural Resources, National Water Commission Technical Notes # 4, pp 375. 17: for the years between 1990 and 2000, Presidency of the Republic, 6th State of the Nation Report, pp 327. For the following years: Presidency of the Republic, 2nd State of the Nation Report, pp 128. 18: INEGI 2000, National Survey of Urban Employment, www.inegi.gob.mx. 19: own author´s information based on data provided by the Ministry of Communications and Transportation, www.sct.gob.mx.

[3] National Nutrition Survey 1999. 2001 edition.

[4] Ministry for Social Development. Technical Committee for Poverty Measurement, 2002.

As mentioned earlier, poverty conditions are intricately intertwined with education and health, among other factors. Since education is one of the most important assets that in various ways guarantee a way out of the vicious cycle of poverty, the second objective pursued by the declaration is "attaining universality in primary education," for which three specific indicators were established. Advancements in the percentage of population attending primary school between 1995 and 2000 have been modest, since in 1995 there was already an attendance rate of 94.1 percent.[5] In the case of Mexico, educational efficiency is measured by the percentage of students completing primary education. In 1990, this percentage was 70.1 percent, rising to 87.7 percent in 2001, and it is estimated that this number will rise one percentage point in 2002.[6] Also, the national illiteracy rate among those 15 and older dropped by 4 percentage points from 12.5 percent in 1990 to an estimated 8.8 percent in 2002.

On another front, the Millennium Declaration embodies the goal of overcoming the gender issues that present roadblocks in the path to enhanced social development. Women's inclusion and incorporation into educational systems, labor and employment markets and policy-making arenas constitute top priority tasks to be performed by every level of government.

Female educational participation in Mexico has enjoyed significant advancements in recent decades. To date, the percentage of girls attending primary and secondary schools comprises nearly 49 percent of the total number of enrolled students, a figure slightly lower than that of boys. In 2001, for every boy enrolled in primary education, there were .95 girls. At the secondary level, the ratio was .97 girls per boy and for higher education the ratio was of .98 girls per boy.[7] As set forth in Table 1, the education gap has been reduced at all levels, showing particularly strong gains in higher education, with the 2001 ratio of .98 girls per boys compared to the 1990 figure of .74.

In addition, the MDGs encompass the pursuit of improvements in health, specifically citing reduced child mortality rates as an important objective. These rates have shown significant decreases among children under 5 years; as the previous table shows this rate dropped from 44.7 in 1990 to 25.2 out of every 1,000 live newborns in 2000. The infant mortality rate has also shown an impressive decline. In 1990 27.4 children under one died for every 1,000 born alive; by the year 2001, the percentage went as low as 16.6 percent and it is estimated to reach 16 by the close of 2002. This is mainly due to more widespread inoculation as well as other health policies.[8] In terms of conducting vaccination campaigns, Mexico has evidenced strong performance. The campaigns' coverage reported a rise from 81.1 percent in 1990 to 95 percent in 2001[9] among children of less than one year of age, and considering the whole vaccination series. Specifically regarding measles vaccines for children under one, Mexico also portrays a steady increase in coverage. By 1990, only 75.3 percent of children under one were vaccinated. For the current year, vaccination campaigns have reached 95.3 percent of these children.

[5] Ministry of Public Education. (SEP) Document elaborated for the State of the Nation Report 2002.
[6] *Ibidem.*
[7] INEGI, Mujeres y Hombres en México (Women and Men in Mexico). Edition 2001.
[8] Programa Nacional de Acción en favor de la Infancia (National Program to Benefit Infants). 1990-2000 Evaluation.
[9] *Ibidem.*

Maternal health has also shown improvements, most of them taking the form of significant reductions in the maternal mortality rate. This rate was of 6.2 deaths per every 10,000 in 1990, dropping to 5.8 in 2001, and is estimated to drop to 5.7 by the end of 2002.[10]

In other health areas advancement has been remarkable, such as in the reproductive health field. By the end of 2002, it was estimated that active users of modern contraceptive methods would amount to 9,998,000. This figure represents an astounding increase of more than 2 million users in comparison to the numbers for 1995, and almost four million more than in 1990, according to statistics of the Health Ministry. The current use of contraceptives ranks Mexico in fourth place in Latin America and the Caribbean, surpassed only by Brazil, Costa Rica and Colombia.[11]

Morbidity caused by *malaria vivax* has also dropped in a significant way, from 51.9 deaths out of every 100,000 inhabitants in 1990 to 4.9 in 2001, and it was estimated that by the end of 2002 this number would fall to 3.5.[12] Other diseases such as tuberculosis have also recorded significant reductions. While in 1980 there were 31,247 cases, by the year 2000 only 15,583 cases were reported.[13]

Ensuring environmental sustainability is also one of the Millennium Objectives. Sustainable development guarantees the satisfaction of the present populations needs without compromising future generations' access to resources, thereby implying the design and implementation of sound environmental policies, among others. This is a somewhat difficult task, involving the efforts and coordination of a wide array of social, economical and political actors.

Sustainability also implies having access to a broad base of services and infrastructure including land, potable water and sanitary services. In 1990, the proportion of the population having access to potable water was 77.7 percent. Since then, this number has been rising steadily to reach 88.5 percent by the year 2000, and in 2002 it was estimated to hit 89.3 percent, representing around 88.7 million Mexicans.[14] The figures appear remarkably high, however, progress does not seem as outstanding when the striking difference between the access within rural and urban areas is taken into account. To date, it is estimated that 95.8 percent of the population living in urban areas has access to drinkable water compared to only 70.2 percent in rural areas.

Constant improvements are also being made regarding sanitary services, but again, with sharp contrasts between urban and rural areas. The proportion of the population having access to sanitary services amounted to 61.3 percent in the year 1990. The percentage of the population in urban areas that had sewage service was 77.8 percent, while the percentage for rural areas was 19.8 percent. For 2000, the overall figure rose to 76.5 percent, and it was estimated to reach 77.1 percent by 2002. Even though several efforts have been made to

[10] *Ibidem.*
[11] *Ibidem.*
[12] *Ibidem.*
[13] World Health Organization, 2002 Report.
[14] National Water Commission (CONAGUA). Document elaborated for the State of the Nation Report 2002.

bring services to isolated rural communities, the contrast between these and urban areas is still astonishing. An estimated 90.2 percent of urban dwellers will have access to these services by 2002, compared to only 38.5 percent of their rural counterparts.

With regard to information technology, the number of telephone lines rose considerably in the last decade. In 1990, there were 63.9 lines for every 1,000 people, while in 2000 this number reached 123.8, an increase of more than 93 percent. With respect to computers, in 1996 only 3.1 percent of the total households owned one, while in 2000 11.9 percent did.[15] Although this data portray a significant increase, Mexico is still far below other similarly middle-income level countries.

To conclude, poverty and inequality problems must be addressed in a more efficient and expeditious manner. One of the most challenging tasks facing the Mexican government is poverty and hunger eradication. Relentless economic crises hit Mexico in the past decade, causing significant setbacks in the gains attained earlier. Rather than allowing attention to stray from these issues, it is ever more important to remain focused on the actions that need to be taken to improve the plight of Mexico's poor.

Health and education are areas in which Mexico has shown solid progress, and according to indicators related to these issues, the country is heading in the right direction. Primary education is almost universalized and terminal efficiency, this is all children which enter primary and finish it, has risen to significant numbers through the years. On health matters we find that infant mortality rates have also shown major improvements through the last decade, not to mention more widespread vaccination coverage, placing the country on fairly good footing with respect to this issue.

As mentioned at the beginning of this section, Mexico is a country where stark contrasts and inequalities pervade, for subgroups and at the regional level. The country is advancing at different speeds regarding the different MDGs, a subject that will be explored in detail in the next section.

III. Achievement of MDGs - A Subgroup and Regional Analysis

Although international standards classify Mexico as a middle-income country, the existing poverty and inequality in the country are deeply and historically rooted aspects on the country's social life. As in many other countries, wealth in Mexico is unequally distributed among the different population groups and its poverty levels have remained high in recent years, causing concern at all levels of government.

These disparities are present across ethnic, social or regional groups. The most notable difference appears between the northern and southern regions, the latter being indigenous, rural and mostly agricultural, while the former is primarily urban and highly industrialized. This North-South regional trend has become more evident since the last decade, when Mexico underwent significant trade liberalization with the signature of the NAFTA

[15] INEGI, National Income and Expenditure Survey (various years).

agreement. Therefore, despite the country's growth, the Mexican economy is increasingly dual in nature, with an even more acute North-South divide.

Table 2. Per Capita Income Share by Income Deciles

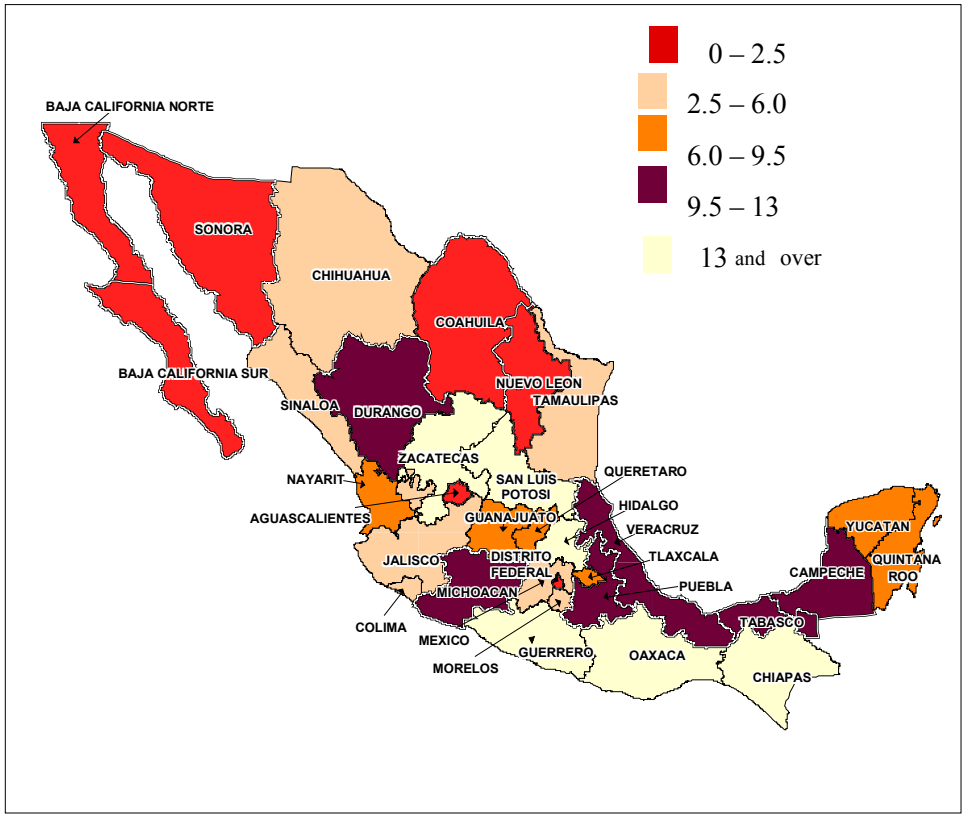
	1992	1994	1996	1998	2000
1	0.0130	0.0131	0.0138	0.0118	0.0123
2	0.0232	0.0230	0.0249	0.0224	0.0231
3	0.0317	0.0318	0.0338	0.0325	0.0323
4	0.0408	0.0410	0.0432	0.0429	0.0419
5	0.0511	0.0513	0.0542	0.0540	0.0531
6	0.0635	0.0644	0.0672	0.0677	0.0665
7	0.0803	0.0814	0.0838	0.0848	0.0834
8	0.1073	0.1070	0.1095	0.1109	0.1079
9	0.1591	0.1557	0.1576	0.1597	0.1554
10	0.4300	0.4313	0.4120	0.4134	0.4241

Source: Organization for Economic Cooperation and Development. "Territorial Review on Mexico, 2002" Territorial Development Service, OECD Publications, 2002. Paris.

Patterns of income distribution up to 2000 are equally worrisome. The previous table portrays the degree of inequality by showing the share of total income each population decile holds. Inequality is far from diminishing, rather the distribution of income shows that the poorest decile's position deteriorated relative to all the remaining deciles. Until 2000, the poorest decile held 1.23 percent of the GDP while the wealthiest held 42.41 percent of it. This situation is alarming as it portrays the skew in the distribution, completely biased towards the 10^{th} decile. It is also clear that the country's income share has not undergone any significant redistribution process. Information gathered from 1992 and 2000 do not differ considerably, as the recurrent crises of that decade did not allow for many changes.

There are several ways to measure poverty within countries, and one can choose between different indicators of well-being. One method is to consider the monetary dimension of poverty. That is, looking at the phenomenon in economic terms, either using income or consumption as indicators of what people can acquire. On the other hand, the non-monetary dimensions of poverty include indicators such as health, nutrition or literacy. Notwithstanding how it is measured, poverty embraces an entire set of political, economic and social factors. Living in poverty represents a formidable restraint on the individual's abilities to acquire income-enabling assets. It hampers the individual's opportunity to attain decent living standards, and acquire health and education, among others. Undoubtedly this condition presents the foremost obstacle to enhanced individual attainment.

Figure 1. Proportion of the Population Living under 1 Dollar PPP



Source: Authors´ own calculations from 2000 Census data

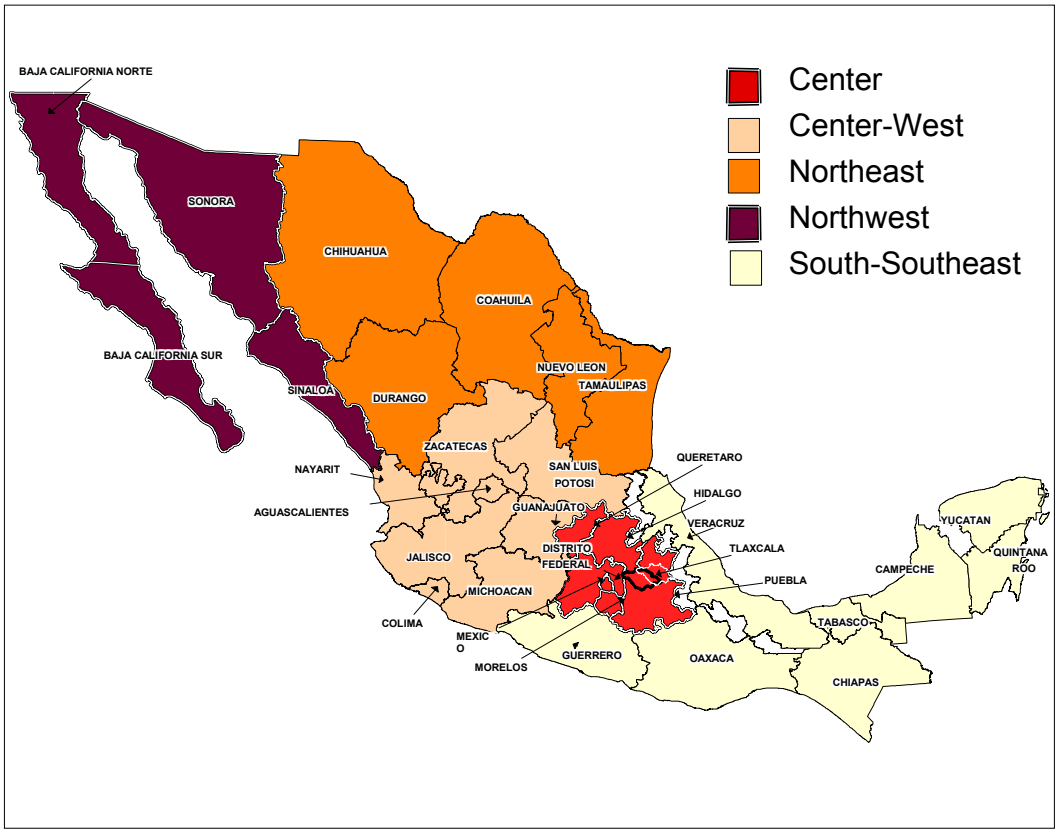
Regarding monetary terms, the states portraying the highest proportion of poor people are mostly gathered in the southern-central region of the country (Figure 1). As mentioned earlier, southern Mexico features very high poverty and marginality levels given its lack of infrastructure and lagged industrialization, among other reasons. These states include Chiapas in first place, with more than 30 percent of its population living on less than one dollar, followed by Oaxaca with 28 percent, Guerrero with 23 percent, Zacatecas with 16.72 percent, San Luis Potosi with 13.68 percent, and, finally, the state of Hidalgo with 13.57 percent, diminishing but still very high numbers compared to the national average.

On the opposite side we find the northern states, highly industrialized and with better living conditions, where Baja California takes first place with less than 0.50 percent of its population living below this range. Mexico City is next with only 0.6 percent living under this sum, followed by the northern states of Nuevo Leon, Baja California Sur, Sonora and Coahuila.

Given the different regional features within Mexico, and in order to allow for a better regional diagnosis and planning, the Mexican government classifies the country into five regions, namely the meso-regions. These are the Center, incorporating states such as

Mexico City, Queretaro and Hidalgo; the Center-West consisting of Jalisco, Michoacan and Colima among others; the Northeast with Tamaulipas, Nuevo Leon and Coahuila; the Northwest with Baja California, Sonora and Sinaloa; and the South-Southeast with states such as Yucatan, Oaxaca, and Chiapas. The following figure (Figure 2) illustrates these regions more clearly.

Figure 2. Meso-Regions



Source: National Institute of Statistics, Geography and Informatics.

The share of the population living in poverty, according to official figures[16] has remained high throughout the last decade: the proportion of poor stood at around 53 percent from 1992 to 2000 but the absolute number of poverty has increased, given the national population growth. The 1990 Census registered 81 million Mexicans, while ten years later, this number reached 97.3 million, a population increase of more than 17 percent. The uneven incidence of poverty across regions has also persisted. In 1992, the South-Southeast region recorded the highest percentage of households living in poverty (70.4 percent in poverty and 38.46 percent in extreme poverty), closely followed by the Center-West (55.23 and 22.57 correspondingly), while in the Center, poverty affected almost half of the population (49.9 percent in poverty and 20.08 percent in extreme poverty). In stark contrast, the northern regions had only around one third of their total populations living in poverty (in the Northeast 39.8 percent poor with 9 percent extremely poor and in the

[16] This corresponds to a poverty line of approximately 2USD a day.

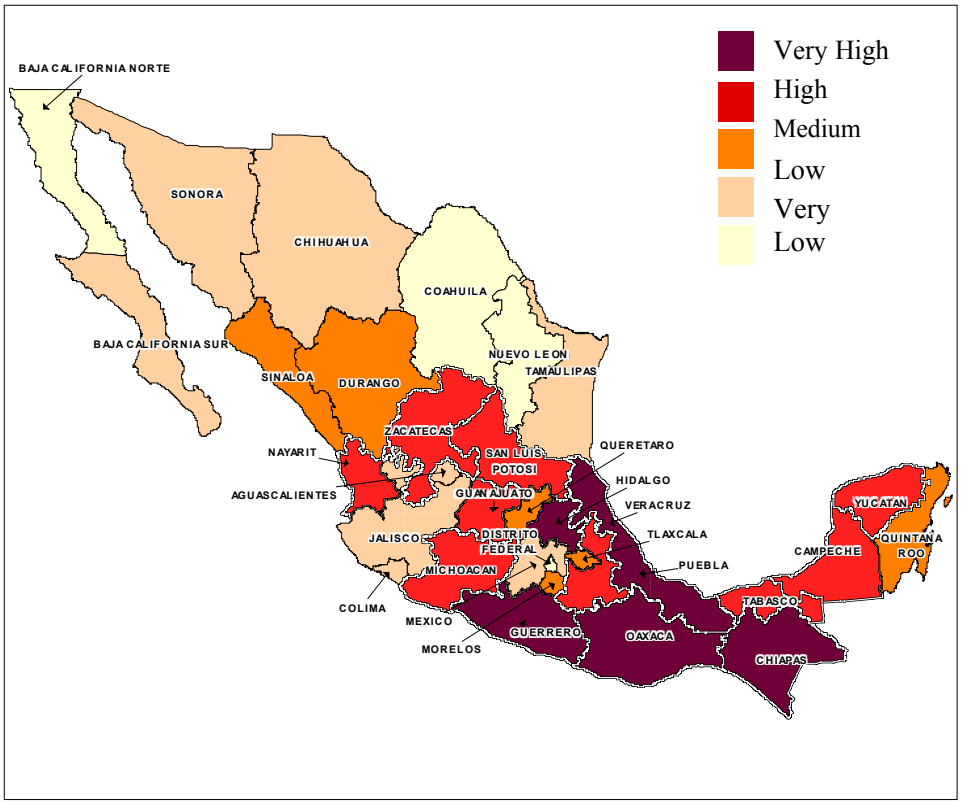
Northwest 32 percent and 11.6).[17] By the end of the 1990s the percentage of poor households in the South-Southeast and Center regions remained unaltered; poverty had increased steadily in the Center-West (from 55.23 to 59.20 percent and extreme poverty from 22.5 to 24 percent) and Northwest regions (from 32 to 34 percent while extreme poverty decreased from 11 to 9 percent) and fell only in the Northeast (from 39.8 to 33.6 percent).

Regarding non-monetary poverty measurements, we employ the marginalization index created by the National Population Council (hereafter *CONAPO*). In simple terms marginalization can be defined as the existence of a sector or sectors of the population with no access to basic goods and services. It is certainly a cause for exclusion from the process of development and its eradication requires comprehensive, systematic and permanent strategies oriented towards fighting its structural causes and effects.

CONAPO's marginalization index portrays the intensity of the marginalization phenomenon by considering the following variables: percentage of illiterate individuals over 15 years of age; percentage of individuals with no drainage service, drinking water and electricity; percentage of private houses that are overcrowded; percentage of individuals living in private houses with dirt floors; and the percentage of the working population earning less than two minimum wages.

[17] State of the Nation Report, 2001, Presidency of the Republic, Mexico.

Figure 3. Marginality Degrees by States



Source: CONAPO 2000

As shown in Figure 3, the situation regarding marginalization resembles that of income poverty. Once more the southern region reflects the highest indices while the northern states show the opposite. It is clear that states such as Oaxaca, Guerrero, Chiapas and Veracruz portray the highest marginality indices where infrastructure services such as sewage, water, garbage collection, highways and electricity are inadequate or scarce and the populations' schooling attainments are low. On the other side, we again find those industrialized countries such as Coahuila, Nuevo Leon or Baja California with the lowest indices of marginality and hence of poverty. These regional inequalities suggest that advancements done at a national level towards the attainment of the Millennium Development Goals are not necessarily mirrored by even progress at the regional level.

With the objective of undertaking a more detailed analysis regarding the status of the Mexican track record with respect to the Millennium Development Goals, the remainder of this section takes a closer look at selected key development indicators taken from the Declaration to elaborate an analysis for certain subgroups. A thorough assessment of the main issues facing the Mexican nation from a regional and within-groups perspective will reveal which segments of Mexican society are struggling to meet the Millennium Development Goals.

To illustrate the proposed analysis, the following matrix delineates the subgroups:

Table 3 Matrix Analysis

Indicators/Topics	Subgroups: Poverty	Zone	Ethnic Condition	Gender	Education
Living Standards	Percentage of the population living in poverty Poverty Gap				
Nutrition	Number of underweight children Malnutrition				
Education/Gender	Net enrollment rate of primary education Literacy rate Ratio of girls to boys attending school				
Health	Mortality rate Diseases				
Infrastructure	Proportion of the population with access to basic services Number of telephone lines				

As shown, the chosen subgroups appear in the top line while the Millennium Indicators are grouped into five distinct categories: living standards, nutrition, education and gender, health and infrastructure, located on the left side. Advancements or setbacks according to each of the indicators proposed at a regional level will be measured for each subgroup, subject to data availability.

III.1 Poverty Subgroup

Objective one of the Millennium Declaration is extreme poverty and hunger eradication. There is no doubt that this is, by all means, the most important as well as the most difficult goal pursued by Mexico. Even though the MDGs consider the one-dollar PPP poverty line in their analysis, from this section and forward, the poverty group will be defined according to a different criteria recommended by the Ministry of Social Development of Mexico (SEDESOL). Mexico does not typically use the international one-dollar-a-day poverty line because it does not portray an accurate picture of the Mexican economic landscape. If that poverty line were used throughout this analysis, we would obtain that only a small percentage of the Mexican population are considered poor (only those at the lowest end of extreme poverty), yet it is well-known that the minimum monetary income needed to sustain a decent standard of living in Mexico is well above the 1 USD PPP poverty line.

Official poverty measurements in Mexico classify this phenomenon into three types, by choosing different poverty lines for rural and urban areas. *Food poverty* refers to those households whose income is not enough to cover food necessities, namely those who earn between $1.54 and $2 USD a day, for rural and urban areas respectively. Households whose income is not sufficient to cover food, health and education needs are grouped in the second line, namely *skills poverty*, which is equivalent to earning an income between $1.89 and $2.47 USD a day. Those households with an inadequate income for covering health, food, education, clothing, housing and public transportation expenses – that is, those with a

daily income between $2.81 and $4.18 USD, are considered to be families in *patrimonial poverty* (the third poverty line).

In order to expand on this analysis, it is useful to understand the parameters under which a person is determined to be poor. The definition used to refer to a poor person is applied to the third poverty line defined by SEDESOL -that is *patrimonial poverty*. Using this definition for poverty we find that there are approximately 50 million Mexicans in poverty.

Table 4 Proportion of poor population, urban and rural areas 1992-2000 (percentages)

Poverty Definition	1992	1994	1996	1998	2000
Total					
Food Poverty	22.5	21.1	37.1	33.9	24.2
Skills Poverty	28.0	29.4	45.3	40.7	31.9
Patrimonial Poverty	52.6	55.6	69.6	63.9	53.7
Urban Areas					
Food Poverty	13.5	9.7	26.5	21.3	12.6
Skills Poverty	18.4	17.1	35.0	29.0	20.2
Patrimonial Poverty	44.0	43.6	61.9	55.8	43.8
Rural Areas					
Food Poverty	35.6	36.8	52.4	52.1	42.4
Skills Poverty	41.8	46.2	60.2	57.6	50.0
Patrimonial Poverty	65.0	72.0	80.8	74.9	69.3

Source: F. Cortés et. al.. (2002) and author´s own calculations.

As shown in Table 4, poverty trend data from 1992 to 1994 present a conflicting picture. At the national level, poverty tended to increase, while extreme poverty (*food poverty*) reported decreasing numbers. In the case of urban areas, poverty decreased in all its levels – the most significant decrease was for *food poverty* – whereas for rural areas it reported an increase at all levels. The worst period was during the Peso Crisis from 1994 to 1996, where poverty at national and subgroup levels increased dramatically. From 1996 and forward it is clear that for both rural and urban areas poverty has been following a steadily decreasing pattern. However, given the dramatic increase this indicator portrayed during the 1995 Peso Crisis, poverty levels have not yet returned to their 1992 levels.

Regarding educational attainment, it is no coincidence that poor individuals are those with the lowest school achievement. Of the population ages 20 and above, over 6 million have no schooling of which more than 4.5 million of them live in poverty. The situation improves, though not significantly, when dealing with primary school completion rates and poverty. For those who only attained primary schooling, poverty is also a common feature, with 59 percent living in poverty conditions. The poverty trend continues to diminish in tandem with schooling advancements. For those having secondary schooling we find that 38.2 percent live in poverty conditions, whereas 61.8 percent, with the same schooling, are not poor.

As noted earlier, poor individuals also suffer from inadequate access to infrastructure and services. Regarding potable water, 97.25 percent of the non-poor have access to this

service, while only 83.33 percent of the poor do. With respect to sewage services the differential is greater, with 79.19 percent of the non-poor having access to this service and only 46.36 percent of the poor population, a gap of 33.83 percent. Regarding telephone lines the differential is by far greater: for every 1,000 non-poor people there are 160 fixed telephone lines, in stark contrast with the poor, of whom only 35 have a telephone line, a difference of more than four times between one subgroup and the other.

III.2 Geographical Subgroup

The advancement of rural areas in Mexico has fallen considerably behind that of urban areas. While poverty is slowly becoming an urban phenomenon, perhaps to a great extent because of rural-urban migration, it is fairly well-known that poverty and extreme poverty in Mexico are to date, mostly rural. Despite the recent re-distributional and decentralizing trend followed by Mexico, patterns of territorial distribution in the country remain polarized. There is both a high concentration of population in select large cities and a great dispersion of people in thousands of small localities, many of them difficult to reach by regular transportation means.

According to the National Institute of Statistics, Geography and Informatics (INEGI), one quarter of the Mexican population lives in 196,000 localities, each with less than 2,500 inhabitants. Many of them are usually associated with poverty conditions and marginalization, and lag considerably behind urban areas. In the 1990s the average urban income was three times larger than the rural one. Substantial lack of access to a wide range of basic public services constitutes one of the highest hurdles in the advancement of these communities. For the purpose of analyzing the geographical subgroup, that is urban versus rural areas, this assessment considers rural areas to be those with fewer than 2,500 inhabitants and urban areas those with more than 2,500.

As shown in Table 4, by the year 2000 42.4 percent of the population lived under *food poverty* in rural areas versus 12.6 percent for urban areas, a sharp contrast of 29.8 percent. The same applies for *skills* and *patrimonial poverty* for which the differentials amount to 29.8 and 25.5, respectively. This difference can also be observed in Figures 1 and 3 where regardless of whether poverty is measured in monetary or non-monetary terms, the southern states with higher rural populations such as Oaxaca, Guerrero and Chiapas are poorer than the more industrialized and urban states such as Mexico City, Nuevo Leon, Coahuila, Sonora or Baja California.

In addition, child malnutrition pervades more in rural than in urban areas. According to the National Nutritional Survey 1999, the percentage of children in rural areas five years and younger presenting low weight was 12.3 percent, in contrast with the 5.7 percent for children living in urban areas.

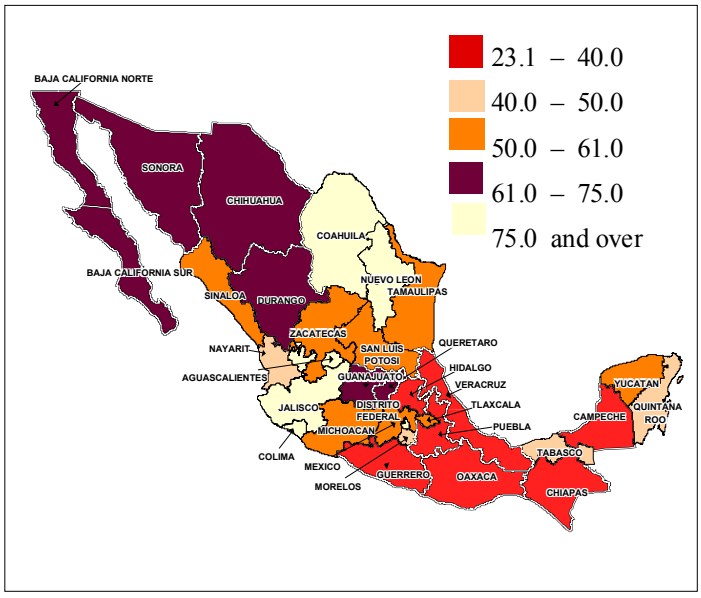
In terms of educational issues, the differences between urban and rural are not as remarkable as they were just a few years ago. For the population 20 years and above, 68.1 percent of those that have primary schooling live in urban areas as opposed to 31.9 percent

in rural areas. Furthermore, 89.9 percent of those 20 years old and above who have attained secondary level schooling live in urban areas while only 10.1 live in rural areas. In the case of higher education, 97.1 live in urban areas compared to 2.9 percent in rural areas.

Poverty is markedly higher for those living in rural areas with low educational levels. In urban areas we find that 66.5 percent people without education are poor, whereas in rural areas this percentage rises to 82.5 percent. For urban areas we find that 52.1 percent of the population with primary schooling is poor, a severe contrast with 73.6 percent for rural areas. Furthermore, individuals living in urban areas and having achieved secondary schooling are less likely to be poor than those in rural areas. Only 35.9 of the urban population with secondary schooling are poor, while for the rural areas we find that the situation is harsher, with 58.5 percent of the individuals having studied secondary school still finding themselves in poverty.

The most significant differentials appear when examining access to public infrastructure and services. There is a 20 percent gap between rural and urban areas with access to potable water. The service coverage percentage for the urban areas amounts to 95.38 percent while in rural areas it only reaches 73.65 percent. Regarding sanitation services, there is a 70 percent difference between one area and the other. While only 9.02 percent of the rural population has access to this service, in urban areas 79.57 percent of the population is covered by this service. The access to telephone service is also scarce in rural areas. Out of 1,000 people living in rural areas, only 19 have a telephone line, while in urban areas the ratio is 118 lines per 1,000 inhabitants. This is mainly due to the high dispersion of the population, which makes the provision of public infraestrcuture more difficult.

Figure 4. Water Service Availability per Entity

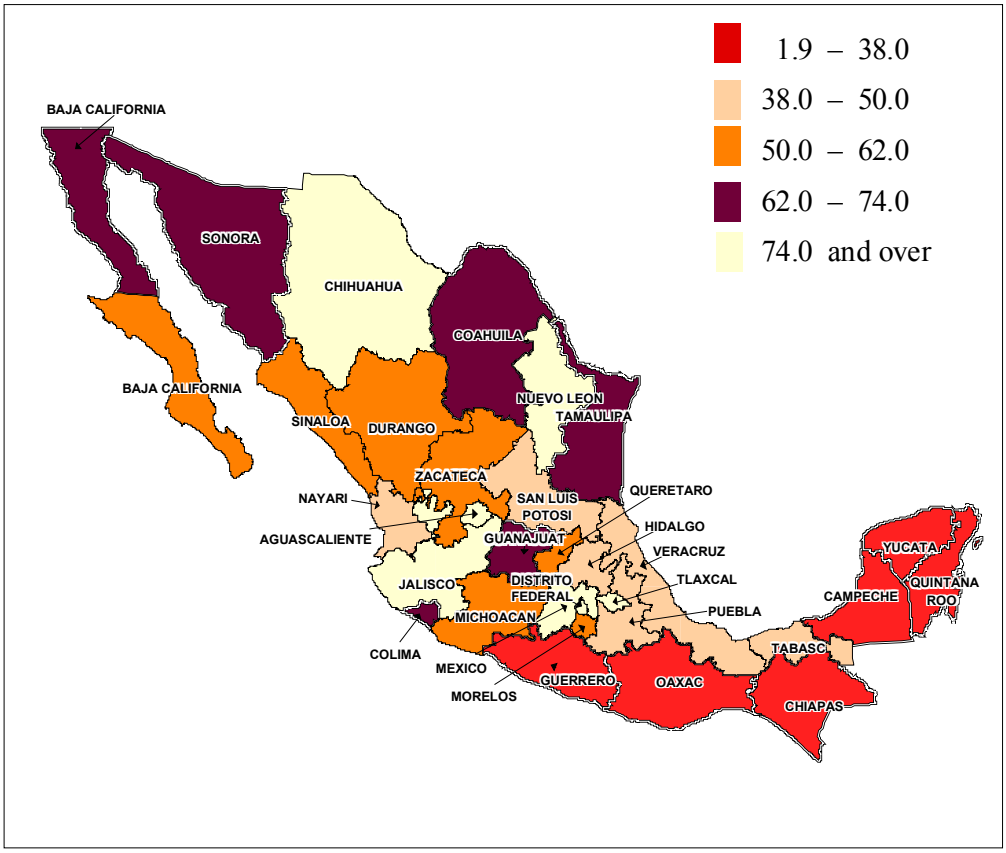


Source: Authors' own calculations based on the 2000 Population Census

The regional polarization is clearly illustrated in Figure 4. It is a fact that the northern states are those endowed with better infrastructure services, in bold contrast with those states in

the south. The states with the best water service are Aguascalientes with 90.5 percent coverage, followed by Nuevo Leon, Jalisco, Colima, Mexico City and Coahuila, which range from 83 to 75 percent coverage. At the other end, those states with the worst potable water availability are Oaxaca, Guerrero, Chiapas, Veracruz, Hidalgo and Campeche, all of them located either in the center or south of the country and accounting for coverage ranging from 23 (the lowest) to 37 percent.

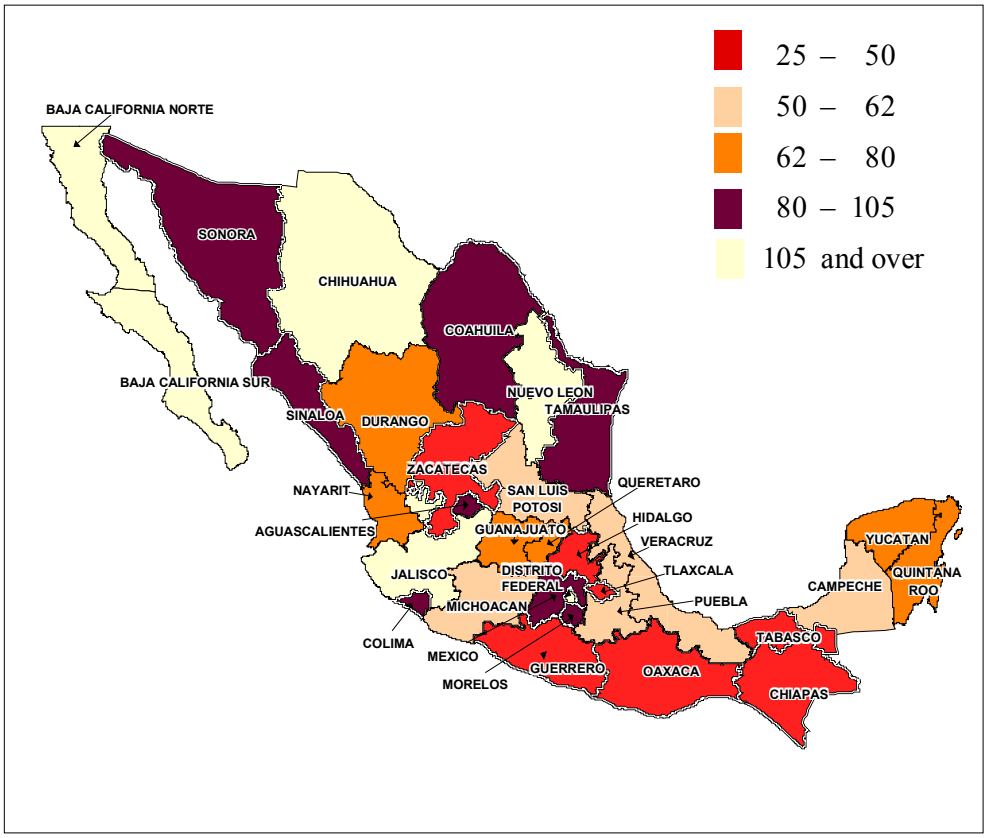
Figure 5. Drainage Service Availability



Source: Authors' own calculations based on the 2000 Population Census

The situation regarding sewage availability is similar. Mexico City is sustains the best coverage, reaching 92.3, followed by Aguascalientes, Nuevo Leon, Jalisco, Tlaxcala and Chihuahua with 89.6, 84.8, 81.4, 74.4 and 74.2 percent respectively. At the other end of the spectrum, the states lagging coverage are once again located in the southern region. These are Yucatan, Campeche, Oaxaca, Quintana Roo, Guerrero and Chiapas with 19, 23, 24, 26.4, 29.9 and 36.5 percent, respectively.

Figure 6. Telephone Lines per Every 1,000 Inhabitants



Source: Authors' own calculations based on the 2000 Population Census

Regarding access to technological services, we observe that in the Northern states the telephone density ranges between 80 lines and 105 or above per every 1,000 inhabitants, while for the southern states, the range goes from 25 to 50 at the highest. The better endowed states (over 105 lines) are Mexico City with 170 lines, followed by Baja California (both North and South), Nuevo Leon, Jalisco and Chihuahua. At the bottom we find Chiapas with only 25 lines per 1,000 inhabitants, Oaxaca with 28, Tabasco with 40, and Guerrero and Zacatecas, both with 43.

III.3 Ethnic Subgroup

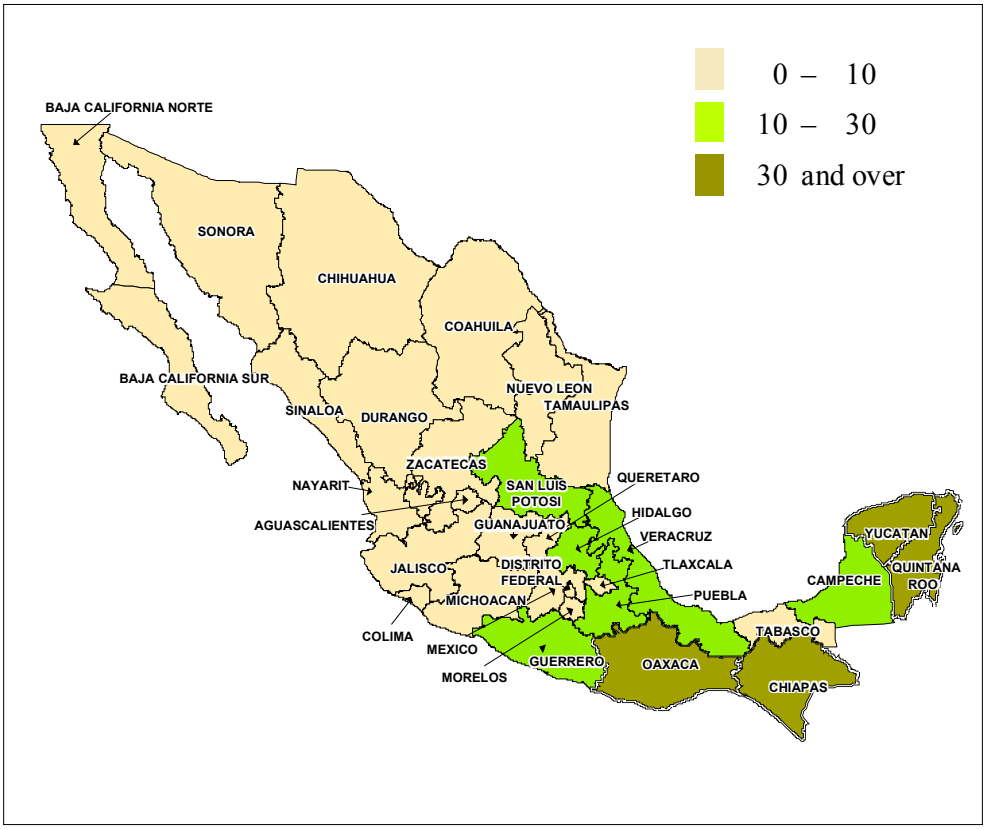
Indigenous peoples represent between 8.5 and 12[18] percent of the Mexican population (depending on whether the calculating institution is the National Indigenous Institute or the National Institute for Statistics, Geography and Informatics). Estimates from the National Indigenous Institute sustain that there are more than 12 million indigenous people and that about 33 percent of them live in extreme poverty conditions.

Poverty in Mexico is concentrated, to a great extent, among those living in rural communities and considering themselves as belonging to an indigenous group. The

[18] Organization for Economic Cooperation and Development. Mexico Territorial Review. Territorial Development Service. OECD Publications Department, 2001, Paris, France.

percentage of persons living below one US dollar per day is considerably higher for indigenous groups: 34.76 percent of the people living under 1 USD are indigenous, while the rest, 6.37 percent, are non-indigenous, representing a differential of about 1 to 6. Also, according to the 2000 Population Census, an overwhelming majority of the indigenous population are women, in a ratio of two women per men.

Figure 7. Percentage of the Population over Five Years of Age Residing in Household in which the Head of the Household Speaks an Indigenous Language



Source: Authors' own calculations based on the 2000 Population Census

As evident, the majority of the Mexican indigenous groups are gathered in the Southern-Central region of Mexico. 60 percent of the indigenous live in rural regions, while only 22 percent of the non-indigenous do. Indigenous people primarily populate areas with high or very high marginalization levels. The entity with the highest percentage of indigenous population living in rural areas is Guerrero with 75 percent, followed by Chiapas with 73 percent, Veracruz with 71.6 percent, and Oaxaca with 69.6 percent. With respect to those states where most of the indigenous live in cities we find Nuevo Leon, Coahuila and Aguascalientes.

The state with the highest percentage of indigenous people relative to the size of its population is Yucatan where out of 1,650,949 inhabitants more than 559,357 are indigenous, that is, almost 34 percent of its population speaks an indigenous language. The second state is Oaxaca with 33 percent, followed by Chiapas, Quintana Roo, Puebla and

Veracruz with 23.5, 19.7, 11.6 and 9.03 percent, respectively. At the other end, among those states with the lowest percentage of indigenous population we find Zacatecas, Coahuila, Aguascalientes and Colima, all of them with percentages below 0.5 percent.

Just as there is a strong correlation between poverty and indigenous status, the same holds true for education. People belonging to indigenous groups usually have fewer educational opportunities than their non-indigenous counterparts. Literacy rates are also worrying, as between these two groups there is a differential of more than 10 percent. 97.31 percent of the non-indigenous population is literate, compared to only 85.93 percent of those in the indigenous category.

The indigenous groups' educational attainment is clearly low compared to their non-indigenous counterparts. For instance, in Yucatan, out of 428,090 indigenous individuals 20 years of age and above more than 19 percent have no schooling, 57.07 percent have only primary schooling, 12 percent have secondary and only 7 percent have higher education. On the other hand, in the case of non-indigenous, only 3.7 percent have no schooling, 39.8 percent have primary schooling, 49 percent have secondary schooling and 16.21 percent have higher education. The situation is similar for other states such as Chiapas or Oaxaca. This allows us to infer that viable educational opportunities for the indigenous are clearly lacking after primary school.

The situation of the indigenous groups regarding access to services does not differ markedly from that of poor or rural people. While among the non-indigenous, 60.3 percent have access to potable water, 35.3 percent to sewage and 73.4 percent to garbage collection, only 16.8 percent, 14.0 percent and 19.5 percent of indigenous people can access these services, respectively. Also, as seen on the previous maps, it is in those states having the greatest indigenous population such as Chiapas, Oaxaca or Quintana Roo that the worst infrastructure exists. The picture remains largely the same regarding telephone lines. Only 30 out of 1,000 indigenous persons have a telephone line while for the non-indigenous the ratio is 101 out of 1,000.

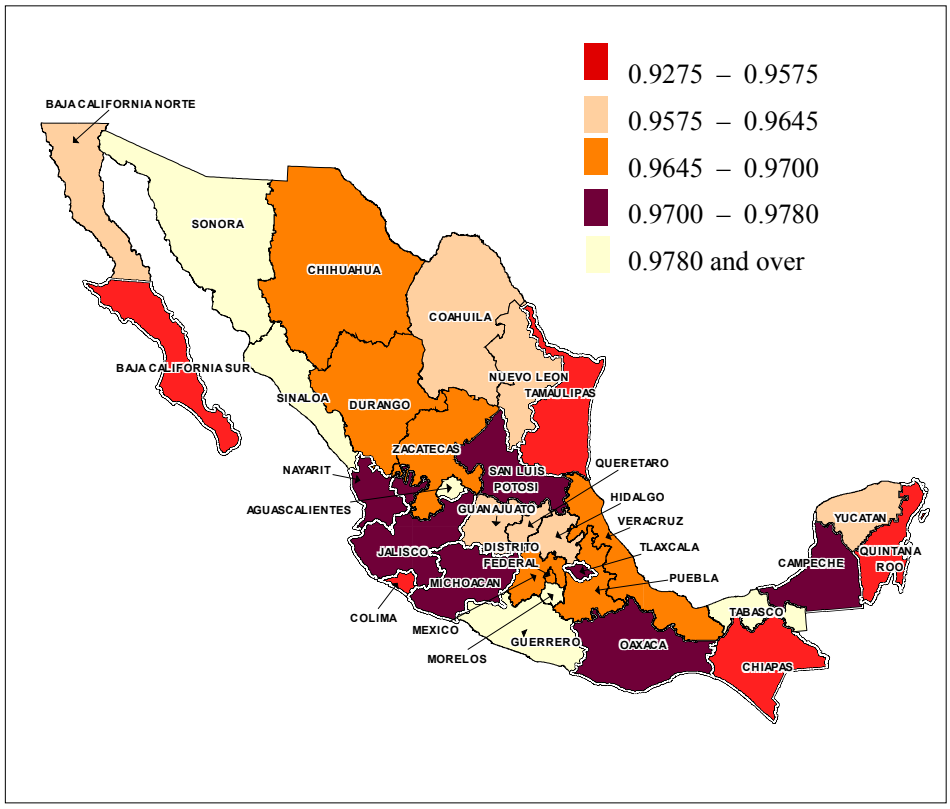
III.4 Gender Subgroup

As observed in Section II, the gap between men and women has been presenting a steadily diminishing trend since the beginning of the last decade. However there are still many issues of concern to policymakers. Poverty among women is one of those matters. Of the 98 million people registered by the 2000 National Household Income and Expenditures Survey, there are almost 53 million poor individuals, out of whom 27 million are women, (51.8 percent) and 25 million are men (48.2 percent).

Regarding gender and health issues we find that Mexico is enjoying a solid performance. In terms of health, the prospects seem promising since mortality rates for boys and girls under 5 years of age have been reduced significantly throughout recent years. Still, more boys than girls die during their first five years. In 1990, 2.26 girls and 2.53 boys out of 1,000 born alive died before reaching the age of 5; for 1999 this trend was reduced to 0.8 and 0.96 respectively.

On the subject of education we find that out of the total population without schooling we obtain that 58.9 percent are women while 41.1 percent are men, a 17.8 percent differential. For the total population aged 20 and above, for any level of primary schooling, we find there are more women than men, namely 55.4 and 44.6 percent correspondingly. For secondary, the figures resemble the former: 52.4 percent are women and 47.6 percent are men. For higher education we obtain the opposite, of the total enrollment in higher education only 42.1 percent are women while 57.9 percent are men (15 percent differential).

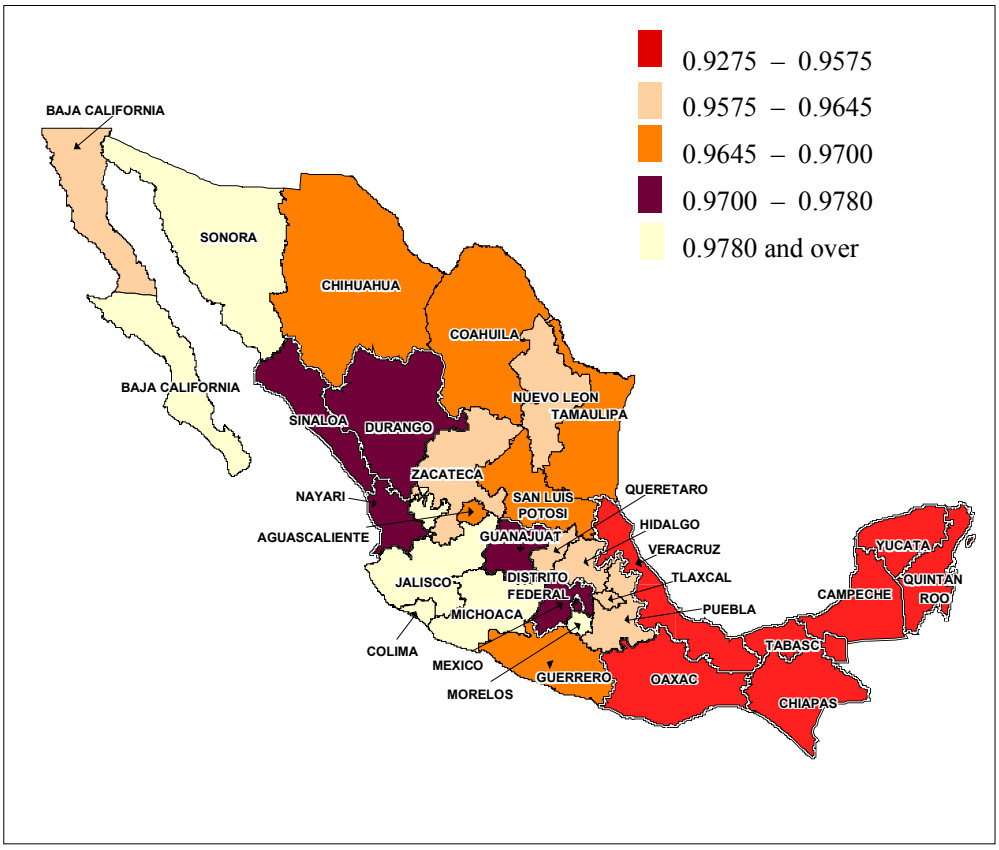
Figure 8. Ratio of Girls to Boys Attending Primary School by Entity



Source: Authors' own calculations based on the 2000 Population Census

Figure 8 portrays the balance between girls and boys attending primary school. The states with the lowest numbers of girls per boy attending primary are Baja California Sur, Colima, Quintana Roo, Chiapas and Tamaulipas. At the opposite end we find the states with the greatest number of girls attending primary school: these are Tabasco, Sinaloa, Guerrero, Aguascalientes and Morelos. There is no clear regional trend for identifying possible reasons why individuals of one gender reach this schooling level more than the others.

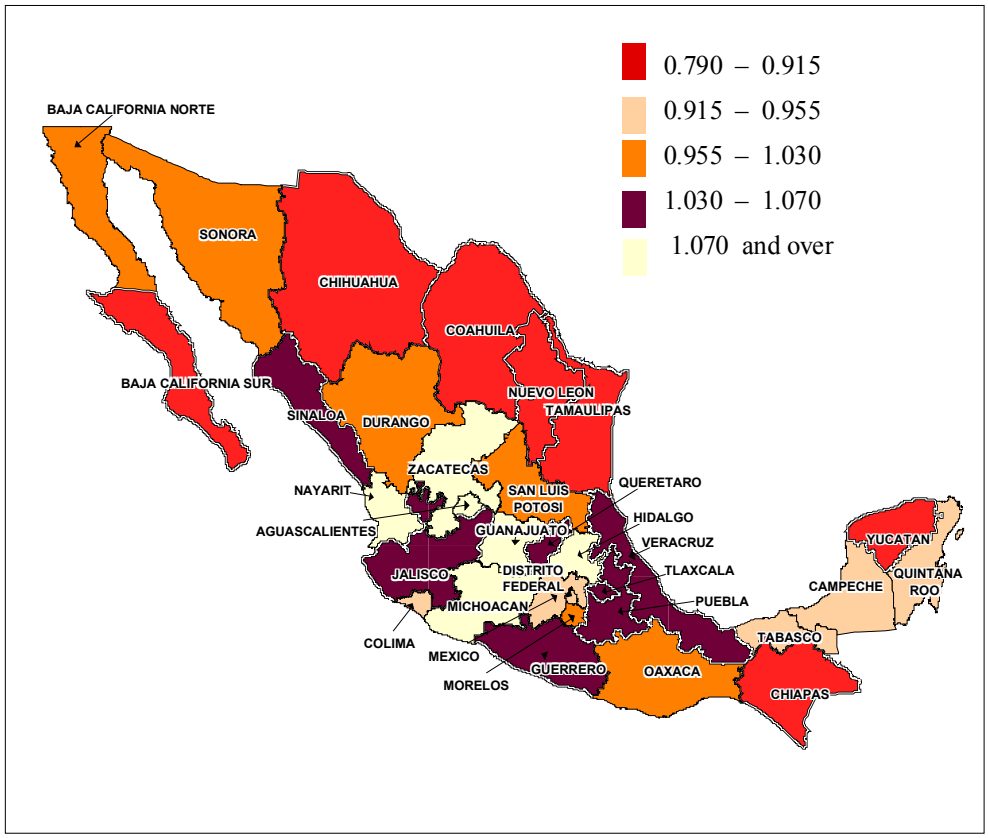
Figure 9. Ratio of Girls to Boys Attending Secondary and Upper Secondary School by Entity



Source: Authors' own calculations based on the 2000 Population Census

The situation changes somewhat for secondary school and upper secondary equivalence (Figure 9), since for many states the number of girls surpasses that of boys. The states portraying the lowest number of girls per boy are Chiapas, Yucatan, Oaxaca, Tabasco and Veracruz, ranging from .83 to .95. On the opposite side we find the entities in which girls overcome boys. These are Colima, Morelos, Baja California Sur, Jalisco and Sonora. The range goes from 1.07 to 1.02 girls per boy. This allows for a clearer separation between the north and south regions.

Figure 10. Ratio of Women to Men Attending Universities by Entity



Source: Authors' own calculations based on the 2000 Population Census

Regarding university studies, the levels appear exceptionally low for a set of states (Figure 10). Once again, Chiapas holds the lead with .79 women per men pursuing university studies. Closely following Chiapas are Nuevo Leon, Coahuila, Yucatan and Baja California Sur. For the last entity (Baja California Sur) the situation is quite contradictory since it took first place regarding equivalence in secondary level – with 1.044 girls per boy – yet these differences may be attributed to the lack of universities. Those entities portraying higher numbers for women are Guanajuato, Aguascalientes, Hidalgo, Michoacan and Zacatecas, ranging from 1.198 to 1.077 girls per boy.

III.5 Education Subgroup

Unequal distribution of education is another important source of poverty and inequality. As with other assets, the distribution of education is highly polarized in Mexico. The country's distribution of education was at the beginning of the 1990s among the most unequal in Latin America, surpassed only by the levels attained by El Salvador and Brazil[19]. It is often said that educational disparities – measured as educational attainment – make a great

[19] Organization for Economic Cooperation and Development "Mexico´s Territorial Review" Territorial Development Service, OECD Publications , Paris. 2002 pp 36.

contribution to income inequality. In other words, poverty is, to a great extent, a problem directly related to educational opportunities. It is also argued that poor people are usually uneducated and data confirms this statement.

Table 5 shows the average years of schooling of the economically active population (EAP) by deciles. As illustrated, the lowest income deciles are occupied by those individuals with the lowest educational attainments; low education levels increasingly characterize the poor. On the other hand, individuals in the highest deciles of the income ladder are the ones accounting for higher educational levels. In the year 2000, the people in the highest income decile had 14.32 years of education. It is remarkable that people in the fifth decile had only 7 years of education, namely, completed primary school but had incomplete secondary studies. It is also clear that only the last two quintiles include individuals having upper secondary levels of education, which provides us with valuable insight into the population's education and income along their life cycle.

Table 5. Average Schooling Years of the EAP by deciles

	1992	1994	1996	1998	2000
1	3.12	3.20	3.60	3.70	3.88
2	3.92	3.87	4.66	4.55	4.61
3	4.73	4.59	5.36	5.22	5.63
4	5.05	5.31	5.87	6.12	6.61
5	5.91	6.03	6.52	6.58	7.04
6	6.49	6.71	7.30	7.29	8.06
7	7.71	7.65	7.88	7.86	8.58
8	8.20	8.48	9.01	8.97	9.56
9	9.77	9.84	10.37	10.50	10.58
10	12.91	13.10	13.46	13.25	14.32

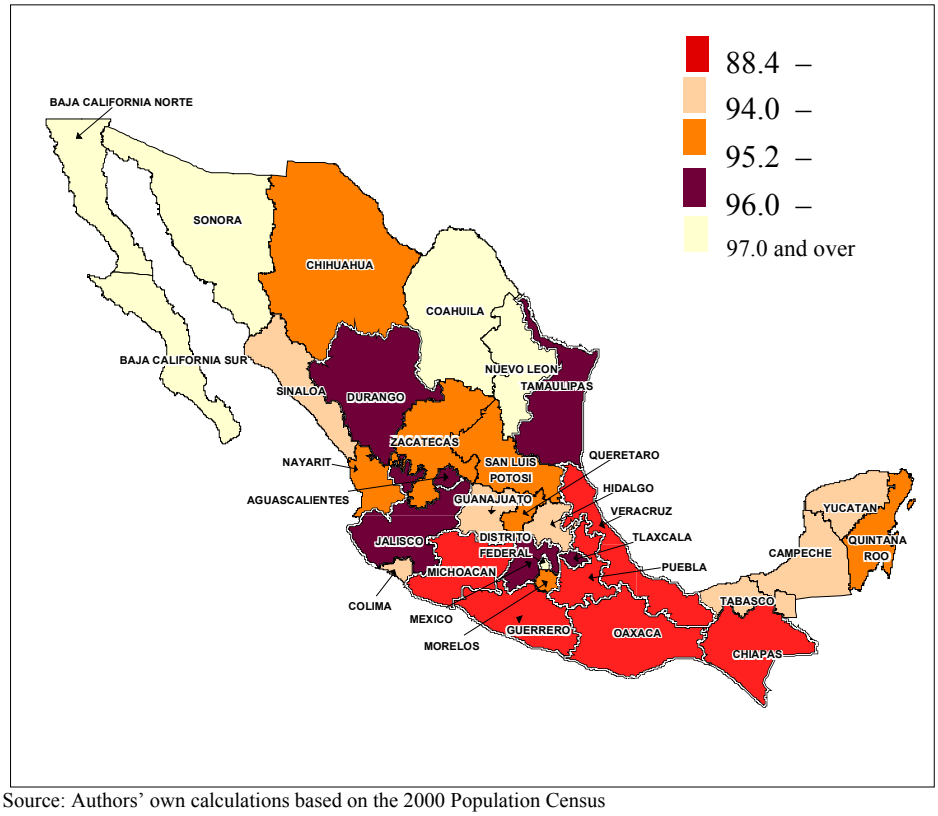
Source: Organization for Economic Cooperation and Development. "Mexico´s Territorial Review 2002" Territorial Development Service, OECD Publications, Paris, 2002.

Furthermore, according to the OECD, the range of educational attainment of the EAP between entities again illustrates that there are several Mexicos. On average, the EAP in Oaxaca, one of the poorest states, has 5.5 years of education, similar to the national average of Nicaragua, one of the lowest in Latin America. In contrast, the Federal District has 10.5 years of schooling on average, which is practically the national average of Argentina (the Latin American country with the highest level of schooling). Another noteworthy trend is that while at the national level, the average years of schooling of the lowest decile of the EAP have increased by only 0.6 years between 1992 and 2000, they have increased by almost 1.5 years in the highest income decile (table 5).

Additionally, literacy rates along Mexico also portray the strong North-South disparities. The states located in the south south-east regions portray the highest illiteracy rates while the states up north portray the lowest levels on this indicator. As observed in Figure 11, Chiapas has the largest illiterate population with 11.6 percent, while Mexico City has the smallest with 0.9 percent. Above Chiapas are Guerrero, Oaxaca, Veracruz and Puebla, with

8.3, 6.8, 6.4 and 5.4 percent, respectively. Below Mexico City are the states of Nuevo Leon, Baja California Sur, and Coahuila with 1, 1.2 and 1.3 percent.

Figure 11. Literacy Rate by Entity



Source: Authors' own calculations based on the 2000 Population Census

Regarding education attainments, this is the percentage of people 15 years of age and above that have no schooling, primary, secondary or higher schooling, it is interesting to notice that differences experienced across regions follow exactly the same trend as mentioned above. Table 6 presents the different education levels attained by each state comparing them within the state. For example in the case of Chiapas, we observe that most of its population aged 15 years and above have no schooling (22.89 percent) or incomplete primary (26.96); this is from 2,281,622 individuals 15 years of age and over, almost half or 1,137,389 have not finished primary or have not even attended school at all. These numbers are astonishing if compared with states like Nuevo Leon or the Federal District, where only 4.2 and 3.57 (respectively) of those 15 years and above have not attended school. The data drawn in figures 13 and 14 present those of table 6 for no schooling and higher education.

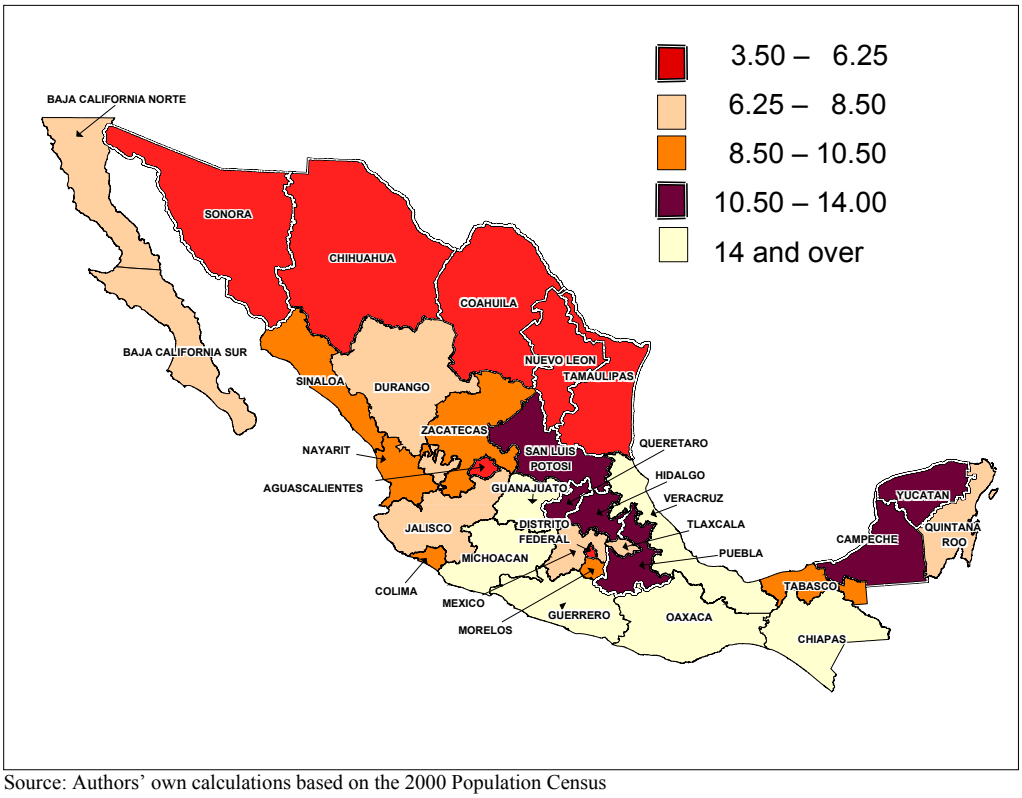
Table 6 Distribution of the Population 15 Years of Age and Above by Educational Attainment and Entity (percentages)

State	Total[1]	No Schooling	Incomplete Primary	Complete Primary	Secondary	Upper Secondary	Higher Education
Total	62,842,638	10.22	17.98	19.13	24.21	16.65	10.92
Aguascalientes	595,497	5.91	16.93	21.25	25.60	17.62	11.87
Baja California	1,523,780	6.31	13.14	17.91	30.02	20.18	11.75
Baja California Sur	284,984	6.36	14.48	17.31	26.16	23.66	11.44
Campeche	443,363	12.21	21.77	18.07	21.02	15.86	10.37
Coahuila de Zaragoza	1,526,166	4.85	13.71	20.29	27.95	18.25	13.75
Colima	343,190	8.65	18.32	18.03	25.33	17.50	11.35
Chiapas	2,281,622	22.89	26.96	17.33	15.86	10.22	5.83
Chihuahua	1,972,457	5.77	17.21	23.87	25.82	15.33	10.66
Distrito Federal	6,231,227	3.57	8.48	15.36	26.69	25.21	19.84
Durango	914,584	6.50	21.96	22.80	23.63	14.45	9.68
Guanajuato	2,907,596	14.72	20.69	23.26	22.18	11.60	6.62
Guerrero	1,840,111	21.45	20.06	17.18	18.78	13.34	8.20
Hidalgo	1,424,760	13.98	19.88	20.21	23.89	13.89	7.49
Jalisco	4,112,397	8.11	18.37	21.62	24.68	15.32	11.06
Mexico	8,286,915	7.15	13.50	19.15	29.30	19.57	10.45
Michoacan de Ocampo	2,488,588	15.87	23.95	20.02	19.86	11.95	7.44
Morelos	995,301	10.25	15.24	17.14	26.79	18.61	10.98
Nayarit	600,032	10.50	21.27	16.33	24.77	16.28	10.22
Nuevo Leon	2,651,060	4.22	12.04	16.90	28.59	20.92	15.98
Oaxaca	2,116,722	20.27	24.80	20.66	17.36	9.80	6.11
Puebla	3,112,993	13.95	20.96	21.26	20.69	13.01	9.31
Queretaro de Arteaga	885,463	11.51	14.37	20.68	25.29	16.09	11.10
Quintana Roo	559,713	8.06	16.86	17.01	28.03	19.17	9.83
San Luis Potosi	1,442,368	11.91	21.92	18.95	23.83	13.42	9.17
Sinaloa	1,665,153	9.44	20.51	17.18	20.89	18.93	12.72
Sonora	1,482,068	6.09	16.18	16.41	28.40	19.97	12.38
Tabasco	1,206,897	9.02	23.00	19.03	23.27	15.58	9.33
Tamaulipas	1,862,448	6.21	16.88	19.14	25.15	18.49	13.00
Tlaxcala	620,464	7.75	15.51	23.09	27.03	16.47	9.46
Veracruz-Llave	4,508,106	15.03	23.82	18.46	19.86	13.35	8.67
Yucatan	1,103,497	11.01	25.58	16.52	21.20	15.83	8.94
Zacatecas	853,116	9.11	28.09	23.04	20.90	10.62	7.46

[1] Includes those individuals that did not specify their schooling level and those declaring having gone to primary but did not specify whether they concluded it or not. Secondary, upper secondary and higher education levels include the population declaring enrolment but without specifying the level they were in.

Source: Census 2000, INEGI.

Figure 12. Population with No Schooling (percentages)

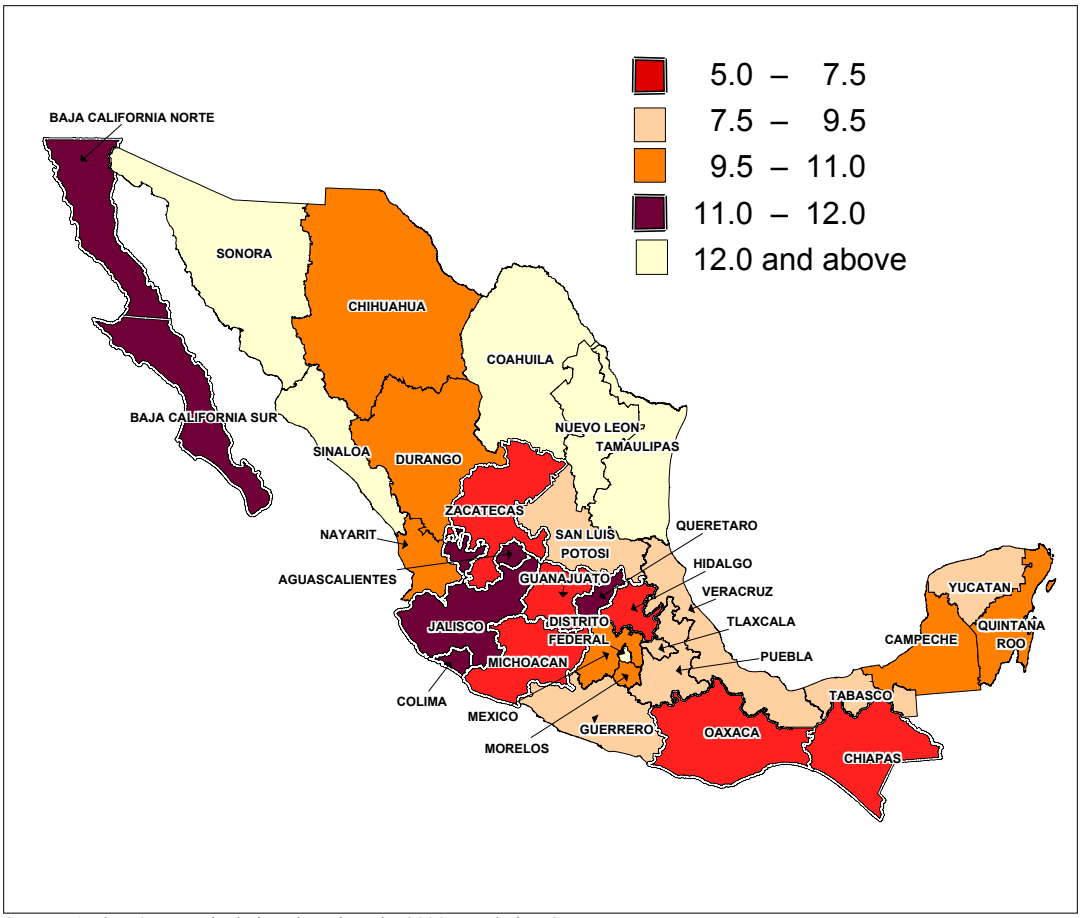


Source: Authors' own calculations based on the 2000 Population Census

As shown in Figure 12, the states with greater no schooling numbers are the southern states that also performed poorly in earlier indicators. Chiapas appears at the top of the list with 22.8 percent of its population with no education; closely followed by Guerrero and Oaxaca. Five percentage points below with 15 percent are states like Michoacan, Veracruz and Guanajuato. At the opposite end we find those states portraying the lowest rates of no schooling, which are Mexico City with only a 3.5 percent, followed by Nuevo Leon, Coahuila and Chihuahua with 4.22, 4.85 and 5.77, respectively.

In Figure 13 we observe that Mexico City ranks first with regard to the states with the uppermost higher education levels, followed closely by Nuevo Leon, Coahuila, Tamaulipas and Sinaloa. On the other hand Chiapas appears at the end with only 5.83 percent of its population attaining higher education levels. This state is preceded by Oaxaca, Guanajuato, Michoacan and Zacatecas.

Figure 13. Population with Complete Higher Education (University)



Source: Authors' own calculations based on the 2000 Population Census

III.6 Mexico's Unequal Development

What drives the enormous regional disparities in Mexico? What lies behind all the inequalities within the country? To answer this question would amount to solving the greatest of development puzzles and acres of pages have been devoted to this task. Our aim is a more modest one. In this section, we will provide our vision of the current problems that limit universal prosperity in this country by explaining the causes that have forged such enormous inequality.

Mexico's history has been plagued by different types of exclusion of diverse groups of the population. This exclusion has been reproduced through the years in many cases because of unsound policies and political upheavals. In particular three factors have determined the course of Mexico's development path: a) government centralism has affected social program design, as homogenous or one-size-fits-all programs were established to support heterogeneous groups; b) centralism not only affected the aim of social programs but also development policy since decision-making, especially expenditure provision, was

determined at the center of the country and based on political choices rather than the needs of the population; and c) although in the last couple of years decentralization has been taking place, giving states and municipalities more room to maneuver on social spending, accountability is still a big issue at those levels, and most of the advancements in that area have been conducted at the federal level.

In recent years, political modernization and institutionalized democracy paved the way to an expected change. More inclusive democracy was sought in the 2000 presidential election in the name of those segments of the population that had been previously left out. This process was expected to foster egalitarian development on all fronts in a short time period. However, stark differences are about to remain since the changes Mexico needs cannot be implemented on the short term.

The 20th century in Mexico gave birth to a regime that took control and centralized many aspects of economic, social and political life in the country. Social expenditure was assigned (and most of it still is) by the federal government to the states, which in turn would channel the resources to the municipal level. Centralization posed significant disadvantages, since it was extremely difficult for the center to identify the several needs of the population and the Ministries at the national level obtained the lion's share of the social expenditure budget. A common feature of these years was the creation of a set of homogenous programs for a vastly heterogeneous population. For instance, as mentioned earlier, the proportion of indigenous population varies wildly across Mexico, as well as educational attainment, access to services and so on. Hence these groups had little political weight and influence, and their situation did not improve along these years, for which it is evident that no efficient allocation of resources was achieved under this framework.

Until the late eighties, no process was launched to reform social policy and make it conform to economic market reforms as well as decentralization. It was not until the creation of a federal fund, *Ramo 26* (created in 1989), aimed at reducing poverty via transfers from the federal government to the different regions, that this process initiated in Mexico. Nevertheless, although this fund had a special budget designed to be handled by municipalities and states, its resources were still granted on a subjective basis, opening the door for biased benefits within the federation.

Later on, the government that took office in 1988 headed by President Carlos Salinas De Gortari established the rules of what would constitute a new social policy framework. This new model converted *Ramo 26* assets into the *Programa Nacional de Solidaridad* (National Solidarity Program, hereafter *Pronasol*). *Pronasol* allocated resources to municipalities according to the communities' and municipal authorities' requests, focusing on improving health, education, nutrition, housing, employment and infrastructure, and aimed at benefiting those living in extreme poverty.

Pronasol, although successful in its early stages due to the marketing strategy followed by the federal government, was clearly being politically manipulated and linked to partisanship of the municipalities. The allocation of resources relied heavily on the President and the Undersecretary of Regional Development. No clear allocation mechanism was established, and as a consequence the distribution of resources became highly discretional and aimed at

goals other than fighting poverty and helping those in most need. As observed in Székely and Fuentes (2002), the main feature of this program was that it provided temporary assistance to the poor, rather than creating income-earning capacity.

Additionally *Pronasol* did not target the poorest or most unequal states. For instance, between 1989 and 1993, 65 percent of the resources devoted to the production of basic crops as part of *Pronasol* were allocated to Michoacan, Durango, Chihuahua, Guanajuato, Sinaloa, Zacatecas, Chiapas, Oaxaca, and Mexico -states with varying levels of socioeconomic development- while two of the states with higher degrees of marginalization (Guerrero and Hidalgo) were relegated to the second tier of resource recipients.[20]

When the government of Ernesto Zedillo took office in 1994, the tarnished image *Pronasol* had received through the years led to its disappearance, while the new administration put forward a stronger effort for decentralization. In December 1997 the Law of Fiscal Coordination was reformed and *Ramo 33* (Branch 33) was created. *Ramo 33* embodies a set of funds (including formerly *Ramo 26*) transferred from the federal government to the states and municipalities, according to clear and well-established formulas. This transfer comprised various funds, namely the Fund for Basic Education, the Fund for Health Services, the Fund for Social Infrastructure and the Fund for Municipal Empowerment, and is targeted to the poorest states according to its distributive formula.

Furthermore, in August 1997 the *Programa de Educación, Salud y Alimentación* (Education, Health and Nutrition Program, hereafter *Progresa-Oportunidades)* entered into force. This program focused in its early stages on the poorest rural populations, and sought to improve the health and educational attainments of the extreme poor, the indigenous and other vulnerable groups, by providing economic incentives. This program has been one of the most important accomplishments of the Mexican government in its fight against poverty and inequality, and it will be described in more detail in the next section.

Notwithstanding an important change in resource allocation in the last couple of years to make the budget distribution less discretionary, as well as rolling back the process of centralization, Mexico now faces a problem of accountability. At the time that decentralization was enforced during the nineties, strong efforts were made to ensure accountability and transparency, which at the same time helped to strengthen the democratic process that concluded with the 2000 presidential election. Nevertheless, the efforts made at the federal level in this regard were not followed at the same pace as they were at the state and municipal levels.

This problem can also be observed among representatives and local congresses. The accountability predicament has been exacerbated since politicians are not required to inform the public of their decisions. In fact, according to the National Survey on Political Culture and Civil Practice, one in four Mexicans does not know who is governing him or her at the state level. Consequently there is no reason to think that Mexicans know who is representing them in the Congress, either at the federal or local level, not to mention what

[20] Report on the "National Solidarity Program", *Programa Nacional de Solidaridad*, conducted by Rolando Cordera and Leonardo Lomelí for the Regional Office of the FAO.

policies and laws they support. Thus, lawmakers and executive administrators do not have any incentive to identify the needs of their constituency, but only to promote their own political careers.

Undoubtedly, there is still a long way to go to achieve sound and sustainable regional development, and the aforementioned subjects form just a fraction of the constraints present in the economic, social and political structure in Mexico. However decentralization is taking place and the progressiveness of social expenditure is certainly improving, strengthening programs focused on specific vulnerable groups. Ultimately, these steps will allow for a more positive outlook on Mexico's future development. This progress will be further explored in the next section.

IV. Convergence in Mexico

Thus far, the discussion has focused on the recent performance (up to year 2000) in several development indicators across regions and subgroups in Mexico, performance that has, with some exceptions, been dismal. However, what should be asked is: Is Mexico moving in the right direction? Can positive change be wrought with state programs? In order to respond to these questions, we need to go further: we need to observe the dynamics of social development in Mexico.

This section will be divided in two parts. The first will focus on convergence and the connection between economic growth and human development as first documented in Ranis, Stewart and Ramirez (2000), while the second section will describe the results of the *Progresa* Program, now renamed *Oportunidades*.

IV.1 Convergence Analysis

One of the main findings in the growth literature in the past half-century is convergence. Assuming a production function with decreasing returns to labor and capital and constant returns to scale, it can be concluded that the income growth rates of the different countries of the world will converge. Sala-i-Martin (2002) explains [illegible] veloped from absolute to conditional convergence. From the neoclass[illegible] (Equation 1) [illegible]erive an empirical formulation of the type:

$$\gamma_{i,t,t+T} = \beta_0 - \beta \bullet \ln y_{it} + \beta \bullet \ln y^* + \varepsilon_{it}$$

where $\gamma_{i,t,t+T}$ is the growth rate of per capita GDP for country i between time t and time t+T, y_{it} is per capita GDP for country i at time t, and y_t^* is the steady-state value of per capita GDP for country i. This equation can be easily tested. If β is positive, then convergence is present; if we cannot statistically reject β being different from 0, then we are facing something other than convergence.

The distinction between absolute and conditional convergence arises from Equation 1. The actual growth rate depends on the initial income and the steady state. Absolute convergence assumes this steady state to be the same for every country, whereas conditional convergence allows for different steady states. If the steady state is not the same across countries or regions, a common misspecification problem will be faced because in econometrics, the error term is correlated with an explanatory variable. If that is not the case, however, then it can be assumed that the steady state follows the constant part of the equation and hence, it can be estimated this way.

$$\gamma_{i,t,t+T} = b^{\wedge} - b^{\wedge} \bullet \ln y_{it} + \omega_{it} \qquad \text{(Equation 2)}$$

If $b^{\wedge} > 0$, then poor countries grow faster than rich ones so that there is convergence across countries. On the other hand, if $b^{\wedge} = 0$, then there is no relation between the growth rate and the level of income.

Another widespread concept is sigma-convergence, which measures the degree of income dispersion across countries. Usually, the log variance of income or the coefficient of variation are used to obtain the sigma convergence.

Using this helpful tool, we can attempt to determine if there is convergence across regions using the Human Development Index (HDI), as defined by UNDP,[21] or other human development indicators, rather than using income as dependent variable. If so, we can also determine what is driving the trend followed by the index. In the case of Mexico, Esquivel, Lopez-Calva and Velez (2002) have estimated some parameters to test the convergence hypothesis, using several time spans and different definitions of the HDI with data collected every ten years in the national census. To do so, the authors run a regression similar to that of the absolute convergence equation. This specification is the correct one, since the steady state for the different states is the same given that the index is upper-bounded. In all the cases (1950, 1960, 1970) a clear downward trend is visible, which suggests that absolute convergence is present in the case of Mexico.

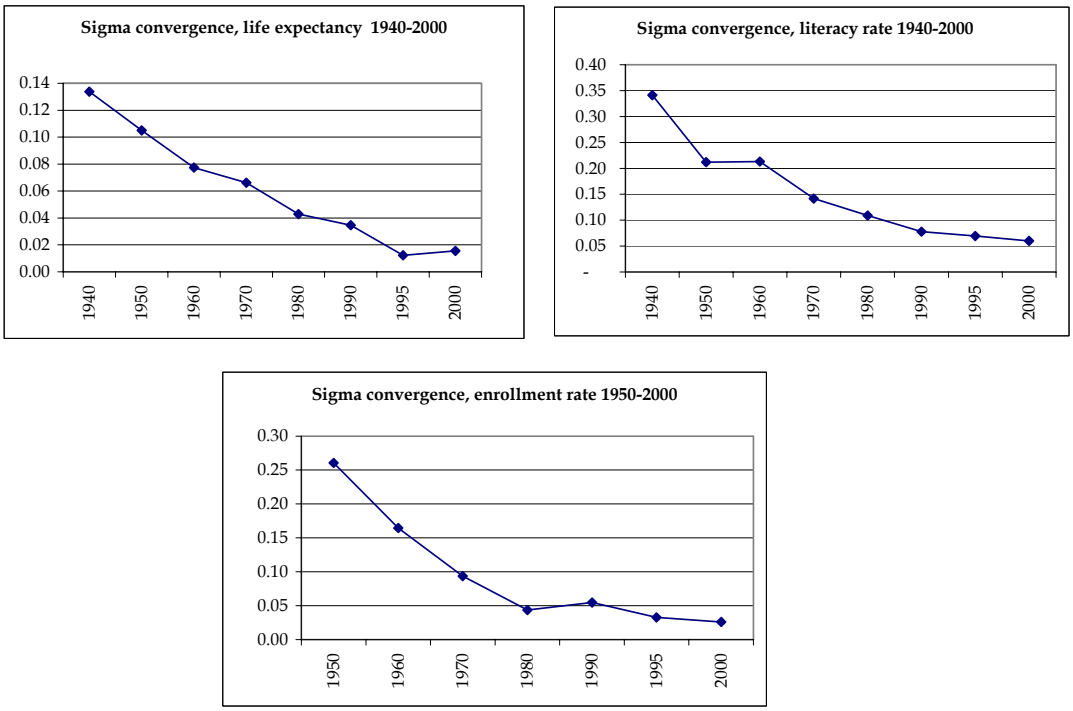
The HDI however, is an aggregate index of welfare measurements, and it specifically measures income, health and education. The aim of this section is to identify the path of several specific indicators concerning the MDGs. It is clear that the construction of a time series of the MDG indicators is a difficult task given data constraints. Instead, the variables used will be analyzed, namely enrollment, literacy rates and life expectancy, in order to test the convergence hypothesis between regions.

[21] The HDI is a summary measure of human development. It measures the average achievements in a country in three basic dimensions of human development:

- A long and healthy life, as measured by life expectancy at birth.
- Knowledge, as measured by the adult literacy rate (with two-thirds weight) and the combined primary, secondary and tertiary gross enrollment ratio (with one- third weight).
- A decent standard of living, as measured by GDP per capita (PPP US$).

Figure 14 shows the coefficient of variation (sigma-convergence) for the different welfare indicators in the period 1940-2000. As shown, the variation across states in Mexico has declined consistently in the past 50 years, with the notable exceptions of the enrollment rate in the 1980s and the life expectancy index in the year 2000.

Figure 14

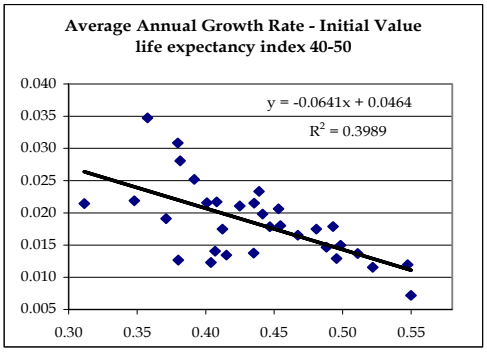


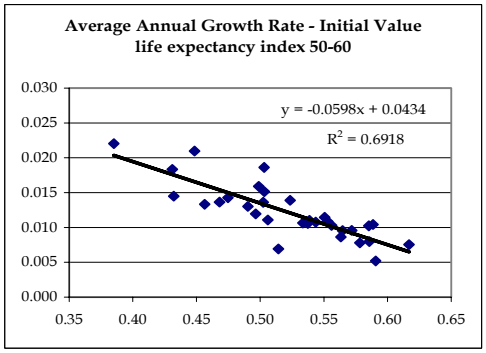
Source: Author's own calculations

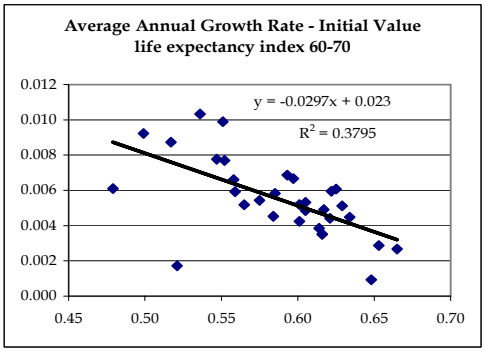
During the 1940s and 1970s, regional dispersion was diminishing fast, but this has not been the case in recent years. In fact, in the last couple of years some of the decreases in the coefficient of variation have been marginal. These results are expected as the indicators are upper-bounded, in other words, one state cannot have more that 100 percent literacy. However, what seems worrying are the bounces away from or stagnations below the upper limit of the sigma-convergence estimator.

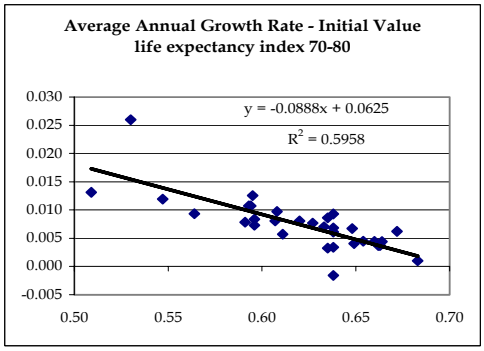
A more strict exercise consists of estimating the β-convergence parameter discussed above. Following the same methodology as Esquivel, Lopez-Calva and Velez (2002), we estimate a model with the average annual growth rate of our development indicators by state, as dependent variables, against its own initial values. The information used for enrollment rates, life expectancy at birth and literacy rates are obtained from the census and other sources. From this data, a long-term speed of convergence can be analyzed, using the average annual rate of growth of a given indicator to estimate the speed of convergence for different time periods. In the figures below (Figures 15, 16 and 17), the results for the long- and short-term estimators are presented.

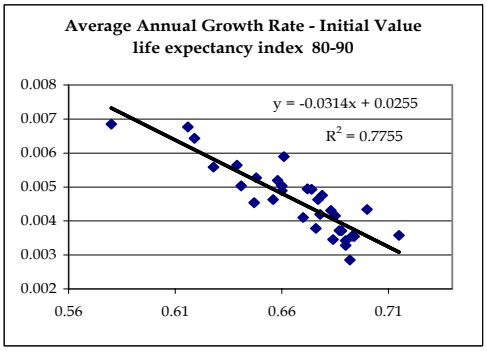
Figure 15

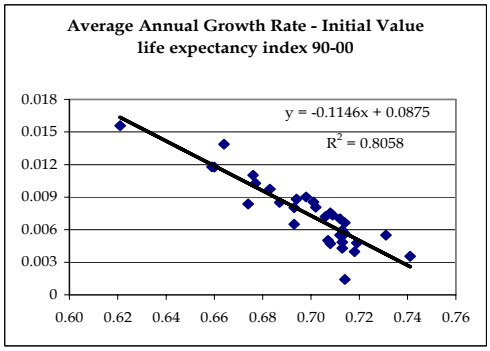








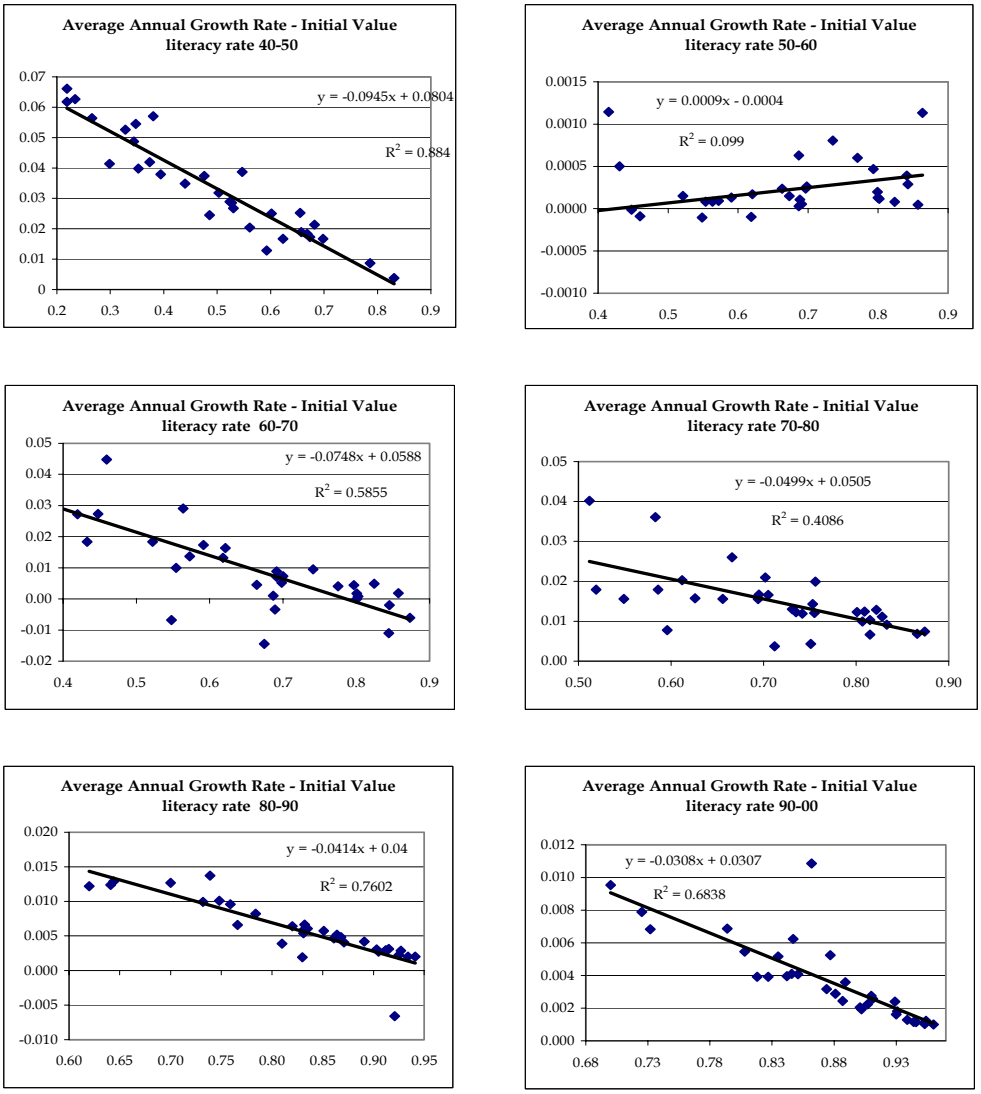




Source: Author's own calculations

Both definitions of convergence, β and sigma-convergence, point in the direction of decreasing regional differences in development. That is, as mentioned above, an expected result. Nevertheless what seems more interesting is the change in the rate at which this convergence is taking place. Evidently, in the last decade the pace accelerated, although we would have expected this rate to diminish given the proximity of the upper limit.

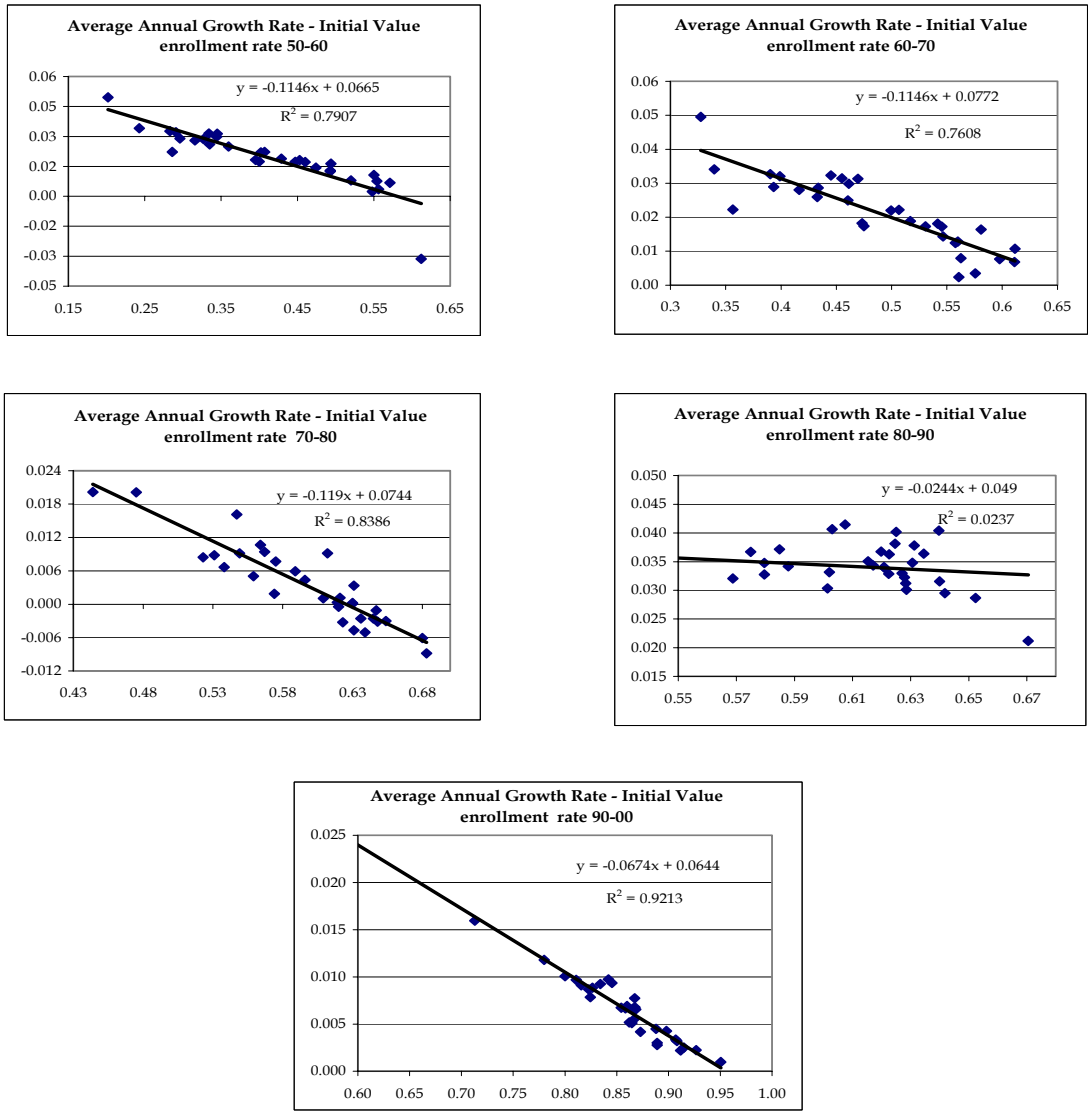
Figure 16



Source: Author´s own calculations

If we look at the results in the ten-year period graphs, we observe some intriguing findings. It seems that some periods are more fruitful than others in terms of the development indicators performance. For example, there was a lost decade in literacy achievements, the 1950s, when no sustainable growth in the literacy rate is observed. However, the speed of convergence of this indicator decreases over time, as theory would predict.

Figure 17



Source: Authors' own calculations

Somewhat different results arise with other indicators; the rate of convergence accelerates in the most recent decades. For instance, the parameter of enrollment rate in the 1980s is close to 2.5 percent, but in the next decade it increased to nearly 7 percent. Even more striking is the increase in the life expectancy rate, which jumps from 3 to 11 percent in the same period. The former evidence suggests that regional disparities are disappearing faster than ever. This, however, raises the question: Are impoverished states faring better, or are advanced regions lagging behind?

A commonly discussed topic is whether economic growth enhances human development on an individual basis. In their 2000 study, Ranis, Stewart and Ramirez proposed a new

taxonomy of countries or regions depending on their economic growth performance and human development. They propose four different types of countries along these two axes: the virtuous, the vicious, the economic growth lopsided and the human development lopsided. The first category refers to countries where economic growth and human development have increased with time, hence the virtuosity; the second definition describes the exact opposite, decreasing development indicators and constant economic shrinking; the third group defines those countries where economic growth has been fair too impressive, but human development has lagged behind; and the last accounts for the reverse of the third set.

Esquivel, Lopez-Calva and Velez (2002) provide results for the Mexican case based on the above classifications. The authors find the existence of two main groups of Mexican states, the virtuous and the vicious. In 2000, they categorized the states in the following way: 13 states present virtuosity, 17 are locked in a vicious circle and only 2 can be said to be human development lopsided. This is equivalent to saying that the country is breaking apart, and therefore, that those states where economic growth and human development are increasing will overall enhance their welfare status. Would this contradict the evidence on convergence? Not necessarily, as it could be the case that states go back and forth between virtuous and vicious. In any case, further research is needed on this matter.

IV.2 The Progresa-Oportunidades Case

Can convergence on social issues be enhanced through government programs or foreign aid? This is not an easy question to answer, especially due to the lack of information. The methodologies used to estimate the impact of public spending on social indicators are often flawed (Ravallion 2002), and specific program evaluations are not widely used. Despite these constraints, we will present the results of a program devoted to poverty eradication and human capital development in Mexico: the *Progresa- Oportunidades* program.

This program was implemented in August 1997 with funds provided mainly by the federal government. By the end of that year, *Progresa* accounted for less than 20 percent of the federal government budget allocated to poverty alleviation (Skoufias and McClafferty, 2001). *Progresa-Oportunidades* provides cash transfers and nutritional supplements to families in extreme poverty, mainly in rural areas. Cash transfers were initially conditioned on children's school attendance rates of at least 85 percent and regular visits to health clinics for checkups and follow-ups. The cash transfer is given to the mother, who also has to attend a series of talks and courses on health practices.

The Institute of Food and Policy Research (IFPRI) conducted an early evaluation of the first two years of the program's existence. This evaluation took place between November 1997 and November 1999 and was based on information collected in seven states receiving transfers from *Progresa* at the time. To the authors' knowledge, this is the only complete evaluation available for a social program in Mexico. In order to provide a glimpse into the influence of public policy in the country's advancement toward the MDGs, we will sum up this particular program's main results.

Among the most important characteristics of *Progresa-Oportunidades* is that evaluation is part of the program design itself; thus, the evaluation exercise is rigorous and easier to carry out. The design allowed for the existence of treatment and control groups, and the several surveys of beneficiary households could gauge the dynamics of the program effects. The evaluation's main results were encouraging. In terms of schooling, enrollment rates increased at both primary and secondary levels, with a higher percentage of girls than boys in every case (Schultz 2000). The analysis concluded that children receiving *Progresa* transfers would obtain average earnings of around 8 percent higher when they reached adulthood. Positive results were also found when studying child labor force participation, dropout rates and fertility decisions (Skoufias and McClafferty 2001).

When looking at health and nutrition results, a similar pattern emerges. *Progresa* children under 5 years of age present a 12 percent lower incidence of illness than non-*Progresa* kids (Gertler 2000). Spillovers are present, since adult members living in *Progresa* households are healthier. For instance, those between 18-50 years of age present 19 percent fewer days of absence from work due to illness than non-*Progresa* adults. They also walk significantly more without getting tired, in comparison with non-*Progresa* adults.

Given the fact that cash transfers are conditioned on clinic visits by the mothers and children, health indicators have also clearly improved. In *Progresa* communities, pregnant women visit the clinic earlier in their pregnancy, which has a strong positive effect on both the health of the child and the mother. In addition, it is a well-known fact that early malnourishment persists later in life (Dasgupta 1993). Berhman and Hoddinot (2000) find that *Progresa* has an impact of around 16 percent a year in mean growth of children aged from 12 to 36 months.

In sum, this program has had effects on schooling and health well beyond those expected. It has empowered women and reduced gender inequality, while also increasing the consumption of food in recipient households (Skoufias and McClafferty 2001). At the same time, no evidence has been found yet on the existence of incentives for the adults to stop working because of *Progresa* transfers.

Yet, successful programs like *Progresa* in Mexico and *Bolsa Escola* in Brazil, which have definitely helped these countries in their efforts to reach the agreed-upon goals of the Millennium Summit, are limited in their overall reach. In the case of Mexico, in 2002 this program was renamed *Oportunidades* after increasing its coverage to poor urban households and focusing more on tertiary education. Also more rural households were included in the program, reaching 4 million families by August of last year. This amount accounts for only a small fraction of poor households in Mexico, and furthermore implies that those areas that were lagging behind and are not reached by this type of program will be left even further behind.

V. Concluding Remarks

Mexico's track record in pursuing the Millennium Development Goals has been mixed. Regardless of the significant progress attained to this day in health and education topics, there are still some considerable problems in nutrition and especially overall poverty. As

shown throughout this analysis, the 1990s did not allow for any significant reversal of poverty levels, but, on the contrary, the decreasing poverty trend at the beginning of the decade was interrupted and reversed by the economic crisis of 1995. Poverty levels have slowly slid back down to the levels registered in 1992. In addition, even though the situation appears positive at the national level, a less optimistic picture emerges when analyzing subgroups or regions.

As discussed throughout Section III, regional disparities appear quite stark in terms of education and infrastructure. The North-South division also pervades the discussion of poverty levels. States such as Chiapas, Oaxaca and Guerrero are those living under the worst poverty conditions, straggling behind in the most basic services such as water or sewage, as well as educational opportunities. At the opposite end, the northern states such as Nuevo Leon or Coahuila boast the greatest numbers in terms of education, access to services and the largest number of industries. It is no coincidence that those states with the greatest percentage of indigenous groups are also those recording the highest poverty and illiteracy levels, the worst gender equity, the lowest levels of basic infrastructure, and the greatest incidence of small guerrilla movements.

Notwithstanding the wide disparities, the future prospects are not so grim. The convergence assessment developed in Section IV seems optimistic in the sense that the three variables, life expectancy, education enrollment and literacy rates, observe convergence within the different Mexican entities. Even if this convergence process has moved slowly during the most recent decades, it has also been following a steady pace, keeping Mexico moving in the right direction. Programs such as *Progresa* exemplify this to a great extent; by targeting the population in the greatest need, supporting them in an integral way through providing educational opportunities, health services and food, and evaluating the impact of these resources to ensure through this scheme, the improvement of their living conditions, as well as the attainment of the objectives established in the 2000 Millennium Summit. As illustrated, in the Mexican case, there is no doubt that such effective and transparent programs, supported by international institutions, will play an important role in the near future.

In closing, amid the clear evidence that Mexico is headed in the right direction with respect to the Millennium Development Goals, it is crucial to ensure that the bulk of attention and resources are focused on the poverty and nutrition areas, with special emphasis on meeting, as soon as possible, the needs of the southern states and helping them in the process of converging towards the national levels. There is still a long way to go, and it is of the utmost importance to focus efforts towards these vulnerable subgroups and regions.

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