International Institute for
Applied Systems Analysis
www.iiasa.ac.at

Aging and Social Security in Mexico

Ham, R.

**IIASA Collaborative Paper
January 1983**

AGING AND SOCIAL SECURITY IN MEXICO

Roberto Ham
El Colegio de Mexico, Mexico City

FOREWORD

        Low fertility levels in many countries are creating aging
populations whose demands for health care and income maintenance
(social security) will increase to unprecedented levels, thereby
calling forth policies that will promote increased family care
and worklife flexibility. The Population Project at IIASA is
examining current patterns of population aging and changing life-
styles, projecting the needs for health and income support that
such patterns are likely to generate during the next several
decades, and considering alternative family and employment
policies that might reduce the social costs of meeting these needs.

        The project is seeking to develop a better understanding of
how low fertility and mortality combine to create aging popula-
tions, with high demands for health and income maintenance, and
reduced family support systems that can provide that maintenance.
The research will produce analyses of current demographic pat-
terns, primarily in IIASA countries, together with an assessment
of their probable future societal consequences and impacts on
the aging. It will consider the position of the elderly within
changing family structures, review national policies that promote
an enlarged role for family care, and examine the costs and
benefits of alternative systems for encouraging worklife flexi-
bility by transferring income between different periods of life.

        Although not a member of IIASA, Mexico offers a particularly
interesting example of a country whose population aging has only
started. Mexico has a young population structure and a combina-
tion of public and private pension systems. Fertility apparently
has begun to decline, and the number of elderly people is expected
to rise sharply in the future. In this paper, Roberto Ham, the
director of the Population and Urban Development Center at El
Colegio de Mexico examines the evolution of Mexico's aging pop-
ulation and describes current social security policies.

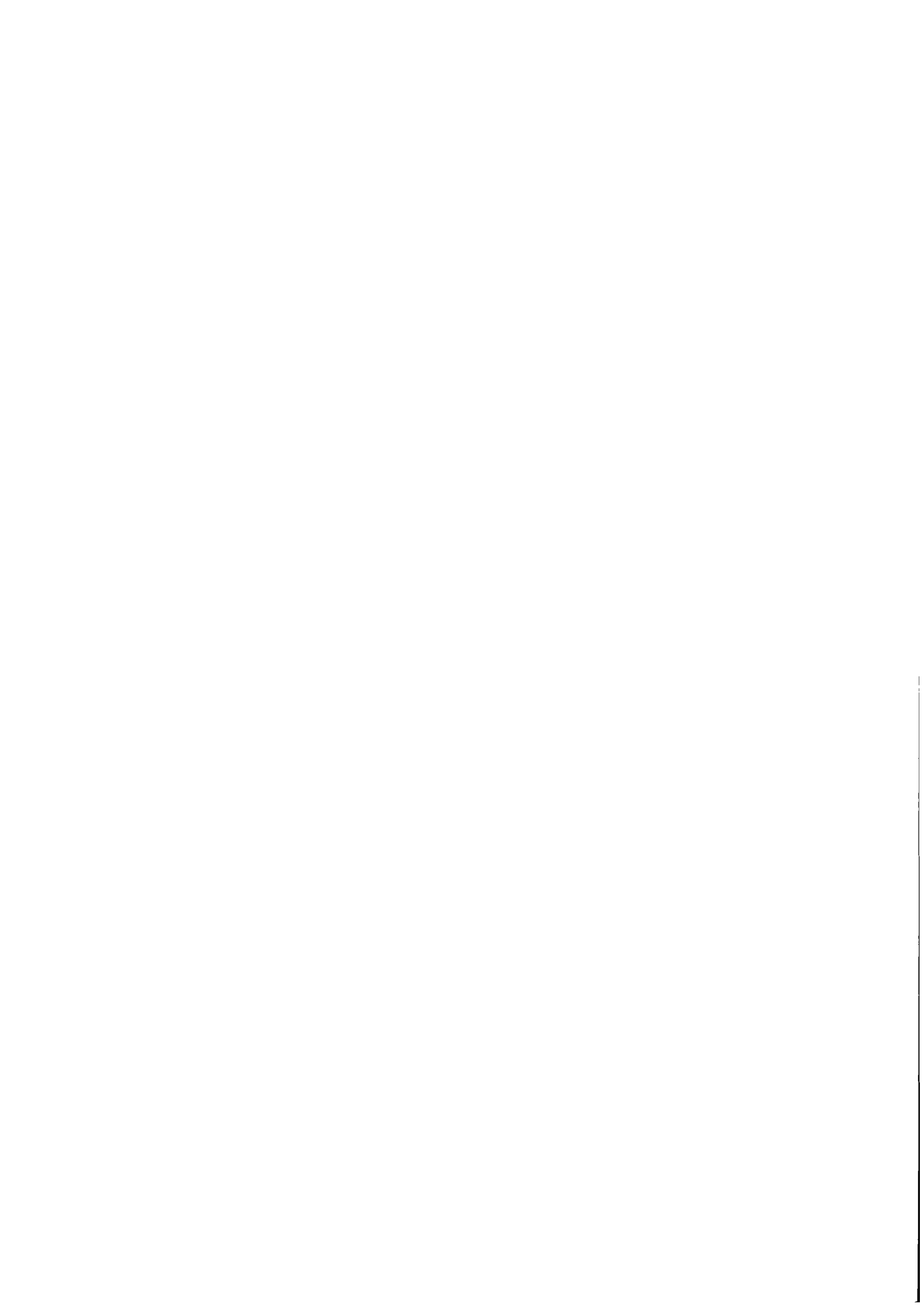   Related IIASA publications appear at the end of this paper.

                                        Andrei Rogers
                                        Leader
                                        Population Project

CONTENTS

AGING AND SOCIAL SECURITY IN MEXICO

1. INTRODUCTION

As the year 2000 approaches, we find ourselves anticipating the twenty-first century and what it holds for us and in particular for populations throughout the world. In demographic terms, we are concerned not so much with hazarding guesses as to the future situation of the population, but rather with determining what can be done in advance to guide demographic, economic, and social dynamics toward the continuous improvement of the population, with a view to establishing a global population optimum, possibly in the course of the next century.

Demographers tend to agree in their view that future world population will attain stability; the very condition of the earth having a finite size limits population growth. In the United Nations assumptions, various ranges are considered from the point of view of both the time required for such stabilization to be reached and the level of the total number of inhabitants. These ranges extend from 8,000 million in the year 2040 to 14,200 million in the year 2130, while the intermediate figure of 10,500 million is forecast for the end of the twenty-first century (Salas 1981). The achievement of stability, the level at which it occurs, and the time necessary for reaching it will

depend mainly on the way in which fertility and mortality rates decrease. Of these two variables, fertility has the greater effect on determining stability and its characteristics.

Future demographic behavior, including possible stabilization, will not be a uniform phenomenon around the world. The demographic, economic, and social differences, which presently exist between regions and nations, merely point to different processes of development. At one end of the scale we have countries with young populations and high fertility and mortality rates, accompanied by socioeconomic underdevelopment; at the other extreme, we find countries with a high level of old people, lower mortality and fertility rates, and greater development. Between these two poles there is a whole range of intermediate situations. All this indicates that the world's future populations will evolve differently, thus having problems that vary in weight, according to the region and country.

2. THE AGING OF A POPULATION

The decline in demographic growth because of a decrease in fertility rates produces among other things, the aging of the population. The term "aging", when applied to a population, is not as clear a concept as when it is used in reference to an individual. Various measurements have been devised for calculating demographic aging; however, for the specific aims of this work, we have chosen the proportion of old people with respect to the total population as our measurement.

The old age of a population, measured by the percentage of inhabitants of at least a specified minimum advanced age— for example, 65 years—is a population characteristic that varies from country to country and region to region. The same can be said of the way in which the process leading up to stabilization occurs. Countries range from the essentially young and underdeveloped nations that will age slowly, taking perhaps as long as a century to reach stability and maximum old age, to nations that are already advanced in age, are generally developed and will attain their peak age within a very short time.

The purpose of this paper is to discuss some of the characteristics of aging in a country like Mexico, which has a decidedly young population structure and which, although it still has a long way to go before attaining the level of socioeconomic development desired, is progressing along a road that offers favorable prospects for the future.

3. DEMOGRAPHIC BACKGROUND

In the period following the Mexican Revolution when the first steps to consolidate public institutions were being taken, the socioeconomic conditions in Mexico favored accelerated demographic growth; this was intensified after 1940 at which time it continued on a par with the industrialization of the nation. This acceleration is reflected in the high rates in demographic growth observed in the last few decades and illustrated by the official census figures presented in Table 1.

Table 1.   Demographic growth in Mexico for census years from 1921 to 1980.

Year	Population (thousands)	Intercensal annual growth rate
1921	14,335	1.61
1930	16,553	1.73
1940	19,654	2.75
1950	25,791	3.08
1960	34,923	3.28
1970	48.225	3.29
1980	67,406[a]	

[a]Preliminary figure according to Dirección General de Estadística (1980).

In contrast to the tendency toward higher rates of popula-
tion growth that prevailed for several decades, there are now
indications of a reverse trend. As a result of a combination
of factors, which are due to the country's socioeconomic progress
and to government action on family planning, fertility rates
have begun to decline. Given that the principal component of
economic growth in Mexico is precisely fertility, an immediate
consequence of its decline will be lower rates of population
growth. Another result will be modifications in the age struc-
ture, particularly in the aging of the population.

4. EVOLUTION OF AN AGING POPULATION

The 1910-1970 census figures for the Mexican population
65 years and over describe the changing trends (Table 2).

Table 2. The population of Mexico 65 years and over and its
percentage of the total, by sex and year of census.

Year	Population (thousands) aged 65+			Percentage of the population aged 65+		
	Total	Male	Female	Total	Male	Female
1910	345	176	169	2.28	2.34	2.21
1921	380	190	190	2.65	2.71	2.59
1930	489	242	247	2.95	2.98	2.93
1940	587	284	303	2.98	2.93	3.04
1950	869	413	454	3.36	3.26	3.47
1960	1,199	579	620	3.43	3.32	3.54
1970	1,791	859	932	3.71	3.57	3.86

SOURCE: Dirección General de Estadística (1980).

It is true that all censuses have their defects, some more than others. However, the figures indicate two clear tendencies. One of these is that the number of people over the age of 64 has been steadily increasing; from 345 thousand in 1910, the figures rise constantly, reaching 1 million 791 thousand in 1970, according to the census taken for that year. Besides this increase in the volume of the population made up of elderly people, it can also be seen that the percentage, with respect to the total, undergoes a gradual increase. From the 2.28 percent of the population of 65 years and over in 1910 we can observe increases that reach up to 3.71 percent in the figures recorded in the 1970 census.

The tendencies illustrated by these data point to future increases in figures for this sector of the population. Next, and of greater importance, we can also expect the population of 65 years and over to assume greater relative weight, especially since all indications point to a decline in reproduction rates. There can be no doubt that the study of the past merits the importance attributed to it. But our society should strive, rather, to improve plans for the future and its provision. In terms of the population variable and the inescapable task of interpreting the demographic future and its consequences, we have no option but to place our trust in the ever-inaccurate projection game.

Thanks to the computer and the improved techniques used in population projections, it is now possible to schematize the evolutionary process of population structures in a very precise and comprehensive way. When one comes to the numerical implementation of these models, however, it is still necessary to apply a parameter of the expected level of the determining demographic variables: fertility, mortality, and migration. This parameterization constitutes what is known as the projection hypothesis. Thus the degree of soundness of a projected population is a direct function of how sensibly the projection hypothesis is chosen.

In the case of Mexico, we can predict a steady decline in fertility, a continuing tendency toward lower mortality rates, and a population loss due to emigration to the United States. The positive or negative sign of each one of the variables does not really merit debate. Where discussion does arise is in connection with the numerical level attained by each variable.

One numerical projection exercise in which hypotheses were adopted with particular care, was done by Camposortega (1980). This study was undertaken because of the Mexican government's recent interest in achieving a more rational population policy for the country. One of these policies, by far the most publicized, aims at lowering fertility levels. An official proposal suggests the possibility of reaching a 2.5 percent growth rate in 1982 and gradually dropping to 1 percent by the beginning of the next century. Socioeconomic and demographic conditions make these goals somewhat hard to attain, but if certain mortality and fertility hypotheses that resemble government aims are assumed, it is possible to project the future population structure, thus producing demographic patterns that provide some insight into the time and extent of the aging of the population. A numerical synthesis of these assumptions are contained in the following three tables.

Table 3.   Fertility assumptions.

Period	Gross reproduction rates
1975-1980	2.625
1980-1985	1.875
1985-1990	1.458
1990-1995	1.385
1995-2000	1.151
2000-2005	1.050
2005-2010	1.044
2010-2015	1.037
2015-2020	1.031

SOURCE: Camposortega (1980).

Table 4. Mortality assumptions.

| Period | Infant mortality | | Life expectancy at birth | | Life expectancy at age 5 | |
	Female	Male	Female	Male	Female	Male
1975-1980	64.76	75.21	66.58	62.88	67.64	64.22
1980-1985	59.24	66.42	68.09	64.40	68.59	65.17
1985-1990	54.66	61.35	69.34	65.66	69.38	65.97
1990-1995	50.86	57.14	70.37	66.73	70.03	66.65
1995-2000	47.70	53.65	71.21	67.70	70.56	67.21
2000-2005	45.09	50.74	71.83	68.24	70.92	67.58
2005-2010	42.91	48.33	72.34	68.77	71.21	67.88
2010-2015	41.11	46.32	72.82	69.27	71.52	68.20
2015-2020	39.61	44.62	73.25	69.71	71.80	68.49

SOURCE: Camposortega (1980).

Table 5. Expected growth rates.

Period	Rate
1980	2.90
1985	2.17
1990	1.81
1995	1.69
2000	1.59
2005	1.39
2010	1.23
2015	1.05
2020	0.90

SOURCE: Camposortega (1980).

Using these basic assumptions, Camposortega found for the period 1970-2040 (Table 6), the following five-year rates of population growth, the number of persons of 65 years and over at the end of every five years, and the percentage share of the latter with respect to the total population.

Table 6. Annual population growth rate projections to the year 2040, the projected population 65 years and over, and its percentage of the total for Mexico.

Five-year period	Annual growth rate	Population aged 65+ (thousands)	Percentage of the population aged 65+
1970-1975	3.34	1,969	3.30
1976-1980	2.90	2,168	3.14
1981-1985	2.17	2,445	3.18
1986-1990	1.81	2,936	3.48
1991-1995	1.70	3,650	3.94
1996-2000	1.59	4,517	4.50
2001-2005	1.39	5,488	5.11
2006-2010	1.23	6,624	5.80
2011-2015	1.05	8,048	6.68
2016-2020	0.90	9,866	7.83
2021-2025	0.77	12,178	9.30
2026-2030	0.63	14,973	11.08
2031-2035	0.48	17,976	12.99
2036-2040	0.32	21,393	15.22

SOURCE: Camposortega (1980).

When comparing Tables 2 and 6, we note, first of all, the increase expected in the absolute number of the aged population. These figures have shown a tendency to increase up to the present. According to the projection, this tendency will continue with the same inertia, resulting in the accumulation expressed in the figures quoted above. From the possible 2 million 168 thousand people 65 years and over living in Mexico today, we can expect, by the year 2000, a figure of 4 million 517 thousand, rising to almost 10 million by 2020 and exceeding 21 million by 2040.

At this point an observation should be made in connection with the perspectives discussed in the previous paragraph. The period 1980-2040 consists of 60 years, which implies that part of the population referred to in the 65 and over projection is already born. Thus, what we are projecting is the survival, taking into account mortality and emigration, of a group that now lives with us (and that we ourselves, in fact, constitute).

In this sense the problem is simplified, for the fertility variable, with all the technical and political complexity that it implies in its application, does not intervene here.

The other indicator that interests us, the percentage of older people with respect to the total population, appears in both Tables 2 and 6. It can be seen that over a long period of time, this percentage also increases and becomes gradually more marked. From the 3.14 percent, roughly corresponding to the year 1980, we will reach an estimated 4.50 by the turn of the next century, perhaps 7.83 by 2020 and 15.22 by 2040. This indicates that from the little over 3 elderly persons for every hundred persons existing today, there will be an increase of up to almost five times that figure within the next 60 years. Besides this general outlook on the percentage of people of advanced age and the long-term perspectives, we have a situation that is peculiar, which merits consideration. If we pay particular attention to the percentages for the years 1975, 1980, and 1985, we will note a depression. From the 3.71 percent recorded in the 1970 census data (Table 2), there is an initial decrease in the projections, with the figures falling to 3.30 in 1975, to the lowest percentage of 3.14 in 1980; from this point recuperation takes place and the percentage increases, reaching 3.18 in 1985.

If the figures reflect the real situation, we find ourselves, in 1980, in the mist of a population rejuvenation, in the sense that there is a lower percentage of old people. This temporary regression in the general aging tendency has a two-fold explanation. One of the causes can be explained by the lack of births during the revolutionary war and by the increase in infant and child mortality in those years. According to the 1910 census, minors of 10 years of age accounted for 4,779,791, while in 1921 the figure diminished to 3,713,040. The number of persons of advanced age now required in order to maintain an unaltered increase in the percentage growth partially corresponds to the lack of births and the possible excess of deaths among children during the revolutionary period. Other underlying

causes contributing to a 1980 lower percentage of those aged
65 and over are the increasingly higher fertility rates exper-
ienced from 1940 to 1975. This results in larger population
portions of those aged below 65, which in turn lowers the cor-
responding portion of the population 65 and over.

5. A DEMOGRAPHIC MEASUREMENT OF OLD-AGE DEPENDENCY

If an individual has been economically active and manages
to survive and settle into old age, it is most likely that he
will stop being productive at a given moment and join the pas-
sive population. In other words, there is a change in the situa-
tion; he ceases to be a component of production and consumption,
and now becomes exclusively a consumer, joining that part of the
population whose maintenance depends on the able and economically
active sector.

It is generally claimed that contemporary society is not
indifferent to the fate of its nonproductive elements. The
person who, for reasons of incapacity cannot fend for himself,
has the right to be looked after by the rest of society. From
this it follows that a person who is unable to work on account
of his age should receive the means necessary for his subsistence
from the community. Unfortunately, the society that we actually
live (or suffer) in is far removed from this utopia. To a
certain extent, the incapacitated person is left to his own
meagre resources and some old people are victims of virtual
"geronticide". Be that as it may, whether it is a question of
an old person who enjoys accumulated wealth or somebody living
on public charity, the fact is that we are dealing with a sector
of the population that, to a lesser or greater extent, consti-
tutes an economic and social burden on the active population.

When discussing this aspect of the elderly population's
dependency on the productive population, one of the questions
that immediately arises is how to quantify this dependency.
Possibly, as is the case with many other aspects of social
statistics, the conceptual solution for establishing this

measurement does not present any particular problems. However, it is the practicability of the concepts that eludes us because of our old-age problem of lack of information and the disorganization of that which does exist. Hence, for the present, we can only rely on approximations.

One of these approximations, which by virtue of its simplicity is also one of the most superficial, simply takes the percentage relation existing between the number of persons over the age of 64 years and the number of people between the ages of 15 and 65 years. (See, for example, the use of this measurement in *Rapport sur les Effets Combinés de l'Abaissement de l'Age de la Retraite et du Vieillisement de la Population sur la Financement des Régimes de Sécurité Sociale Rélatifs aux Prestations a Long Terme*, Conseil de l'Europe, Strasbourg, 1977.) This index is based on the assumption that from the age of 65 onwards a person becomes dependent on the active population, the latter being composed of people between the ages of 15 and 64 years. Table 7 gives the population percentages corresponding to the age groups 0-14, 15-64, and 65 and over. These figures are in accordance with the development observed in the data provided by the censuses taken between 1910 and 1970, and with the estimates for each five-year period between 1975 and 2040. In the same table we have included, in the final column, the "dependency quotient" according to the approximation measurements described above.

An analysis of these figures, particularly those in the final column, reveals yet again the tendency toward an increase in the quotient under review. It rises from 4.09 at the beginning of the century to 7.42 in 1970. In the 30-year interval between 1970 and 2000 the figures show another depression. The figures decrease every 5 years, sinking to 5.58 in 1985, and it is not until the beginning of the following century that they retain the level corresponding to 1970. This is due to two factors. A quotient is less when the numerator decreases, the denominator increases, or both occur. In the interval mentioned we have a combination of this double effect. On the one hand,

we have the effect of the lower proportional number of people of 65 years and over, resulting from lower fertility and higher mortality during the revolutionary period and the 1940-1975 high fertility rates discussed above. On the other hand, the decline expected in fertility rates will considerably decrease the percentage of 15-year-old minors, as the second column makes clear. This decline causes the increase in the other figures, particularly those in the third column, which correspond to the population between 15 and 64 years of age.

Table 7. Projected population percentages by age group for selected years from 1910 to 2040 for Mexico.

Year	Percentage aged 0-14	Percentage aged 15-64	Percentage aged 65+	Dependency quotient 65+ / 15-64 (percent)
1910	42.10	55.63	2.27	4.09
1921	38.78	58.57	2.65	4.52
1930	39.22	57.83	2.95	5.11
1940	41.21	55.81	2.98	5.35
1950	41.78	54.86	3.36	6.13
1960	44.39	51.18	3.43	6.58
1970	46.21	50.07	3.72	7.42
1975	45.97	50.73	3.30	6.51
1980	43.84	53.02	3.14	5.92
1985	39.84	56.98	3.18	5.58
1990	34.50	62.10	3.48	5.61
1995	30.78	65.28	3.94	6.04
2000	28.73	66.76	4.50	6.74
2005	27.41	67.48	5.11	7.57
2010	25.31	68.90	5.80	8.42
2015	23.74	69.58	6.68	9.60
2020	22.48	69.69	7.33	11.24
2025	21.43	69.27	9.30	13.43
2030	20.70	68.22	11.08	16.24
2035	20.11	66.90	12.99	19.42
2040	19.58	65.20	15.22	23.34

SOURCE: Derived from censuses, population projections, and Camposortega (1980).

The significance of the figures in the final column for the year 2000 and beyond should be discussed separately. The action of an already patently growing numerator, denoting the rapid growth expected in the population of 65 years and over, and the halt in the growth of the population between 15 and 64 years, together with its initial decline, provoke the extremely elevated figures forecast for the indicator. This tells us that, assuming the projection hypotheses are realized, we shall not at first expect, in this century, a greater burden of the older population on the productive population; rather, it would appear that this burden is becoming lighter. Immediately after, still within the same century, we can expect a notable increase in the mentioned index, which, by the year 2040, should amount to 23.34 persons of 65 years and over for every 100 between the ages of 15 and 64.

6. OLD-AGE DEPENDENCY AND ECONOMIC ACTIVITY

In the previous section we discussed a dependency rate that was based exclusively on ratios between age groups. While retaining a degree of meaning and significance, the simplicity of this indicator does not allow for a sufficiently precise interpretation for a direct and practical application. The fact is that unproductivity, along with the dependency it brings, does not occur simply because a person reaches the age of 65; nor is it true that economic productivity is a necessary characteristic exclusive to all people between the ages of 15 and 64 years. In an exposition such as this, our next step, when discussing dependency rates, must be to relate them to the economically active population. A greater measurement of dependency resulting from senility is provided by obtaining the number of economically inactive persons of 65 years and over for every 100 active persons. According to the 1970 census figures, this number comes to 6.37.

When viewed prospectively, this improved rate requires two types of projections: one that is purely demographic, consisting of the population and its age and sex structure, and the other that projects labor force participation rates. With regard to this last point, we have found little work done in connection with Mexico, and what does exist leaves plenty of room for improvement. Hazas (1977), whose study of the theme is perhaps the best, adopts a modification of the rates projected by the International Labor Office. His projection of labor force participation rates starts with corrected figures taken from the 1970 census and assumes alterations in these rates as a result of socioeconomic changes. From these results we can expect the future composition to take the form expressed in Table 8.

Table 8. Projected labor force participation rates by age group and sex for selected years from 1970 to 2000 for Mexico.

Age	Year						
	1970	1975	1980	1985	1990	1995	2000
Males							
10-14	18.87	15.48	12.08	10.01	7.94	6.53	5.05
15-19	72.09	67.84	63.56	59.94	56.52	53.87	49.93
20-24	94.67	92.95	91.23	89.90	88.16	86.62	85.13
25-44	97.09	96.95	96.81	96.66	96.39	96.24	96.09
45-54	96.99	96.51	96.03	95.44	94.91	94.35	93.79
55-64	93.15	92.60	91.96	91.23	90.42	89.53	88.64
65+	84.20	76.50	68.80	62.72	54.12	46.75	39.38
Females							
10-14	2.09	1.78	1.47	1.28	1.09	0.96	0.74
15-19	20.94	21.49	22.04	22.79	22.04	23.71	25.11
20-24	24.07	24.70	25.33	26.19	26.36	27.25	28.36
25-44	16.33	16.34	16.34	16.44	16.48	16.49	16.50
45-54	16.18	16.18	16.18	16.18	16.18	16.18	16.18
55-64	14.65	14.56	14.46	14.35	14.22	14.08	13.94
65+	10.93	9.93	8.93	8.14	7.02	6.06	5.10

SOURCE: Hazas (1977).

It is true that these figures are open to discussion, since they are particularly questionable for the female labor force participation rates. However, since they are the most suitable figures to be found among available data, we have used them, combining well-thought-out projection techniques with an extra element of our own. We suppose that the hypothetical rates projected for the first year of the twenty-first century will be maintained from the year 2000 to 2040. This simplicity enables us to apply a numerical exercise to Camposortega's projections, from which the following forecast figures for this new economically inactive population rate (EIP) (of 65 years and over) divided by the economically active population rate (EAP) were obtained (Table 9).

Table 9. Projections for selected years of the economically inactive population aged 65+ (EIP) divided by the economically active population (EAP) for Mexico.

Year	EIP 65+/EAP	Year	EIP 65+/EAP
1970	6.37	2005	10.67
1975	6.48	2010	11.96
1980	6.53	2015	13.55
1985	6.58	2020	15.75
1990	7.23	2025	18.67
1995	8.24	2030	22.36
2000	9.67	2040	31.30

Assuming that the projection hypothesis is valid, the figures in Table 9 indicate that lower percentages in the older population combined with lower rates of activity within this sector result in a practically constant dependency level between 1970 and 1985. Then, the steadily rising percentages of the older population, as presented in the fourth column of Table 7, together with the lower labor force participation rates, should

provoke increases in the dependency ratio; after the year 2000
the dependency ratio should increase rapidly, giving us over 31
old-aged dependents for every 100 economically active persons
by the year 2040.

One of the reasons for the expected increase in the depen-
dency level is the constant decline in the rates of labor force
participation in the population over the age of 64 years. This
hypothesis is not reflected in the participation rates for both
sexes shown in Table 8. From the 84.20 male participation rate
for 1970, we can expect a rate of 39.38 in the year 2000 and
beyond. In the case of females, the 10.93 rate for 1970 will
decrease to 5.10 at the end of the century. This assumption is
supported by the fact that the developing pension and retirement
systems, which are becoming more widespread every day, will cause
more and more people to retire from active life and to live on
pension benefits.

7. SOCIAL SECURITY AND RETIREMENT PENSIONS

In countries where old people account for a high percentage
of the total population, social, economic, and demographic
problems arise. Among them are the important problems of social
security and retirement pensions. As more and more elderly
people retire from the labor force, economic burdens placed on
the younger generations become more and more difficult to main-
tain. As shown in the previous section, Mexico might reach such
an aging of its population, thereby creating a financial crisis
in social security systems like the ones many developed countries
are now experiencing.

The question arises: What will have to be done to accommo-
date such future possibilities? One immediate answer to this
question, of course, is that it would be unthinkable to suggest
halting the drop in mortality and fertility rates in order to
control a future old-age dependency ratio. It also will take
some time before aging becomes a real problem in many developing
countries despite the fact that social welfare plans eventually

lead to population aging, since their implicit objective is to obtain decreasing mortality and fertility rates. It is estimated that countries like Mexico, whose present share of people 65 years and over is still only around 3 percent, will not reach the present levels of countries like those in Western Europe until at least 50 years. It is not sensible to become overly anxious about such problems, especially since present scientific, technological, socioeconomic, and political changes are leading us to a twenty-first century that will be very different from the twentieth. Should we worry about a 65+ / (15-64) dependency ratio when we are aware of the future productivity that automation seems to promise?

If all this is so, the next question will be whether or not developing countries such as Mexico have any problems regarding the present state of the elderly population, its future, and especially the problem of social security covering retirement pensions.

8. THE MEXICAN PENSION SYSTEM

It appears that the most desirable way society can help those who, because of old age, can no longer provide for themselves is by means of pension systems. The act of pensioning off an aged worker and thereby assuring him of a decent and stable income is an act of justice and reward for an active lifetime of efforts to the benefit of society. One must not forget that present generations make use of the basic foundations and teachings inherited from past generations; nor should it be forgotten that future generations will receive the benefit of investments that are now being made by present generations, which is what allows pragmatic solidarity between generations— the basis of pension systems. Instead of old-age homes, good (or bad) accommodations on the part of relatives, or public charity, one earns the right to a pension. It is a system whereby beneficiaries do not lean on others but instead make use of something they have earned through their past labor.

When social security is analyzed, the rather obvious fact
is perceived that a country's welfare and social security are
actually social and economic goods, which means their quality
is closely connected to the extent of the specific country's
economic development and social harmony. And since pensions
are part of welfare and social security programs, it is clear
that another disadvantage of a socially and economically less
developed country like Mexico is an insufficient and unbalanced
granting of pensions.

Prevailing pension systems, with all their internal varia-
tions, result from the social, economic, and mainly political
priorities that originally influenced their development. They
have varying effectiveness and organization, and the main dif-
ferences between them are to be found in: (1) the people who
are benefitted by a given program, (2) the standards used to
determine the right to a pension, (3) the level of benefits with
regard to the actual amount of stipends, (4) the manner in which
pensions are financed, and (5) the legal foundations upon which
the system is based.

One characteristic of pension systems is that they almost
always stem from labor relations*, while being granted under
norms established through collective bargaining, laws, or labor
regulations.

There is another interesting aspect of long-run welfare
benefits taking the form of pensions; more and more they are
shifting over from the competence and possibilities of individ-
uals and private groups to public institutions in charge of
social security. The great majority of pension system benefits
are to be found in these institutions, as can be seen in Figure
1, which outlines the organization and coverage of old-age
pensions in the Mexican system.

---

*Exceptions to this rule are pensions that are granted by the
 Federal Government for some special reason. For example,
 pensions are granted to reward distinguished service to one's
 country, as in the case of pensioned veterans of the Mexican
 Revolution.

```
                                    ┌─────────────────────────────────────────┐
                                    │ MEXICAN INSTITUTE FOR SOCIAL            │
                                    │ SECURITY    (IMSS)              3.1     │
                                    └─────────────────────────────────────────┘

                                    ┌─────────────────────────────────────────┐
                                    │ INSTITUTE FOR SOCIAL SECURITY AND       │
                                    │ SERVICES FOR STATE WORKERS   (ISSSTE) 3.2│
                                    └─────────────────────────────────────────┘

                                    ┌─────────────────────────────────────────┐
                                    │ COMPLEMENTARY SYSTEM TO IMSS      3.3    │
                                    └─────────────────────────────────────────┘
        ┌──────────────────┐
        │ ECONOMICALLY     │        ┌─────────────────────────────────────────┐
        │ ACTIVE      2.1  │        │ LOCAL SOCIAL SECURITY OFFICES     3.4   │
        │ POPULATION       │        └─────────────────────────────────────────┘
        └──────────────────┘
                                    ┌─────────────────────────────────────────┐
                                    │ COMPANIES' INDIVIDUAL SYSTEMS     3.5   │
                                    └─────────────────────────────────────────┘

                                    ┌─────────────────────────────────────────┐
                                    │ NO CLAIM TO PENSION BENEFITS      3.6   │
                                    └─────────────────────────────────────────┘
┌──────────────┐
│ TOTAL        │
│ POPULATION 1 │                    ┌─────────────────────────────────────────┐
└──────────────┘                    │ OLD-AGE PENSIONED POPULATION      4.1   │
                                    └─────────────────────────────────────────┘
        ┌──────────────────┐
        │ ECONOMICALLY     │        ┌─────────────────────────────────────────┐
        │ INACTIVE    2.2  │        │ OTHER PENSIONED POPULATION        4.2   │
        │ POPULATION       │        └─────────────────────────────────────────┘
        └──────────────────┘
                                    ┌─────────────────────────────────────────┐
                                    │ NON-PENSIONED POPULATION          4.3   │
                                    └─────────────────────────────────────────┘
```
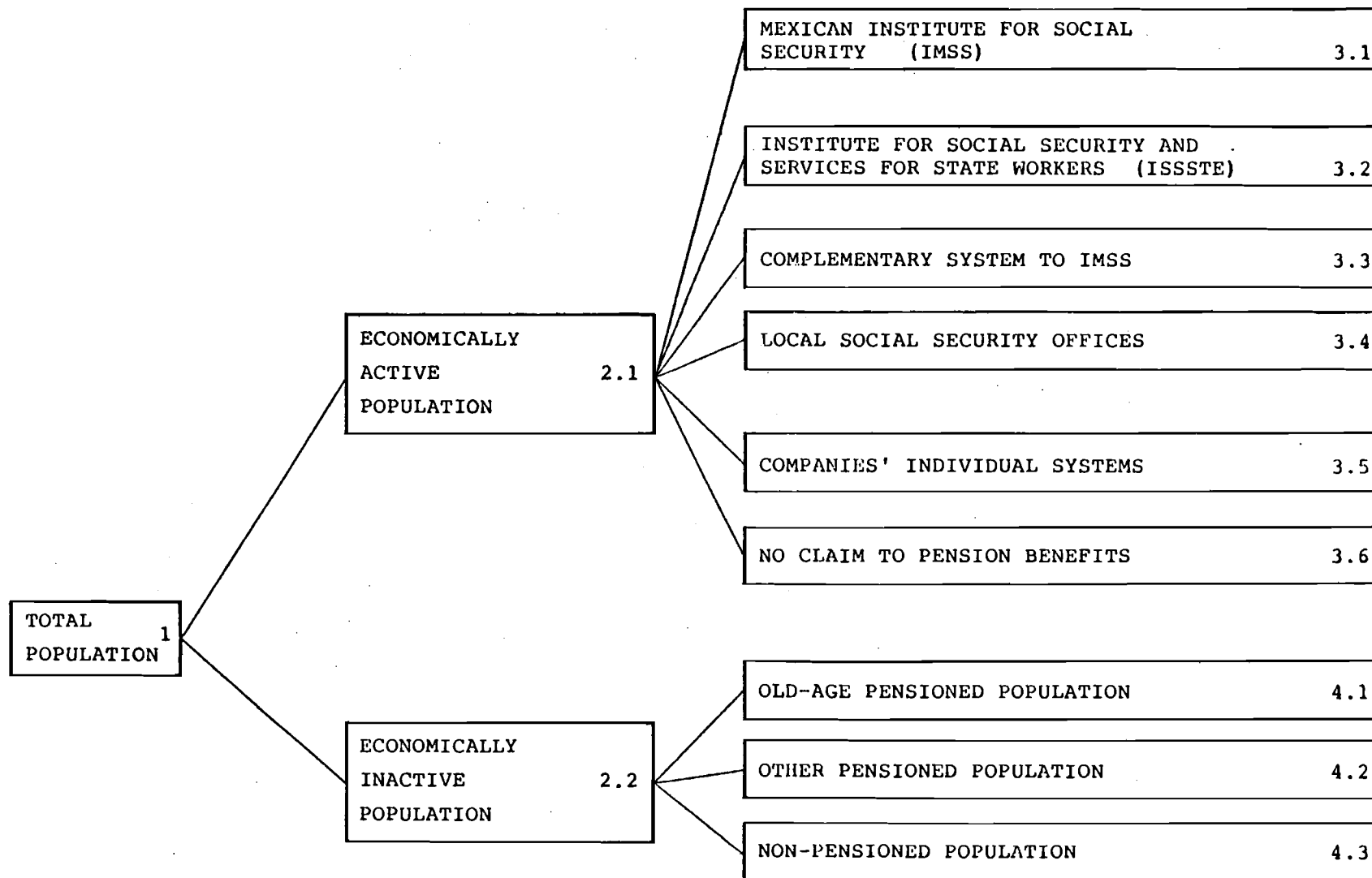
Figure 1.   The Mexican system for granting old-age pensions.

We will use this chart to attempt a provisional classification of institutions in charge of administering pensions, together with an initial evaluation of the kind of population covered by these agencies. The first level represents the whole population (block 1), which is then subdivided into subpopulations, according to the kind of institution that handles the pension system for each of these subpopulations. We will initially consider the subpopulations to be complementary and exclusive, although actually there is some overlapping.*

The first subdivision divides the total population into two categories: the economically active population (block 2.1) and the economically inactive population (block 2.2). This was done because pensions are derived solely from labor relations, as previously mentioned.

The first category, that of the economically active population, consists of the section capable of collecting benefits and eventually making real use of the right to a pension. Types and levels of a pension system's benefits depend on legislation and the agency charged with administering it. Sometimes both legislation and the type of administering agency are so closely connected that their correspondence is one-to-one. The type of institution in which a worker is employed and the legislation he will base his claims on, both depend directly on the kind of company that employs his services. In the specific conditions prevailing in Mexico, we would classify the different types of pension plan administration as follows, taking into account the characteristics that make them similar:

a) Instituto Mexicano del Seguro Social (IMSS) [Mexican Institute for Social Security] (block 3.1)

b) Instituto de Seguridad y Servicios Sociales de los Trabajadores del Estado (ISSSTE [Institute for Social Security and Services for State Workers] (block 3.2)

c) the complementary system to IMSS (block 3.3)

---

*It is not uncommon to discover cases of people holding different job activities and receiving coverage from two different systems, thus retiring on two pensions.

d) regional or local social security offices or institutes (block 3.4)

e) companies' own individual systems (block 3.5)

f) individuals having no claim to pension benefits (block 3.6)

The final item (f) takes into account the section of the population that does not enjoy the kind of benefits we are discussing here. Even though there is an explicit lack of a pension plan for a section of the population, it was necessary to include it in this study precisely because of the fact that this vast, unprotected population exists.

The economically inactive population (block 2.1) is also divided into subclasses. First, there is the section of the population that has already retired and is receiving a pension because of old age (block 4.1). The second subclassification includes those who are on a pension because of reasons other than age (block 4.2), for example widows and orphans; this group is usually covered by certain legal guarantees to protect dependents of deceased laborers or pensioners. Premature disability caused by an accident or sickness, whether or not it was on the job, also comes under this heading. Finally, we have the section of the population that is not engaged in any economic activity but at the same time does not rely on a pension, e.g., minors, students, and housewives, as well as the unemployed senile population having no pension benefits. The second and third classifications are included for clarity but are not relevant to our discussion of pensions for the aged.

9. SOME FEATURES OF THE MEXICAN PENSION SUBSYSTEMS

To classify is to group together elements that are similar to one another in some given characteristic. The classification of different prevailing pension systems in Mexico proposed in Section 8 is based on two conditions of similarity. One is related to the type of workers each subsystem covers and the other refers to the type of benefits granted. The same, roughly

homogeneous, type of workers tend to seek coverage from the same systems and to receive approximately the same kind of benefits.

9.1 The Instituto Mexicano del Seguro Social [Mexican Institute for Social Security]

The IMSS, a governmental agency, is the largest compulsory social security institution in the country. The population it covers is made up mostly of wage earners who work in private enterprise. A few special groups of workers from the public sector and from small areas of agriculture are also members. Because of the radius in which it operates, the population that benefits from IMSS is predominantly urban and wage earning; prototype members are industrial workers and lower ranking white-collar employees. Old-age pension beneifts are outlined through a branch the Social Security Law referred to as "Invalidity, old age, unemployment at old age, and death". It is also worthy of note that not all IMSS members are covered by pension plans, since some programs only grant medical attention. This is a consequence of trying to offer social protection, albeit partial, to very poor people.

Normal retirement age has been established at 65; 500 weeks of contribution to the system is required as a minimum and the maximum amount is 10 times the minimum wage in the Federal District, which is presently 9,000 pesos a month (180 US dollars). Therefore, a worker who retires at the age of 65 after 30 years of working at close to the minimum wage, roughly 10,000 pesos per month ($200), will get an average pension of around 6,200 pesos a month ($125). It should be noted that the minimum wage in Mexico is barely enough to live on and that 60 percent of this income falls short of the subsistance level. Bearing in mind that most of the labor force is at income levels similar to the one in the example, it is evident that IMSS pension allow-ances are not adequate.

The same law that governs IMSS provides for the possible pension once the age of 60 is reached, though the amount is smaller. This amount is a percentage of the sum one would

collect at 65, ranging from 75 percent at the age of 60 and increasing 5 percent every year; by the age of 64 it is 95 percent.

9.2 The Instituto de Seguridad y Servicios Sociales de los Trabajadores del Estado [Institute for Social Security and Services for State Workers]

The ISSSTE is the second largest compulsory system in the country. This institution is dedicated to administering social security for Federal Government personnel and those employed in other public sectors. Through the ISSSTE's legislation, the norm is established that old-age pensions require at least 15 years of service and 55 years of age or 30 years of service regardless of age. The amount a pension offers ranges from 50 percent of the average salary of the last three years, after one has worked for 15 years, to 100 percent of this average after 30 years of contributing to the system. The average amount of an ISSSTE pension is presently somewhat more than 15,000 pesos a month, which is equivalent to 300 US dollars.

The provision making it possible to retire after 30 years of work, regardless of age, has caused quite a few cases of people retiring by the time they are 48 years old, a frequent case among women secretaries.

9.3 The Complementary System to IMSS

Some private companies, usually the largest and better organized, offer benefits for their employees that complement IMSS pensions. The rules for granting these benefits tend to make the amount granted by both pensions jointly, the IMSS pension and the company's pension, equivalent to around 100 percent of the average salary during the last year of activity.

This apparent concern for the future of retiring personnel on the part of employers actually stems less from unselfishness and more from pecuniary motives, as can be seen by the following:

(a) The Federal Labor Law bars retiring anybody from a
    job solely on account of his age. Therefore, companies
    that wish to substitute old and obsolete personnel for
    younger, more skilled and profitable people will have
    to fire these older employees, which means paying
    lawful compensations. One way of obtaining voluntary
    dismissals and at the same time avoiding having to pay
    compensations is to offer a complementary pension.
    The legal compensations that would be required for dis-
    missals are the equivalent of three months salary,
    plus 20 days salary for each year spent with the company,
    plus 12 days salary with, at the most, double the
    minimum wage for each year spent on the job. Thus a
    worker who has been working in a company for 30 years,
    say, can only be dismissed upon a compensation payment
    equivalent of more than 1,000 days salary.

(b) Companies do not actually pay extra costs, since the
    cost of complementary pensions is actuarially covered
    by the lump sum that amounts to the dismissal compensa-
    tion.

(c) There are a series of provisions in the Income Tax Law
    that allow for tax deductions on contributions to
    "social security plans" and to other financial opera-
    tions, all of which provides additional advantages
    for companies who engage in this type of benefit.

(d) Complementary pension plans are a way to keep personnel
    in the company, which is quite important when dealing
    with skilled workers, especially if they have been
    trained by the company. One way a company can retain
    skilled workers is by granting additional benefits
    directly proportional to the number of years they have
    worked in the company.

9.4 Local Social Security Offices or Institutes

Some areas of the public sector outside the federal govern-
ment, especially areas administered by state governments,*
establish general social security plans and, specifically,
pension systems, all of which are administered by local institutes
or offices. Not surprisingly, a great similarity is to be
observed between these systems and procedures used at ISSSTE.
The explanation for this is quite simple if one takes into
account the country's tremendous political and administrative
centralism. The progress made in social security benefits
first comes from the central government, and then the remaining
systems try to match these benefits with modifications. In this
regard, the regulations concerning age, conditions for retire-
ment, and the amount of pensions are similar to those followed
by ISSSTE, though there might be some small differences. This
similarity can even be seen in the names of these institutes;
some examples are the Instituto de Seguridad Social del Estado
de Sonora (ISSTESON) [Sonora State Social Security Institute],
and Instituto de Seguridad Social del Estado de Chiapas (ISSTECH)
[Chiapas State Social Security Institute].

9.5 Individual Systems within Companies

Under this heading, we are classifying decentralized
companies or partially state-owned companies that for certain
reasons have been able to set up their own social security
systems, which includes pension plans. These state controlled
companies have their own administration, their own particular
criteria for granting allowances, and they operate with their
own financial resources. It must be said that this is the type
of social security that affords workers the most advantageous
conditions. Some clauses allow for retirement solely on the
basis of the number of years a worker has been in a company,
thereby allowing for truly young pensioners with really high

---

*Mexico is also a federal union, which is clearly expressed
in its official name, the United States of Mexico.

monthly benefits. For example, at Petróleos Mexicanos [The Mexican State Oil Monopoly] pensions are calculated on the basis of the average salary for the last year of work; at Compañía de Luz y Fuerza del Centro [Mexican Light and Power Company] employee benefits are also based on the salary they had in their last position; and at Comisión Federal de Electricidad [Federal Electricity Company], the basis is the last salary plus a bonus for time on the job. In the case of employees working for IMSS itself, the benefits granted are much greater than to those granted to a person covered by the IMSS system but who works for another employer. Besides these agreements in determining what pensions will amount to, there are also other advantages, such as automatic pension revaluations. This type of pensioner usually retires around 50 years of age, still wholly capable both mentally and physically, on pensions that are 15 or 20 times the minimum wage.

The historical reasons for this inequality all stem from the same cause, that is, the economic importance a group somehow acquires and the bargaining power trade unions can achieve. One example is the case when railroads were practically the only means of long-distance transportation, and the benefits accorded to rail workers were the most progressive. Now however, at a time when this type of transportation has gone out of use and is no longer so important, the railroad pension system has become second-rate. A contrasting situation is to be found in electrical or petroleum industries, where there is now the greatest increase in levels of benefits.

9.6 Individuals Having No Claim to Pension Benefits

The benefits we have been discussing are accorded to a group of the population that has been employed by a company or institution. Protection for the old does not benefit all. It is a practically non-existing privilege for agricultural workers, for independent workers, and of course, for the unfortunately large section of the unemployed and subemployed; since there are no benefits, there are also no pensions or retirement

ages. There is, therefore, only hard work, until one's energy
has been completely spent, creating another burden on families
or the public.

One of the most evident manifestations of Mexican social
and economic inequality is the uneven distribution of wealth,
and this state of affairs is also repeated in the distribution
of resources alloted for the granting of pensions.

REFERENCES

Camposortega Cruz, S. (1980) *Proyecciones de la Población Mexicana, 1970-2040.* Master's Thesis. El Colegio de Mexico, Mexico City: CENIET (in Spanish).

Dirección General de Estadística (1980) *Censo General de Población y Vivienda* [General Census of Population and Housing]. Mexico City.

Hazas, A.S. (1977) *Método de Simulación para el Cálculo de Proyecciones de Población Total y Población Economicamente Activa.* Mexico City: CENIET (in Spanish).

Salas, M. (1981) *Estado de la Población Mundial 1981.* New York: United Nations Fund for Population Activities.

RELATED IIASA PUBLICATIONS

1. Andrei Rogers, editor, *Essays in Multistate Mathematical Demography*. RR-80-10.

2. Warren C. Sanderson, *Economic-Demographic Simulation Models: A Review of Their Usefulness for Policy Analysis*. RR-80-14.

3. Allen C. Kelley and Jeffrey G. Williamson, *Modeling Urbanization and Economic Growth*. RR-80-22.

4. Nathan Keyfitz, *Multidimensionality in Population Analysis*. RR-80-33.

5. Andrei Rogers, editor, Population, Resources, and Growth. *IIASA Reports*, Volume 2, Number 2, October-December 1980.

6. Klaus Neusser, *Fertility and Female Labor-Force Participation: Estimates and Projections for Austrian Women Aged 20-30*. WP-81-40.

7. Nathan Keyfitz, *The Demographic State of the World*. WP-81-80.

8. Nathan Keyfitz, *How Secure is Social Security?* WP-81-101.

9. Andrei Rogers, editor, Advances in Multiregional Demography. *IIASA Reports*, Volume 4, Number 1, July-September 1981.

10. Philip L. Martin, *Immigration 1981: The US Debate*. WP-81-129.

11. Warren C. Sanderson, *An Analytically Based Two-Sex Marriage Model and Maximum Likelihood Estimates of Its Parameters: Austria, 1979*. WP-81-130.

12. Nathan Keyfitz, *Population and Employment in China*. WP-82-14.

13. Nathan Keyfitz, *Global Prospects for Population Growth and Distribution*. WP-82-36.

14. Nathan Keyfitz, *Can Theory Improve Population Forecasts?* WP-82-39.

15. Michael Hannan, *Multistate Demography and Event History Analysis*. WP-82-50.

16. Andrei Rogers and Jeffrey G. Williamson, editors, *Urbanization and Development in the Third World*. RR-82-24.

17. Thomas J. Espenshade, *Marriage, Divorce, and Remarriage from Retrospective Data: A Multiregional Approach*. CP-82-34.

18. Andrei Rogers and Pamela Williams, *A Framework for Multistate Demoeconomic Modeling and Projection, with an Illustrative Application*. WP-82-69.

19. Nathan Keyfitz and Andrei Rogers, *Simplified Multiple Contingency Calculations*. RR-82-30.

20. William H. Frey, *A Multiregional Population Projection Framework that Incorporates Both Migration and Residential Mobility Streams: Application to Metropolitan City-Suburb Redistribution*. CP-82-55.

21. Kenneth Land and Andrei Rogers, *Multidimensional Mathematical Demography: An Overview*. RR-82-35.

22. Andrei Rogers, *IIASA's Population Project: Aging and Changing Lifestyles*. WP-82-112.

23. Andrei Rogers, *Parametrized Multistate Population Dynamics*. WP-82-125.

24. Andrei Rogers, editor, *Urbanization and Development: Selected Essays*. RR-82-48.