

LONG-TERM ALTERNATIVES FOR THE ERADICATION OF POVERTY IN MEXICO

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SUMMARY Starting from a brief conceptualization of the ways of quantifying poverty, measured from a family's capacity to satisfy its essential needs, the results of the evolution of poverty and extreme poverty in Mexico for the last three decades are presented.

Insufficiency of income is examined in relation to inequalities in income distribution, taking both factors as determinants of poverty. This set of relations is analysed in terms of food consumption.

From the above mentioned theoretical framework, three long range scenarios, projected to the year 2007, are constructed, the objective being to eradicate poverty. The difference between them lies in the ways of combining economic growth with income distribution.

Within this context the present orientations of the Mexican economy are briefly analysed in particular in relation to possible repercussions derived from the Free Trade Treaty with Canada and the U.S.A.

INTRODUCTION

The process of industrialisation of the country which followed after the second world war was characterised, among other aspects, by high economic growth rates for a little over thirty years. Some studies suggested that this accelerated economic growth, by concentrating its benefits in the highest-income brackets, denied these fruits to large sections of the population, condemning them to live in conditions of poverty and extreme poverty. Other research, on the other hand, maintained that although income appeared to be concentrated, the rapid economic growth would lead, sooner or later, to a reduction in absolute poverty, as a part of what was known as the trickle-down thesis.

The crisis undergone in the eighties, a result of the accumu-

lation of large foreign debts; the deterioration in the terms of trade of our oil exports and the increase in interest rates in international financial markets interrupted the economic growth seen in previous decades, impoverishing growing sectors of Mexican society.

Today, and after a decade of economic progress, Mexico is embarking on a process of growth once more, with new bases. Four decades of industrialisation to introduce imports aimed at the domestic market, and industrialisation, is beginning to aim towards supplying foreign markets in the context of a Free Trade Association with Canada and the United States.

Mexican society has, however, a massive debt as a result of the historical impoverishment of its population, and its growth over recent years. The current administration has understood this, encouraging new schemes of community support to those socioeconomic groups with the greatest needs, under the auspices of the National Solidarity Program (PRONASOL).

However, the problem of poverty in Mexico is huge and demands an in-depth analysis to evaluate its scale and trends and, above all, to identify the possibilities of a solution in the medium and long-term.

This paper has a dual purpose. On the one hand, that of quantifying the historic trends of poverty and extreme poverty in Mexico and, on the other, to present the most important results of a forecasting exercise that looks at different long-term scenarios to eradicate Mexican poverty and to indicate some features of the direction of economic growth that could be compatible with such objectives⁽¹⁾.

The content of the paper is as follows. In the second section the concept of poverty is briefly discussed and the procedures to measure it are explained. In the third part, long-term trends in poverty and extreme poverty in Mexico are presented, and expected medium-term (1988-1995) trends are noted, with no economic growth. The fourth section offers the main results of

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the exercise of forecasts for the eradication of poverty in Mexico towards the end of the first decade of the XXI century, and there is a discussion of the type of direction of economic growth that could be compatible with the eradication of Mexican poverty.

THE CONCEPT OF POVERTY AND MEASURING IT

The **Regional Project to Overcome Poverty of the United Nations Development Program (UNDP)** defines the condition of **poverty** as “the lack of suitable means to cover a minimum number of what are called basic needs”. The concept of **basic needs**, as defined by the Project, “includes only those needs that obviously and directly need a productive effort for their satisfaction”. These needs are the following:

- a) A diet that meets nutritional requirements and cultural guidelines, components being not only food and water, but the energy and means to prepare and consume them
- b) The maintenance of health, meaning personal and non-personal (public health) health services and the means for home and personal hygiene and for prevention of illness and drugs for curative treatment
- c) A dwelling suitable to the size of the family, and suitable materials ensuring protection and privacy, and that has inside drinking water, drainage (or similar) and energy services, as well as basic equipment and furniture
- d) Basic education
- e) Access to basic information, recreation and cultural services
- f) Clothing and footwear
- g) Public transportation, and
- h) Basic communications such as mail and access to telephone services.

In the same vein, human beings need the security that they may have access to the basic needs for their whole life and in any circumstance, for which they need employment or other source of income that allows them to obtain them, as well as a social security systems to provide this security(2).

Based on this conceptualization of basic needs, and with the adjustments described later, in this paper the incidence of poverty and extreme poverty in Mexico is quantified using a method called Poverty Lines. This involves taking a basket of goods and services considered to be essential and its monetary cost is compared not only with the available household incomes but also with the amount of expenditure on consumption. This allows the percentage and absolute numbers of the population that do not cover the consumption requirements necessary to satisfy their basic needs to be identified.

The basket of goods and services is the Regulatory Basket

of Essential Satisfiers (CNSE in Spanish), designed originally by the General Coordination of the National Plan for Depressed Zones and Marginalized Groups of Mexico (COPLAMAR(3)), and used in the different stages of the Regional Project to Overcome Poverty in Latin America, referred to the Mexican case(4). Included in the items that form the CNSE, those relating to food and housing, and some non-received governmental health and hygiene items, make up the Sub-Minimum Basket (CNSM).

To establish whether or not homes are in conditions of poverty or extreme poverty, the average incomes of the different deciles of households are compared with the monetary cost of essential needs. A household is poor when its income is lower than the cost of the CNSE. The home is in conditions of extreme poverty when its income cannot cover the monetary cost of the Sub-Minimum Basket (CNSM), that is, it does not cover its most urgent needs for food, nor manages to cover education, health and hygiene costs normally not received through government transfers(5).

HISTORICAL TRENDS IN MEXICAN POVERTY

Figures 1 and 2 show poverty and extreme poverty incidence rates in the rural and urban areas of the country in the period 1963 to 1984. In accordance with these figures, extreme poverty tended to systematically fall throughout the twenty years, from around 70% in 1963 to 57% in 1968, 34% in 1977 and 30% in 1984.

This aggregate behavior followed the systematic reduction in extreme poverty in urban areas of Mexico, falling from 67% in 1963 to 20% in 1984. However, the incidence of extreme poverty in the rural environment increased in the sixties, fell in the seventies and grew again in the first years of the eighties, to reach a rate in 1984 of around 53% of the national population.

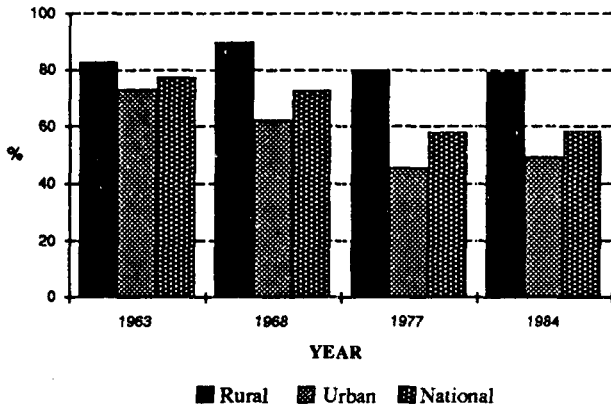
The poverty rate (poverty and extreme poverty), on the other hand, also shows a long-term trend towards a fall in the sixties and seventies, and relative stagnation in the first half of the eighties. On a national level, it went from 77% in 1963 to 72% in 1968 and 58% in 1977, to rise to 59% in 1984. In this case too, the drop in urban poverty was greater than that in rural figures, except for in the first half of the eighties (Figure 2).

In the sixties and seventies, the poor population was roughly equally split between the rural and urban sectors. By the first half of the nineteen-eighties, the absolute proportion of urban poverty had increased to account for 60% of the country's poor. Therefore, in absolute terms, the problem of poverty today is a mainly urban problem, inasmuch as almost two-thirds of Mexico's poor live in these areas. In addition, in the first half of the eighties, almost all of the absolute increase in the poor population was concentrated in urban areas, thus stressing the mainly urban repercussions of the crisis.

In rural areas, the crisis was apparent in a notable increase,

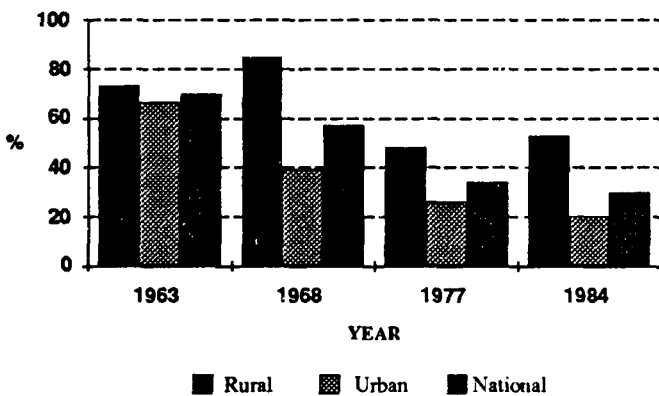
LONG-TERM ALTERNATIVES FOR THE ERADICATION OF POVERTY IN MEXICO

FIGURE 1
RURAL, URBAN AND NATIONAL POVERTY INCIDENCE RATES (%)



Source: E. Hernández Laos (1991)

FIGURE 2
RURAL, URBAN AND NATIONAL EXTREME POVERTY INCIDENCE RATES (%)



Source: E. Hernández Laos (1991)

in both absolute and relative terms, in the population in conditions of extreme poverty. Currently, the relative poverty rate in Mexico is not only greater in rural than in urban areas, but in the former the conditions of poverty are more acute, since a greater proportion of the rural population lives in conditions of extreme poverty and the intensity of the phenomenon grew in the first years of the last decade.

Several writers have emphasised the need to evaluate poverty using indices that consider poverty's two dimensions - its

incidence and its intensity(6). Therefore, and to summarize long-term trends in poverty on a national level, including some preliminary 1988 figures, we estimated the value of the Sen Poverty Index (P), which explicitly considers both dimensions of poverty(7):

$$P = H [I + (1 - I) * G_p]$$

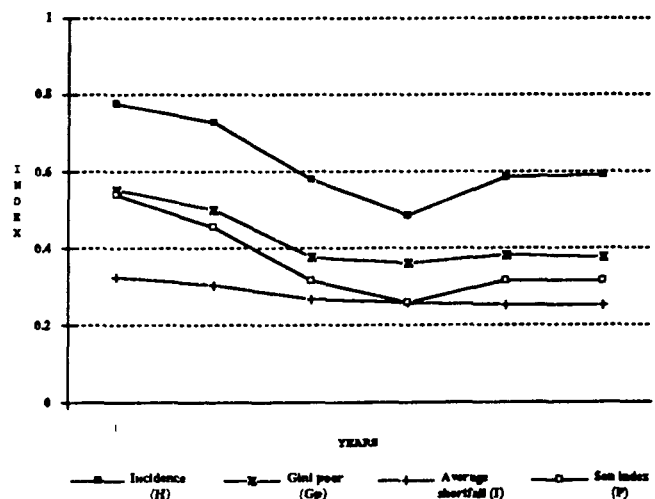
Where H is the proportion of poor persons in the total population (poverty incidence); G_p is the Gini Coefficient of income in poor households and I is the shortfall in the income of the poor divided by the income they would receive if they were on the poverty line(8).

This index, providing a numerical focus for comparisons of well-being, is a standardized indicator of poverty that goes from zero (no poverty) to one (total poverty). Given an incidence rate (H), the index increases if the poverty intensity (I) increases and/or if there is a concentration in poor persons' income (G_p), the latter meaning that extreme poverty rates rise. Given the intensity of poverty, the index rises if the incidence of poverty in general (H) is greater.

Figure 3 summarizes the long-term poverty trends in Mexico using the aforementioned index. In accordance with calculations, between 1963 and 1981, a period of uninterrupted economic growth, all indicators considered in the index fell, showing there was less poverty in the country.

The poverty rate fell by nearly 30 percentage points from 78% to 48.5%. The average shortfall in poor persons' income, expressed as a proportion of the poverty line, also fell from 55% to 36% in this period. Finally, the income distribution between

FIGURE 3
LONG-TERM POVERTY TRENDS IN MEXICO (1963-1988)



Source: E. Hernández Laos (1991)

poor households apparently showed less inequality, as seen in the Gini coefficient, falling from 0.325 in 1963 to 0.268 in 1977(9). Beginning in the first years of the eighties, however, the index's components registered the opposite trend, towards greater poverty, especially in the first years of the crisis (1981-1984). Between 1981 and 1988, the incidence of poverty grew from 48.5% to 59% of the national population and its intensity grew from 36% to 37.6%, supposing a constant income distribution beginning 1984(10).

As a result of the trends described, poverty in Mexico fell by half in the sixties and seventies, the Sen index dropping from 0.541 in 1963 to only 0.258 in 1981, and grew by a fifth in the eighties to 0.316 in 1988.

By that year, poverty was similar, simultaneously considering incidence, intensity and differential impact in poor households, to that recorded in 1977, in other words, in the years before the oil boom.

What may be concluded from all the above? Statistical evidence allows us to say that the process of economic growth followed by Mexico in the sixties and seventies aimed at the substitution of imported manufactured goods tended to significantly reduce relative poverty levels in Mexico, measured by the Poverty Lines method.

However, the above trends were interrupted at the beginning of the eighties, a historic turnaround that increased poverty (absolute and relative) in Mexico as the economic crisis deepened and different political measures aimed at combating it were implemented.

Towards the end of the last decade, Mexico had poverty levels similar to those of 1977, indicating that the crisis did the job of wiping out the rapid economic growth seen during the fleeting oil boom.

These trends are very interesting inasmuch as they show the enormous social cost, in terms of poverty, suffered after a decade of economic progress as the crisis in the eighties deepened. This social cost was added to the country's poor and extremely poor population's historical shortages that existed before the crisis, representing a huge social debt(11).

MEDIUM-TERM TREND FORECASTS

In accordance with CONAPO forecasts, between 1988 and 1995, around 9,200,000 people will have joined the Mexican workforce(12). If economic growth had not begun again beginning 1990, and if it is not maintained in the coming years, the increase in the working population will have difficulty in finding paid employment in the formal economy, meaning that apart from the six million active people who joined the informal economy between 1982 and 1988, there would have been these additional nine million. In such conditions, by 1995, around 40% of the 38,900,000 people making up the EAP in that year

will be unemployed and/or underemployed in extremely low productivity jobs, which would make poverty in the country dramatically more acute.

If growth is not maintained, the country could record an absolute consumption deficit towards the beginning of the next administration (1995), making Mexico go back thirty years in terms of the economy and social well-being. If these trends keep up, by 1995, 53% of the Mexican population will be living in conditions of absolute poverty; 24% in extreme poverty and 34% with insufficient consumption levels to satisfy their essential needs.

If these trends become real, the increase in the population in conditions of poverty that would be recorded between 1988 and 1995 (12,200,000 people) would exceed the expected increase in the national population (11,800,000). The poor population would continue to increase at an annual average rate double that of population growth. The impoverishment of Mexicans would continue to reduce numbers in the middle-class social strata and the polarization of society would continue, especially in the urban zones in the central part of the country, which could have serious repercussions on the nation's political and social stability.

In addition to the need to recover growth in order to turn these trends around, it is clear that public action must go hand in hand in the short-term with immediate measures that would allow the worst consequences of the crisis on the poorest strata in the urban and rural population to be lessened.

These measures, aimed at specific population groups in conditions of extreme poverty and which represent the chapter requiring the most urgent attention in the payment of the social debt described earlier, began to be implemented beginning 1989 in the context of the National Solidarity Program(13). In less than three years of operations, the program has carried out highly diverse actions in favour of the poorest groups in the country, with a cost equal to just over ten billion current pesos(14).

Although the importance of this program is not in question, it will be necessary to carefully evaluate its effectiveness in fighting extreme poverty, both from the microeconomic point of view (an evaluation of targeting in the application of resources) and macroeconomically speaking (an evaluation of the effects of the program on income distribution and the country's productive structure)(15).

Given the scale of the problem of poverty in Mexico, eliminating it will need, apart from attention to the most impoverished groups in the country with actions such as those undertaken with the National Solidarity Program, sustained economic growth and a process that will lessen the enormous inequalities in income distribution, as made obvious by the long-term scenarios discussed below.

LONG-TERM SCENARIOS TO ELIMINATE POVERTY

If the problematic birth-rate established by the National Population Council is obtained, Mexico will have a population of 110,000,000 by the second half of the first decade of the next century(16). The United Nations forecasts that this figure will be reached around the beginning of the century(17).

According to the CONAPO's projections, around 50% of the population in 2010 will be less than 14 years of age; 65% will be of active age (15 - 64) and 5% will be of retirement age (65 and over). This means there will approximately 2 active persons for every inactive person. Moreover, forecasts indicate that by that year the economically active population will account for 40% of the population(18).

For the purposes of the forecast scenarios, the final reference year is 2007, when a population of 109,800,000 is foreseen. Of these, 54.6 million (49.7%) will be men and 55,200,000 (50%) will be women. A population of this composition is chosen because it can take advantage of the COPLAMAR forecasts on the size of the essential needs of a population of these dimensions(19).

For the prospective exercises the amount of final consumption (bought commercially and/or self-produced) needed by all Mexican households to satisfy their essential needs in 2007 was calculated. The assumption was made that basic education needs (primary and secondary school) and health care will be covered with governmental transfers in kind, in other words, through current expenditure. Disbursements for the construction of schools, hospitals and care clinics will come from investment items.

In the item for dwellings, for the entire population to have a decent place to live, 30,400,000 dwellings will have to be renovated, extended or constructed. In all cases we mean popular housing, with the necessary characteristics to satisfy minimum comfort and hygiene standards for a typical household of 4.9 persons.

The sum of expenditure on private consumption, public consumption and investment goods makes up the final basic exogenous demand, specifying the sectorial source of the final goods and services needed at the end of the planned horizon (Table 1).

To include the effects of the variable income distribution that determines poverty rates, three different scenarios are assumed. The first (hypothesis I) assumes that in the year 2007, distribution will be like that in 1984. Hypothesis II assumes a family income distribution similar to that of the United Kingdom (after tax) at the beginning of the seventies. Finally, hypothesis III assumes an income distribution similar to that of Czechoslovakia towards the middle of the sixties (Table 2).

The three distribution scenarios are compatible with the satisfaction of the whole population's basic needs. The differ-

ence lies in the fact that the greater the inequality in distribution, the greater the national family income would have to be to eliminate poverty(20). The different levels of income needed translate into different levels of family saving and amounts for household consumption, of which the sectorial sources of goods and services consumed are specified(21). The above serves as a basis to quantify the total final demand vectors for 2007, for each of the scenarios.

To estimate the economic effort needed to satisfy the final demand of each of the scenarios, the 1980 input-product model structure was used, with the assumption that technology and relative economic prices will remain constant throughout the planning horizon. Despite the limitations of the assumptions, we feel that the forecasts are illustrative of the size of the economic effort needed by each of the forecast scenarios aimed at eliminating poverty in Mexico(22).

Should current distributive systems remain in place until the year 2007, (hypothesis I), to eliminate poverty in Mexico, the gross value of production would have to increase at an annual average rate of 7.4%. In this case, the gross national product would be just over forty billion pesos (around 1.5 billion dollars) at 1980 prices, or to put it another way, five times greater than in 1988.

Domestic consumption, public and private, would have to grow at an annual average rate of 7.3%, to reach a figure greater than seventeen billion pesos (600,000,000 dollars). Of this figure, 77% would correspond to excess consumption and only 23% to basic goods and services. A production on this scale would demand a rapid gross capital creation that would have to grow at an annual average rate of 10.4% between 1988 and 2007 (Table 3).

Eliminating poverty, guaranteeing the satisfaction of the needs of the entire population, without modifying income distribution would require, to sum up, a considerable productive effort in terms of growth and capital accumulation.

The other two scenarios show alternative paths for economic growth to reach the same aim. Hypothesis II assumes that by 2007, Mexico will have a less concentrated income distribution. Should this be the case, production worth 19,300,000 pesos (700,000,000 dollars) at 1980 prices would have to be generated. To achieve this, an accumulative average annual growth rate of 4% (Table 3) would be necessary. By that year, domestic consumption would be 8,700,000,000 pesos (300,000,000 dollars) at 1980 prices, 55% non-essential and 45% in basic goods and services. This growth path would need an average annual capital accumulation rate of 6.2% (in real terms) between 1988 and 2007.

The third scenario (hypothesis III), by assuming a more equitable income distribution, demands a lower growth effort to eradicate poverty. In this case, gross production would have to

TABLE I
FINAL BASIC DEMAND REQUIRED TO SATISFY THE ESSENTIAL NEEDS OF THE WHOLE POPULATION IN THE
YEAR 2007¹ (BILLIONS OF 1980 PESOS)

Sector	Absolute	%
Agriculture, farming and fishing	198.6	3.9
Mining	9.2	0.2
Manufactures	1 378.0	27.1
. Food, drink, tobacco	387.1	7.6
. Textiles, clothing, leather	328.6	6.5
. Wood products and furniture	39.8	0.8
. Paper, printing and publishing	117.5	2.3
. Chemicals, rubber and plastics	133.7	2.6
. Non-metallic minerals	9.1	0.2
. Basic metallics	27.2	0.4
. Metal goods, mach. and equip.	227.4	5.3
. Other manufacturing industries	67.9	1.3
Construction	795.9	15.6
Electricity	52.8	1.0
Trade, restaurants and hotels	686.3	13.5
Comm., storage and transp.	474.9	9.3
Finan. serv. and property leasing	654.0	12.8
Soc., pers. and communal serv.	843.2	16.2
Total Sectors	5 092.9	100.0

¹ Includes normative private consumption (food use of dwelling and other satisfiers specified in CNSE), plus public consumption in health and education and investment expenditure on schools, hospitals and housing construction and repair.

Source: COPLAMAR estimates, reconverted to 1980 prices. *Op cit*, figure 55, p. 93.

grow at an annual average of only 1.8%; domestic consumption to 1.9% and gross capital creation to 3.9%. In this scenario, 72% of domestic consumption would be in basic goods and services and only 28% in non-essentials (Table 3).

The economic growth paths, in accordance with each of the scenarios, would demand different productive structures. Hypothesis I would mean, for example, an extremely rapid growth in the production of all economic sectors: more than 10% a year in the construction industry and more than 5% a year in agricultural activities.

As a result, towards the second half of the first decade of the next century, production would be geared up towards manufactures (textiles and clothing, metal goods, machinery and equipment), construction, financial services and property leasing, at the cost of a lower relative participation on the part of agricultural production, trade, restaurants and hotels, and social and personal services (Table 4). This productive structure would be aimed at mainly satisfying the demands of higher-income consumers, since just over three-quarters of household consumption would be non-essential and only one fourth, basic consumption.

Hypothesis II implies less spectacular sectorial growth rates. Manufacturing would have to grow at an average annual growth rate of 4.2% (also with an emphasis on textiles and clothing, wood products and the paper and publishing industry), while financial services and property leasing (rent paid or charged for housing) will have to also grow at the relatively high annual average rate of 5%.

In this scenario, agricultural production would grow by 2.6% a year, slightly faster than the growth in population. By 2007, the productive structure proposed in this scenario would encourage manufacturing, construction, communications and transportation and the provision of property leasing services, including the rent (paid and charged) of housing (Table 4).

Hypothesis III, by assuming a more equitable income distribution than the other paths, places very modest demands on sectorial growth in order to eradicate poverty. Only some manufacturing (textiles and clothing, wood industry and paper and printing products), construction and property leasing would need annual growth rates higher than 3%, while agricultural production would have to grow on average at less than 1% a year (Table 4).

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TABLE 2

FAMILY INCOME COMPATIBLE WITH THE SATISFACTION OF ESSENTIAL NEEDS OF THE WHOLE POPULATION IN 2007, WITH THREE INCOME DISTRIBUTION HYPOTHESES (BILLIONS OF 1980 PESOS)

Deciles of Homes	Hypothesis I		Hypothesis II		Hypothesis III	
	Absolute	%	Absolute	%	Absolute	%
1	271.4	1.34	271.4	2.50	271.4	4.50
2	544.7	2.69	488.5	4.50	392.1	6.50
3	777.8	3.84	597.0	5.50	485.4	8.00
4	1 012.7	5.00	705.9	6.5	543.0	9.00
5	1 282.1	6.33	804.2	7.50	573.1	9.50
6	1 456.3	7.86	902.8	8.50	603.3	10.00
7	1 985.9	9.80	1 144.2	11.00	663.7	11.00
8	2 547.9	12.58	1 331.6	13.00	724.0	12.00
9	3 461.4	17.09	1 691.5	16.00	784.1	13.00
10	6 778.9	33.47	2 510.5	24.50	995.4	16.50
Total	20 119.1	100.00	10 447.6	100.00	6035.5	100.00

Note: Hypothesis I assumes an income distribution like that in 1984 (Gini=0.45). Hypothesis II assumes an income distribution like that in the U.K. (after tax)(Gini=0.2). Hypothesis III assumes an income distribution like that of socialist countries in the seventies.

Source: Own calculations. See: E. Hernández Laos and M. Paris Fernández, "Mexico in the first decade of the XXI century. Future social needs", in *Foreign Trade*, Vol. 38, no. 11, Mexico, November 1988, pp 963-978.

TABLE 3

GROSS PRODUCTION STRUCTURE IN 1985 AND FOR 2007, ACCORDING TO THREE INCOME DISTRIBUTION HYPOTHESES COMPATIBLE WITH THE SATISFACTION OF THE WHOLE POPULATION'S ESSENTIAL NEEDS

Denomination	Billions of 1980 pesos				Implicit growth rates		
	1985	Hypothesis I	Hypothesis II	Hypothesis III	Hyp.1	Hyp. 2	Hyp.3
Intermediate demand	2 798	15 281	7 203	4 378	8.0	4.4	2.1
Final demand	5 295	24 985	12 084	7 513	7.3	3.8	1.6
Consumption (Private and governmental)	3 631	17 134	8 746	5 457	7.3	4.1	1.9
Gross fixed capital creation	883	7 851	3 338	2 056	10.4	6.2	3.9
Change in stock	31	0	0	0	n.d.	n.d.	n.d.
Exports*	749						
Gross production	8 094	40 265	12 288	11 891	7.6	4.0	1.8

* Exports were not considered explicitly in the model. The other items in final demand include an imported content that is assumed to equal an export flow financing it.

Source: Own calculations. See: E. Hernández Laos and M. Paris Fernández, *Op. cit.*

TABLE 4

GROSS DOMESTIC PRODUCT IN 1985 AND FORECASTS FOR 2007 COMPATIBLE WITH THE SATISFACTION OF THE ESSENTIAL NEEDS OF THE WHOLE POPULATION UNDER THREE INCOME DISTRIBUTION HYPOTHESES.

Sectors	1985		Hypothesis I			Hypothesis II			Hypothesis III		
	GDP	%	GDP	%	Rate	GDP	%	Rate	GDP	%	Rate
Ag farm and fish	416	8.6	1 322	5.7	5.4	730	6.4	2.6	484	6.9	0.7
Mining	182	3.8	934	4.0	7.7	436	3.9	4.1	270	3.8	1.8
Manuf	1 050	21.8	5 523	23.7	7.8	2 600	22.9	4.2	1 548	21.9	1.8
Food, drink, tob	275	5.7	872	3.7	5.4	435	3.8	2.1	284	3.5	-0.5
Text. clo lea	134	2.8	818	3.5	8.6	437	3.9	5.2	285	4.0	3.5
Wood ind & prod	40	0.8	313	1.3	9.8	137	1.2	5.7	79	1.1	3.1
Pap print & pub.	61	1.3	345	1.5	8.2	189	1.7	5.3	130	1.8	3.5
Chem rub & plas	184	3.8	858	3.7	7.3	417	3.7	3.8	256	3.6	1.5
Non-metallic min.	73	1.5	424	1.8	8.3	178	1.6	4.1	111	1.6	1.9
Basic met.	61	1.3	393	1.7	8.8	168	1.5	4.7	101	1.4	2.3
Met mach & equip	194	4.0	1 322	5.7	9.1	547	4.8	4.8	280	4.0	1.7
Other manuf. ind.	27	0.6	178	0.8	8.9	91	0.8	5.6	57	0.8	3.4
Construction	266	5.5	2 297	9.9	10.3	957	8.4	6.0	632	9.0	4.0
Electricity	62	1.3	246	1.1	6.4	131	1.2	3.4	89	1.3	1.6
Tr rest & hot	1 313	27.3	5 486	23.6	6.7	2 537	22.7	3.1	1 451	20.6	0.5
Comm. & transp..	307	6.4	1 501	6.4	7.5	806	7.1	4.5	546	7.7	2.7
Fin serv & prop	487	10.1	2 761	11.9	8.2	1 454	12.8	5.1	970	13.7	3.2
Soc pers serv.	734	15.2	3 205	13.8	6.9	1 641	14.5	3.7	1 071	15.2	1.7
Total Sectors	4 818	100.0	23 373	100.0	7.4	11 328	100.0	4.0	7 059	100.0	1.8

Source: Own calculations. See E. Hernández Laos and M. Paris Fernández, Op. Cit

THE DIRECTION OF ECONOMIC GROWTH COMPATIBLE WITH THE PROPOSED SCENARIOS

The scenarios described make it clear that paying the social debt, both that which was accumulated historically and the part deriving from the crisis in the eighties, will have to be done in the long-term if poverty is to be eradicated in Mexico. This would demand specific actions in the framework of a development strategy, also long-term, that takes into consideration the structural relationship between income distribution systems and the sectorial direction of the productive apparatus.

If income distribution is not changed for the better, in other words, if it is not made more equal, extremely rapid economic growth will be needed for more than twenty years, for the lowest-income groups to have access to essential needs and to cease being poor.

This rapid growth will also mean that towards 2007 the productive structure of Mexico will become geared up towards the production of nonessential goods and services to meet the needs of a relative minority of the population which would own the largest part of national wealth. In conclusion, there would be an economy in the service of a polarized society where, although there would be no poverty in absolute terms since all households would at least have a consumption equal to the CNSE, the absolute gap between households would be enormous, much greater than today.

It is obvious that economically, socially and politically speaking, a long-term strategy like this one to eradicate poverty in Mexico is not very viable. From a purely economic point of view, multiplying the country's productive capacity by five in twenty years, with the sectorial characteristics required by this scenario (hypothesis I), is not realistic(23).

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Looking at the other extreme, the same social objective (the eradication of absolute poverty) would be obtainable with economic growth rates of less than 2% a year, if an enormously far-reaching process to redistribute wealth were undertaken that would necessitate changes to the country's political and social structures to make them compatible with an egalitarian society such as those of socialist countries just a few years ago.

This process of change would need a radical change in the legal basis for property ownership and would demand direct State action to attend to the social needs of the whole population. The deep changes undergone by socialist countries in recent years, in an attempt to adopt market economies as a way of solving serious economic problems,(24) shows that this path to eradicate poverty in Mexico in the long-term is also impracticable.

A strategy such as that suggested by the second scenario (hypothesis II) is the most feasible. It includes reasonable economic growth (an annual average of 4%), which conforms to the rate programmed in official strategy, and needs gradual changes in the way income is distributed. However, it does need abrupt changes in the country's social and economic structure to induce the changes needed in income distribution and to promote the social direction of growth or to consider growth in the framework of the latest events and trends on the international economic stage.

The preoccupation with equity should be expressed, firstly, through a macroeconomic policy that goes beyond orthodox restrictive formulas and that stresses economic growth and a more equitable distribution of income. Employment and consumption must be increased in the poorer strata using measures such as increases in real wages, changes to the relative price structure to favour agricultural products and an increase in public spending to support social consumption in basic items such as education, health and housing.

The implementation of policies of this nature will meet enormous obstacles, both internal and external. From the internal point of view, a strategy such as that indicated, without the necessary structural changes, could provoke macroeconomic imbalances that would put pressure on the balance of payments, increase the fiscal deficit and push up inflation, because the fight on the distribution front would prevent the minimum price stability necessary to continue the desired policies(25).

From the external point of view, the strategy should be drawn up in the framework of the modernising process the Mexican economy is currently undergoing. It will have to take into consideration the changes seen in international conditions deriving from the realignments in the major geopolitical areas and those caused by other major world economic, technological and political changes.

The joining by Mexico of the new international context, the target of the country's process of modernization, must give

close consideration to the imminent signing of the Free Trade Agreement (FTA) with Canada and the United States since it will change the country's productive structure in the medium-term, have an effect on domestic real wage rates and employment and will modify how domestic income is distributed.

We cannot say in advance what profile Mexico's productive structure will have in the medium-term as a result of the FTA, among other reasons because it will depend on how negotiations are carried out. In any case, nothing guarantees that the new profile of the productive structure resulting from the accord will function in satisfying the essential needs of the whole population, as shown in the intermediate growth scenario indicated in the previous section.

From a wide perspective, the path the country's productive specialization could take might be expected to follow an extremely complex pattern. In the primary sector, for example, Mexico could substantially increase its agricultural exports to the United States in the case of some products(26). However, in the important Mexican primary sector item, that of the production of basic grains, especially maize, Mexico is at a considerable disadvantage (in terms of costs) in comparison with the United States. Therefore, it would appear improbable that negotiations would allow the indiscriminate import of these products for the simple reason that their cultivation is the main pillar of the largest part of the Mexican agricultural population and, if allowed, it would accelerate the migration from the countryside to the cities in the very short-term which would lead to a notable worsening of poverty and extreme poverty both in the rural and urban environments(27).

In the service sector, some activities such as financial intermediation would be expected to be slowly dominated by foreign consortia as would other highly specialized areas such as technological, economic and accounting consultancy services.

The situation is not so clear in the case of the industrial sector. Recent studies show, for example, that Mexican manufacturing are far behind in productivity, despite the rapid growth seen in recent years(28). On average, the added value per person employed by Mexican industry is only 33% of the figure for American manufactures, and that difference is similar in most sectors analysed(29).

Nevertheless, the greatest comparative advantage currently offered by Mexico is one of the determinants of the recent impoverishment of society: the low cost of its labour in international terms. A study by the ILO shows, for example, that by the middle of 1988, the average industrial wage of the U.S. was nearly nine times higher than in Mexico, that of Canada being 9.4 times greater(30).

However, as is known, wages alone are not representative of the degree of competitiveness of labour on international markets, because of the low levels of labour productivity of our

industries. Taking these indicators together, another study shows that Mexican labour has a comparative advantage of around 60% over a series of countries, including the United States(31).

Therefore, it should be expected that Mexico will rely, in the short and medium-terms, on the low cost of its labour to maintain its competitiveness in foreign markets while the process of specialisation takes hold in manufacturing in those sectors where new technologies will be incorporated more rapidly allowing advantage to be taken in scale economies, lower unit costs and increased competitiveness in the medium and long-term(32).

Once the specialisation process gets under way, and depending on the nature of the respective negotiations on sectorial liberalisation and their short, medium and long-terms, we may forecast slow changes in the productive structure and income distribution of the country.

As domestic employment increases, the result not only of greater exports but also of the multiplier effects of expected growths in gross investment, so those households located in the middle strata of distribution will increase their share of income, which could reduce some of the inequalities in the distribution of household income. The rise in average labour productivity levels in the primary sector would support this process of redistribution, especially in its own export sector.

However, there are no indications that this process is generalised, at least in the medium-term, as export activities will continue to be highly capital intensive and have limited effect on unqualified labour, which would slow down the increase in the equilibrium wage(33).

In that case, we could instead witness a transition stage when a distribution split would take place. On the one hand, there would be a highly capitalized export sector with growing real wages for qualified labour, a sector that would employ the higher-income strata. On the other, a non-exporting sector, subject to the growth of the internal market, with less dynamic job creation and more stagnant real wage rises, that would employ the middle and lower strata of distribution. The rural agricultural sector, where most extreme poverty is concentrated in Mexico, would continue to play an important part in these latter, lower strata.

In the long-term, the split could be gradually eliminated, as the real equilibrium wage increases with the average productivity of the economy and approaches levels existing in the United States and Canada. However, this process will be slow to mature and it cannot be expected to spontaneously arise in the next decade or two.

Hence the relevance, for a long-term strategy aimed at eradicating poverty and extreme poverty in Mexico, of implementing actions aimed at neutralising those trends that concen-

trate income that will result from the unrestricted application of market forces; actions directed at making income distribution compatible with the aim of satisfying the essential needs of the whole Mexican population by the year 2007.

CONCLUSIONS AND RECOMMENDATIONS

After a decade of crisis, Mexico is once again enjoying economic growth on new foundations. We are leaving behind an economy based on the expansion of the internal market, turning it towards other countries, in the process of the globalisation of world markets.

In this new process, one of the main challenges for Mexico lies in facing, with determination, the problem of poverty affecting large sections of the population. In accordance with the figures presented herein, although this problem became relatively less serious in the sixties and seventies in urban areas, it prevails in rural parts with high indices of extreme poverty.

The crisis in the eighties significantly worsened Mexican conditions of poverty and destitution. In urban areas, the number of households in conditions of poverty grew both relatively and absolutely; in the countryside, the shortages of households that were already poor were made worse and an ever greater proportion were driven into extreme poverty. The relative poverty index in Mexico is currently not only greater in rural than in urban areas but in the former, the conditions of poverty are more acute, with more than half of the rural population living in conditions of extreme poverty.

In absolute terms, however, the problem of poverty is a mainly urban problem, since almost two-thirds of the poor population live in these zones. The middle-term trends show that, if sustained economic growth is not re-established in the nineties, by 1995 53% of the national population could be in conditions of absolute poverty and 24% in conditions of extreme poverty.

Given the scale of the problem of poverty in Mexico, its eradication has to be a long-term project. In effect, the scenarios presented in this paper suggest that this aim could be reached by the end of the first decade of the next century, if any of the following three paths of economic growth are followed:

- a) rapid economic growth (higher than 7% a year) without changing family income distribution;
- b) moderate economic growth (4% annual), together with a process of income redistribution, similar to that of the U.K. at the beginning of the seventies, or
- c) slow economic growth (less than an average annual 2%), and a dynamic process to redistribute income, to reach a situation similar to that of socialist countries.

The reasons are given in the paper as to why the first and last scenarios should be rejected, and suggest the second as viable.

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This implies combining moderate but sustained economic growth that would bring change, also moderate, in the distribution of income, allowing the poorest households in the population a greater share of this income. An economic growth path such as this would allow for the essential needs of all Mexicans by the year 2007.

As has been indicated, many internal and external obstacles must be overcome in order to implement a strategy such as the one shown. From the internal viewpoint, greater attention to the struggle to redistribute income, without the necessary structural changes, could provoke recurrent macroeconomic imbalances that would put pressure on the balance of payments, increase the fiscal deficit and push up inflation, making it difficult to achieve the desired objectives.

From the external point of view, the strategy should be drawn up in the framework of the modernising process the Mexican economy is currently undergoing, resulting from joining world markets, in the context of the Free Trade Agreement with Canada and the United States.

The paper gives reasons why a middle-term worsening of economic inequalities could be expected. Hence the importance, for the long-term aim of eradicating poverty, of a policy to neutralize those trends that concentrate income resulting from the unrestricted application of market forces in the coming years.

In addition to the need to encourage a medium and long-term strategy like the one indicated, the State's continuation to promote, through the National Solidarity Program, actions aimed at specific groups of the population in conditions of extreme poverty will be of fundamental importance. Hence the transcendence of the parliamentary institutionalization of PRONASOL; permanent activity by the program could constitute one of the pillars of a long-term strategy to eradicate poverty in Mexico.

It would be recommended that a process of institutional evaluation be established in parallel, to precisely measure its effectiveness in fighting extreme poverty, both from the microeconomic point of view (an evaluation of targeting in the application of resources) and macroeconomically speaking (an evaluation of the effects of the program on income distribution and the country's productive structure).

NOTES AND BIBLIOGRAPHY

1. In preparing the paper, the writer made free use of the results of previous research, to be soon published in a book. See: E. Hernández Laos, Economic growth and Poverty in Mexico. An agenda for research, Autonomous Metropolitan University, Doctorate Program in Economic Science, Mexico City, 1991.
2. Technical Document and regional declaration on poverty, Regional Project to Overcome Poverty (RLA/86/004). United Nations Development Program, Bogota, Colombia, February 1989, p. 11.
3. See: Macroeconomics of essential needs in Mexico. Current situation and perspectives for the year 2000, Mexico City, Coplamar-Siglo XXI, 2nd edition, 1990, Methodological Appendix II.
4. Governmental transfers needed to cover items such as basic education, personal and non-personal health services and water and drainage infrastructure are not included. The complete list of satisfiers in the CNSE is found in Macroeconomics of essential needs... Op. cit., pp. 134-149. Just as examples, there follow those concepts including some of the basic needs contemplated therein. In food, apart from comestibles, the goods necessary for preparation and consumption; in housing, not only the use of the dwelling and water, drainage and electricity services, but some furniture and household equipment; in health, apart from personal and non-personal health services, the goods and services for home and personal hygiene, as well as a small group of products for personal care; in culture and recreation, reading material, a group of recreational goods and services and a small number of electronic goods; and in clothing and footwear, a parcel for each age and sex.
5. The poverty lines used in this paper differ, to a greater or lesser degree, from those used in other studies on the problem of poverty in Mexico. This has been analyzed in detail elsewhere. See: E Hernández Laos, "The evolution of poverty and fighting it through solidarity", in Debating Solidarity, National Solidarity Program Consultative Council-El Nacional, Mexico City, 1991, pp. 159-192.
6. See: "Poverty and social security research: an agenda", in: Social Security Research, 1977, Papers presented at a D.H.S.S. Seminar, H.M.S.O., London.
7. See: A. K. Sen, "Poverty: an ordinal approach to measurement", Econometrica, vol. 44, pp. 219-231. An extension to Sen's proposal may be found in: J. Boltvinik, "Towards an alternative indicator of development", copy, 1989. See also: S. Clark, R. Hemmings and D. Ulph, "On indices for the measurement of poverty", in The economic journal, vol. 91, June 1981, pp. 515-526.
8. In the equation, I is the average poor income deficit divided by the poverty line, that is: $I=(Z-M)/Z$, where Z is the poverty line and M is the average income of poor households.
9. The calculation of the Gini coefficient of poor income was carried out using logarithmic interpolation between the deciles of households below the poverty line in each of the years. We are assuming that the income distribution of 1981 was similar to that of 1977, and that the distribution observed in 1984 remained unchanged for 1988.
10. The effects of the prolongation of the crisis on income distribution are unknown, but it is worth stating that as the latter became more inequitable, our calculations would be severely underestimating the effects of the crisis on poverty. The National Household Income and Expenditure Survey, for the second half of

- 1989, currently being prepared, will probably change our appreciations of poverty trends in the latter half of the last decade.
11. The term Social Debt, coined by the International Labor Organization and the United Nations Development Program, refers to the social cost, in terms of the impoverishment of the population, of macroeconomic adjustment policies followed by most Latin American countries in the eighties in order to pay their foreign debts. See: Assuming the social debt: what it is, how big it is and how it is paid, ILO/PREALC, Santiago, 1988. Also: Mexico: adjustment with a human dimension. Social debt, employment and income distribution, 1980-1988, Project SPP/ILO/UNDP, Mex/86/008, Mexico, 1988.
 12. National Population Council, Op. cit., quoted by Raél Benítez Zenteno, "Changes in population dynamics and structure in Mexico: looking toward the future", Seminar on Mexico toward the year 2000. Challenges and options, National Autonomous University of Mexico, February 1989, case 8, p. 35.
 13. December 6, 1988, the National Solidarity Program Commission was established, with the aim of "combatting low living standards and ensuring compliance in the execution of special programs of attention to the Indian nuclei and the population in arid and urban zones in health, education, food, housing, employment, basic services and productive projects", see: Solidarity in national development, Mexico, p. 8.
 14. According to official figures, in that period, more than five million Mexicans benefitted from extended health cover; electricity reached five million people who did not have any; five million received drinking water; four million children study in schools made worthy of them; more basic supply stores, dairies and popular kitchens were set up; public works and municipal services were improved; the highway and road network was extended; the accumulated backlog of land without deeds for 14 years was dealt with by more than 70%, and various forms of support were channelled to Indians, seasonal agricultural workers, small producers, agricultural day workers, women and young people. Solidarity... Op. cit. p. 102.
 15. For an introductory look at this subject see: E Hernández Laos, "The evolution of poverty and fighting it through solidarity", in Debating Solidarity, Op. cit., pp. 182-192.
 16. Mexican national and state population projections: 1980-2010, CONAPO/INEGI, Mexico, 1985.
 17. World Demographic Estimates and Projections, 1950-2025, UN ST/SER.R/79, New York, 1988. Quoted by R. Benítez Zenteno, p. 5.
 18. Ibid., p. 34.
 19. The methodological bases for the projections are described in detail in COPLAMAR, Op. cit., pp. 82-84 and 88-96.
 20. See: E Hernández Laos and M. Paris Fernández, "Mexico in the first decade of the XXI century. Future social needs", in Foreign Trade, Vol. 38, no. 11, Mexico, November 1988, p. 967.
 21. Ibid.
 22. Ibid.
 23. Firstly, because a rapid capital accumulation process would be needed equal to an investment coefficient (capital creation/GDP) greater than 30%, difficult to obtain without large direct foreign investment and/or foreign investment. Secondly, that massive influx of foreign capital would have to be permanent to be able to finance the rapid growth in imports, despite the possible favorable development of the exporting sector of the economy, which would mean unstable economic growth due to the presence of persistent deficits in the Mexican balance of trade. Finally, due to the high demands for energy and natural resources necessary to support the rapid growth in the national product. See: E Hernández Laos and M. Paris Fernández, Op. cit.
 24. See: E Hernández Laos, "Inside Perestroika. The future of the soviet economy". Internal work document, Doctorate Program in Economic Science, Autonomous Metropolitan University, Iztapalapa, Mexico City, February 1991.
 25. See: "Equitable development. Some suggestions for action", CEPAL, Document LC/R, December 1987, Santiago de Chile, p. 10.
 26. Such as fruits, vegetables, beans and flowers. In others, however, such as oilseeds, Mexico would be benefitted by more imports from the U.S.
 27. Therefore a series of very specific conditions in the FTA on periods for an opening to imports of these products is to be expected, as mechanisms are implemented, leading to an increase in domestic productivity of these crops. Such mechanisms could include, perhaps, a radical reform of the bases for the operation of common land in Mexico.
 28. See: E Hernández Laos, Industrial growth policy and the evolution of total productivity of factors in Mexican manufacturing industry, a report presented to the Ricardo J. Zevada Studies and Research Fund, Autonomous Metropolitan University-Iztapalapa, Mexico City, October 1990.
 29. In specific industries such as wood and its derivatives and in rubber and plastic goods, productivity in Mexico does not reach 20% of that obtained in the U.S. In other items such as clothing, footwear and in non-metallic industries such as cement and similar products, and in electrical machinery, average productivity levels of our manufactures are relatively higher, inasmuch as they represent a little over 40% of U.S. levels. These differences could perhaps give an idea of the kind of specialization to be expected of the signing of the FTA with Canada and the United States. See: A. Maddison and B. van Ark, Comparisons of Real Output in Manufacturing, Working Papers, The World Bank, April 1988 (wps 5). The most recent experience suggests that in some items Mexico has won relatively significant margins of competitiveness, judging from the notable rise in its exports, such as in automobile products, beer and others. However, it should be noted in this case that a large part of the supposed competitiveness in recent years was due to the undervaluation of the Mexican peso against the dollar, something which has been slowly corrected beginning 1988 with the implementation of adjustment programs.
 30. ILO, Labor Statistics Bulletin, Geneva, 1989. The same source indicates that for that year the average wage in newly industrialized countries such as Korea is 2.7 times greater than in Mexico.

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Out of a 14-country sample, Mexican wages were only higher, on average, than those in Hungary.

31. Only in four out of eighteen industries (food, drink, chemicals and machinery) are wages in Mexico -corrected for productivity-comparable to international levels. In the other industries wages are relatively lower in Mexico than in the other countries: in six industries the difference is up to 50%; in seven between 50 and 100% and in one case (non-metallic mineral products) the difference is greater than 100%. See: E Hernández Laos and J. Aboites Aguilar, Productivity, technological change and labor flexibility in industrial transition: from import substitution to the promotion of manufacturing exports, Research project, Industrialization, Employment and Income Distribution Area, Doctorate Program in Economic Science, Autonomous Metropolitan University, March 1990, p. 3.
32. Hence the relevance for Mexico of attracting direct foreign investment in the strategic sectors that look to external markets. The policy of privatizing public companies and the relaxing of regulations governing the establishment of foreign investment in Mexico will make determined contributions to this.
33. See: E Hernández Laos and E. Mizrahi Alvo, "Productive structure, exports and employment in Mexican manufactures (1980-1988) and projections to 1995", Program on Basic Products, Interdisciplinary Research Center of the National Autonomous University of Mexico, Mexico City, July 1991 (unpublished).