

THE GREYING OF A NATION:
THE ECONOMIC AND SOCIAL EFFECTS
OF CANADA'S AGING POPULATION

BY

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ABSTRACT

Canada's population is experiencing a change in its age structure which is increasingly becoming older. This has implications for many of the governments economic and social programs and society as a whole. As labour force participation among the elderly decreases, expenditures for social programs are increasing to supplement seniors relatively low income. The increased use of health services will also strain economies on the provincial level citing the need of increased community services.

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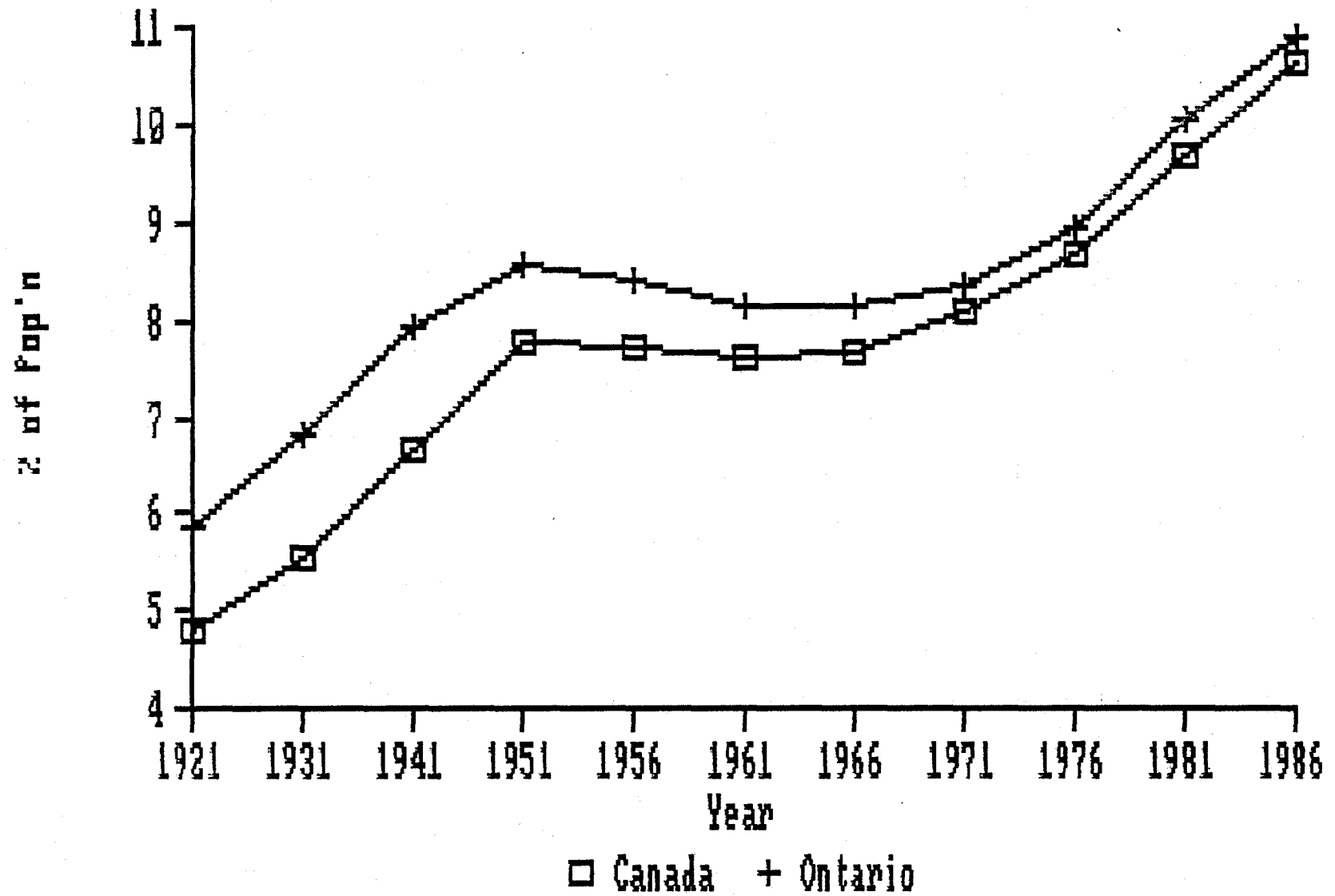
CHAPTER 1

Introduction

Society is a dynamic phenomenon which is constantly changing over time. This is true from a global to community level. As dynamic as it might be, many changes can be slow and go unnoticed. One such aspect is the aging of the population. It is increasingly becoming the subject of study by sociologists, gerontologists, economists, and geographers. It is quite evident that the percentage of people sixty-five and over has increased and will continue to do so. The 1921 census indicates that 4.8% of the population was sixty-five and over (Canadian Census 1921). The latest census in 1986 shows that this age group constituted 10.7% of the Canadian population (Canadian census 1986). This increase is shown graphically in Figure 1. The number of people age sixty-five and over increased by seventy-five percent in the period from 1966-86 (Canadian Social Trends, 1988). This number will only increase as the baby-boom generation gets older.

The age of sixty-five will be used as the lower limit of the group designated as elderly. This is done because of its traditional use as the age of retirement. It is important to present the material in the least abstract way as possible in order for the effects and implications to be realized on a personal level by the reader. An aging population may be the problem of the future, but those

Figure 1
% of Population >65



twenty-five years of age and under are the future. They are the people who will be shaping society's attitudes and policies. The other reason for using this age is that it is the age at which government pensions and assistance begins. In order to assess the economic implications the government will be facing, it is important to measure the amount of assistance a senior receives.

Direct government subsidies are only part of the equation which constitute help for the aged. The social programs and health care facilities are another irreplaceable part of life for an elderly person. In post-industrial society, it is not common for the extended family to live in one dwelling. The majority of elderly receive little or no assistance from family members and must rely on the government or community for assistance. This trend will continue with the breakdown of the nuclear family through divorce and common law marriages.

An important institution for the elderly is the nursing home. The number of seniors seventy-five and over in health care facilities increased between 1971-86 by 127% (Canadian Social Trends 1988). Many homes have long waiting lists and because there are few alternative living arrangements for seniors. Other institutions such as hospital facilities will also feel the impacts of the aging society.

With this in mind, it is most fitting for a study of

the economic and social effects of an aging population to be undertaken. Although the scope will be somewhat limited, it is hoped that the subject will be covered in a manner that will give the reader sufficient knowledge of the problem and enough information in order to draw conclusions on policy implications.

To establish the geographic context of the paper, the number of elderly will be examined in relation to the rest of the population. First, the composition of the population will be examined on a national and provincial level. This will determine if and where there are concentrations of elderly in any one province.

The majority of the paper will concentrate on the economic and social services provided to senior citizens and how an increase in their numbers will effect these services and the nation. This will include examining the amount of income supplements provided by the federal government through the Canada Pension Plan and Old Age Security benefits. It is known that 52% of a seniors total income comes from government sources; this up from 44% in 1971 (Canadian Social Trends, 1988). Because Ontario's health care system constitutes a large portion of its budget, an examination of the health status of the elderly and its implications for the future will be undertaken. The occupancy rates of chronic care units of hospitals will be studied to determine if there are any affects of an older

population. Examination of community service utilization and demand will also determine society's adaption to the aging process. Accommodations for the elderly will also be studied through specific examples in the Hamilton area. It is hoped that an overall picture of expenditure by the government and by the elderly themselves will give a clear indication of the economic and social ramifications of the changing age structure.

Finally, a brief examination of policy suggestions will be undertaken to compliment the empirical study. Through this study it is hoped that government strategy for the future can be determined. From this it will be seen what, if any, adjustments can or should be made to deal with the impending problem. A study of special reports from the National Advisory Council On Aging will give a clear indication of how the federal government plans to adjust programs to accommodate the increasing number of elderly and to keep them integrated and independent in our society.

CHAPTER 2

Literature Review

In order to provide sufficient background, the literature is reviewed in the North American context, which as a whole is experiencing the same demographic trends and have the same structure of social programs. Wherever possible, the literature deals specifically with the Canadian perspective.

As an introduction to the topic, the basic issue of an aging population is discussed to determine the certainties and the uncertainties of the future. Once this has been established, the paper will turn to the economic and social concerns related to aging. These issues are inter-related because as economic conditions change so do the social conditions. The issues of labour substitution, productivity, pension expenditures and health care for the elderly will be examined in the social context as well as in the economic milieu.

Betty Havens' paper entitled "Population Projections: Certainties and Uncertainties" tries to discern fact from speculation. It begins with the classification of populations according to the percentage of the population which is sixty-five years of age or older. Havens states that the population is considered to be young if less than

4% of the population is in this category. Maturity is reached when those sixty-five or older constitute 4-7% of the nations population and once the percentage is greater than 7% the nation is classified as old (Havens,P.14).

The basic components of population projection are the fertility rate, mortality rate, and level of migration. Havens, using these components tries to illustrate what is certain and uncertain about the population in the future. What is certain is the number of people who will be sixty-five or older until the year 2046 (Havens,P.16). At the time Havens' paper was written (1981), all who will be sixty-five or older by 2046 had been born. Although fertility rates have no effect on these absolute numbers, it will affect what percentage of the population this group will constitute. The uncertainty of fertility rates will cause uncertainty in projections. Mortality rates are fairly constant and can be predicted with some accuracy and migration levels can easily be adjusted with government policy (Havens,P.21). Havens states that Canada's population has been getting older for most of the century (% > 65 has risen from 4.8% in 1921 to 10.7% in 1986)but has gained attention in the past decade because it is happening more rapidly (Havens,P.22).

Havens feels that the consequences of this trend are by no means definite. Her uncertainty lies with the use of the dependency ratio as a barometer for the future.

Essentially this method gives the ratio of the non-dependent/ dependent population. She states that there is no universal definition of the "occupational labour force" or a definition of the "age of dependency" (Havens,P.29). Because of the variations in the data and therefore the results, she feels that the dependency ratio is overused and misunderstood.

Contrary to Havens, B.S. Ferguson cites this falling dependency ratio as his premise for discussing the labour problems of the future. In his paper, "Labour Force Substitution and the Effects of an Aging Population", Ferguson states that by the year 2030, one out of every three people will be sixty-five or older (Ferguson,P.902). This means that there will be only two workers for every pensioner instead of the six workers per pensioner now.

The author looks at two views as to how the future will unfold. First, he says that the generation after the baby-boomers will be small, therefore there will be low unemployment, high incomes and the ability to sustain the older generation in retirement (Ferguson,P.904). Another view is that the next generation will have to compete with baby-boomers for employment, therefore high unemployment, low incomes and substitutability of the labour force will be the key (Ferguson,P.904). Substitutability being the ability of one segment of the labour force being able to do the job.

of another.

In his conclusion, the author gives two recommendations in order to alleviate the bleak picture he has portrayed. First, it would be to the advantage of youth to try to finance the strain brought on by the pension plans instead of trying to compete in the workforce with older workers. Secondly, he recommends the improvement of the private pension system. The private pension investments will improve incomes during the labour force years (Ferguson,P.913). These findings bring new light to the intergenerational conflict that may arise due to an aging population. Most observers stress the economic strain brought on by increased pension contributions, but few have considered the consequences of intergenerational relations as a result of competition for employment.

John Herzog also deals with the pension issue in light of an aging population. His paper, "Aging, Pensions and Demographic Change" discusses what he feels are myths of future disaster and offers an alternative view of the situation.

Herzog lists four myths which he feels need to be discussed and refuted. The first is the "dependency ratio myth". Although the ratio of under sixty-five to over is dropping this doesn't mean those over sixty-five are dependent. Many over sixty-five are employed and this trend could increase if economic conditions warrant

(Herzog,P.130). Another myth is the "wage/productivity myth", which states that productivity is based on wages alone. Herzog disagrees saying that there are other forms such as volunteer work which are productive but don't earn a wage (Herzog,P.130). The "dramatic change myth" is the belief that the amount of dependency is increasing. The fact is that the composition of dependency is changing but the overall amount is approximately the same. Although the number of aged dependents is increasing, the number of youth dependents is decreasing in proportion (Herzog,P.131). The final myth according to Herzog is the "government must solve it" myth. He states that government is only good at solving short-term problems and can't do anything constructive for a problem in the future (Herzog,P.131).

The author proceeds to offer an alternative view to the problems. Instead of income security, he focuses on consumption security of which pensions are just one aspect (Herzog,P.134). The basic hypothesis is that a percentage of yearly wages are saved in order to maintain a constant consumption function through the working years and into retirement. The assets are saved to retirement and start to be liquidated upon retirement. Upon death, little or no assets will exist and no government assistance has been given (Herzog,P.136).

As with most subjects, the trends of the future can be seen as a result of policies of the past. James Martin

discusses social developments in the past, how they are reflected in the present, and possible consequences in the future. This is done in his paper, "Social Policy Concerns related to Retirement: Implications For Research". In recent years there has been a trend toward early retirement, particularly among men (Martin, P.149). Labour force participation starts to drop off starting at fifty-five, primarily because of the development of the retirement income system. In the last thirty years there has been the creation of hospital insurance plans, Canada Pension Plan, Old Age Security, and unemployment benefits. The increase of private pension plans helps bridge the financial gap for early retirees.

Martin then discusses the implications for the future. He sites studies which project old age benefits will constitute 8-11% of the countries Gross National Product as compared to the current cost of 5% of the G.N.P. (Martin, P.155). If the retirement age continues to decrease then productivity must increase. Although an aging population leads to a high overall savings rate (and therefore investment rate), the capital could be underutilized because of the smaller labour force which is bad for the economy (Martin, P.158). Therefore, growth must come in the form of technological progress.

Socially, the effects will be more evident. With a smaller proportion of youth in society, expenditures in the

education system will decline. Martin also states that many career paths will be blocked resulting in high unemployment among the young and that the market orientation which is now focused on the youth will shift to young adults (Martin,P.159).

Most of the literature reviewed has dealt with the effects on society as a whole. As a final (but no less important) note, it is relevant to examine the effects on the elderly as their numbers increase. They are the group which is most likely to suffer if proper policies are not implemented. This is discussed in James Schulz's book, "The Economics of Aging". The author reminds us that it isn't the fact of growing old that is so tragic but rather growing old in a painful, humiliating and isolated way through "insensitivity, ignorance and poverty" (Schulz,P.139). Unfortunately physical and financial independence deteriorates as physical and mental capabilities deteriorate. This also puts an emotional and financial strain on the family of the person (Schulz,P.139).

Schulz states that although it is not the preferred method, institutional care is heavily favored and accepted in our society. Hospitals still provide a significant amount of long term care but the trend is to move the elderly into care facilities (Schulz,P.140). He notes that the growth of nursing homes isn't the result of satisfaction but rather as the only feasible solution in most cases. In the U.S., the

government pays for half of all nursing home costs. Persons are only eligible after they are completely destitute and agree to give up all future income (Schulz,P.140).

Two alternatives to institutionalization are discussed by the author, they are day care and home care. Day care is designed for people who do not need constant care but receive a protected environment and treatment as required (Schulz,P.141). Home care provides a wide range of community services to allow elderly people to remain in their homes (Schulz,P.141). Schulz states,however, that most publicly funded programs don't provide the full range of services required for this to become the norm. He makes a point to emphasize the fact that the family is still the predominant supplier of care."It is estimated that 70% of the elderly rely on relatives for their personal and physical care" (Schulz,P.141).

The effects are varied and the solutions are few, but what is abundantly clear is that something must be done to prepare our society for this growing phenomena. Every person, regardless of age, is effected; even those who are yet to be born. The time for apathy in society is long passed and a distinct course for the future must be set. It is my endeavour in the research that follows to present a clear illustration of the state of our society through discussion of population projections, labour force participation, government funding and community services.

CHAPTER 3

Data and Methodology

A wealth of information has been collected and edited. Before proceeding any further it would be productive to discuss this data and what is hoped to be accomplished by using it.

The overall impression which we wish to establish is how society and the economy is adjusting to the aging of the population. This may be undertaken by examining the major federal expenditures on the aged, provincial health care requirements, and on the local level, looking at the availability of facilities for the aged. This will by no means incorporate all data but that which is feasible in order to establish the interaction of society and the economy with an aging population.

Literary data has also been collected to examine the social aspect of the issue. Although it may not be policy, it does give the impression of what the government is doing or believes should be done to prepare for the "aging revolution".

3.1 Numerical Data

The initial step of this paper will be to give this subject its geographic context. This will be done by examining census data on the national and provincial level.

We shall see graphically how the age of the population has increased over the century and the projections for the future. Ontario will also be studied in this manner as well as in relation to the other provinces in order to see which are above or below the national level and determine what significance this might have.

Equally as important is the labour force composition to determine whether or not the trend is toward early retirement or supplementing the income after retirement. To do this the percentage of the labour force over sixty-five and their participation rates will be studied over time. Incomes of the elderly will also indicate if financial assistance is warranted.

On the federal level, the major expenditures on the elderly are the Canada Pension Plan (CPP) and Old Age Security (OAS). Since government funding now constitutes 51% of an elderly persons income this is of great significance (Canadian Social Trends, 1988). The increase in beneficiaries and expenditures will be examined for each program. As a corollary to this, the number of yearly contributors to the programs will be looked at as well as the amounts contributed. This is important in determining the cost to the economy and to society of this aging phenomenon.

To complement this, the amount of the population which is between the age of 18 and 64 will be examined. Since this age group constitutes the majority of the

workforce, and are the ones who will pay for the increased expenditures. Labour force projections will also be examined in this fashion. To assist in the analysis, projections have been obtained for the number of beneficiaries, and the amount of expenditure for the federal government programs. Dependency ratio projections have also been obtained. The dependency ratio is the ratio of workers to non-workers. Preliminary analysis would suggest that an interesting trend is occurring.

Projections have also been acquired for the proportion of the population between ages 0-17, 18-64, and greater than 65 for both high and low growth scenarios. These will help determine the extent of public and private dependency and the subsequent type of financial assistance which will need to be provided to these populations.

On the provincial level, the greatest impact of the elderly will be on the health care system. There is already a strain on the health care system without the increase in the number of elderly. In Ontario, the Ontario Hospital Insurance Plan (OHIP) is the greatest expense in the health care system. Occupancy of chronically ill beds will be examined because as people live longer, the more they are susceptible to chronic illness. Consultations with physicians will also indicate if use of the system increases with age. The same will be done with statistics on home care services administered by the Victoria Order of Nurses (VON).

Their data will be scrutinized with regard to the amount of service administered to those over 65 to see if it is disproportionately high. The use and need of other community services will also be looked at to determine if they fulfill the needs of the present elderly population.

As an example, accommodations and availability for seniors will be looked at in the Hamilton area. There are many categories of senior housing accommodation which will be examined. There are homes for the aged, nursing homes, retirement homes, and seniors apartments. The accommodation varies from extended care units, residential care units to one and two bedroom apartments. The task will be to determine the number of units and unit types in existence as well as obtaining the number of people on waiting lists. Quite simply we will be looking at the supply and demand for senior's residences. Again, the rationale for these operations is to determine how an aging population will affect our society in the future.

3.2 Literary Data

The second phase of analysis will involve examination of literary "data" dealing with government policy and objectives for the future. This information comes via the National Advisory Council on Aging (NACA).

There are four major themes which will be addressed in this section. First is the preparation by the health care

system for long term community care through the adaption of a single entry system and integration of all levels of health care organizations. Related to this are the community services themselves, which are needed for the senior to remain as independent as possible. Thirdly, is the use of the educational system to educate seniors and society as a whole so that everyone is prepared for old age and will not look at it as a negative experience. Finally, there is the adaption of technology to increase senior's independence and help them remain integrated in society.

It is hoped that once this analysis is complete, a clear picture will exist regarding the consequences of Canada's changing age structure and its effects on society.

CHAPTER 4DATA ANALYSIS4.1 The Changing Age Structure of the Population:

Both the Canadian and Ontario populations have experienced a significant change in their age structures. The number of people aged 65 and over has shown a steady increase over the century. In 1921, the population 65 and over numbered 420 244 which constituted 4.8% of the population. There has been a steady increase since this time with this age group accounting for 7.7% of the population in 1951. As of the 1986 census, those of retirement age have increased in absolute numbers to 2 697 580 or 10.7% of the total population. (See Appendix A, Table A.A1)

Similar trends can be observed from the census information for the province of Ontario. In 1921, the elderly comprised 5.8% of the 2.9 million people in the province. It too increased steadily to the point where the cohort 65 years of age and over were 8.4% of the total in 1951. As of 1986, 10.9% of the provincial population was 65 or above. (See Appendix A, Table A.A1)

Both populations experienced a relative decline during the census years of 1956 and 1961. Although absolute increases were recorded for both the country and the province, Canada's percentage declined from 7.7% in 1951 to

7.6% in 1961. Ontario's percentage declined from 8.4% in 1951 to 8.1% in 1961. There is a two-fold explanation for this phenomenon. First is the influx of young immigrants seeking a better life after the war. Secondly, there was a "baby boom" after the war which increased the relative number of people at the bottom of the population pyramid. These factors combined to decrease the relative number of elderly in the country and province. The trend of increasing percentages of elderly reemerged after this which was reflected in the 1966 census data showing a national increase to 7.7% and a provincial increase to 8.2%.

Ontario's percentage, although higher than the national average, is lower than most of the other provinces. According to 1986 data, Prince Edward Island and Saskatchewan have the highest percentage of elderly at 12.7%. The Northwest Territories has the lowest percentage at 2.8%. The disturbing aspect of the data is that all the eastern provinces except for Newfoundland have percentages above the national average (See Appendix A, Table A.A2). Because these provinces are in the economic periphery and more rural, availability and accessibility may be a greater problem than in other provinces such as Ontario and Quebec. This could be to the detriment of the standard of living of the elderly.

4.2 Population Projections (Canada):

Projections indicate that the trend of an increasing percentage of elderly is going to continue into the future. This is for both the high growth and low growth scenarios calculated by Statistics Canada. The projections are based on mortality, fertility rates and immigration. These scenarios assume that the mortality rate is the same for both scenarios while the low growth scenario assumes a fertility rate of 1.8/1000 and annual immigration of 60 000. The high growth scenario however assumes a fertility rate of 2.6/1000 and annual immigration of 100 000 people (Statistics Canada, 1981).

The low growth scenario shows a more dramatic change than does the high growth because the high growth is mainly due to an increase in fertility. If low growth is experienced, the relative number of elderly will increase from its present level of 10.7% to 14% in the year 2001 and continue to increase to a level of 26.6% in the year 2031. This is an increase of 16.9% (2.5 times the present rate) in less than fifty years. During this same period, the relative number of children between the ages of 0-17 will decrease from 25.7% to 14.9%, over a 10% drop. More importantly, the number of potential wage earners, those 18-64, will also decline from 63.6% to 58.5%. (See Appendix A, Table A.A3) With no change in present policy, this scenario would have a

devastating impact on the carrying capacity of the country's social programs.

The high growth scenario also shows fluctuations, but less alarming than those cited above. The relative number of elderly will almost double from its present level (10.7%) to 18.9% in 2031, a 8.2% increase in less than a fifty year time span. The number of youth (0-17) decreases slightly more than 1% from 25.8% to 24.6% and those 18-64 shows a larger decrease from 63.6% to 56.5%. (See Appendix A, Table A.A3) Although the percentage of potential wage earners is decreasing, there will be less strain on the social security network because the percentage requiring public assistance (those 65+) showed a smaller increase.

4.3 Population Projections (Ontario):

Estimates for Ontario's population are calculated differently than those for the national estimates. Projections are made according to the distribution of families by age of the reference person. Reference person refers to the head of the household at the time of the census. Population projections were made for high, medium, and low growth scenarios to the year 2006. Low growth assumes a fertility rate of 1.4/1000 and immigration of 100 000 people. Medium growth assumes a 1.7/1000 fertility rate, 125 000 immigrants, a high growth rate of 2.2/1000 and 150

000 immigrants (Statistics Canada, 1985). In 1981, the elderly constituted 12.6% of the population according to census information. Given a low growth scenario, this will increase to 17.2%. The medium and high growth scenarios indicate a population percentage of the elderly to be 16.9% and 17.1 respectively. (See Appendix A, Table A.A4) These estimates differ from the national projections in two ways. First, the projections only forecast until 2006 were as the national projections estimate to the year 2031. The full extent of the aging process isn't realized until after 2006. Secondly, using the age of reference person for the projections would tend to give higher percentages because few families would have a reference person under the age of eighteen. Because the difference between the provincial growth scenarios is minimal, this would indicate that the full effects of different growth patterns won't be felt until after this time.

4.4 Dependency Ratio Projections:

The dependency ratio is the number of dependents, either public or private, per 100 people of working age. Those who are classified as dependents are those 0-17 and those 65 years of age and over. Although some government assistance is given in the form of family allowances, children 0-17 are predominantly funded through private,

family means. The elderly, however, receive a large proportion of their income through the government and are thus classified as publicly dependent.

Projections are made to the year 2031 and 1971 is used as a reference point. The number of total dependencies (public and private) initially declines until it reaches a low of 55/100 in 2011 then increases steadily until it reaches 76.6/100 in 2031. This is approximately the same as the ratio in 1977 of 77 dependents per 100 people of working age. (Health and Welfare, 1988) However, there is a major difference of those constituting dependents. Dependents 17 and under have shown a steady decline from 63.4/100 in 1971 were they were the majority of the dependents. At the ratios minimum point in 2011 the child dependency rate is 25.3/100 and continues to decline marginally to 25/100 in 2031.

Conversely, the dependents, aged 65 and over show a steady increase throughout the given time period. In 1971, their dependency rate was 14.4/100 and intersects with the declining youth rate around 2011 with a ratio of 27.4/100. The elderly ratio continues to increase from this point to become a majority of the overall dependents constituting 51.6 of the projected 76.6/100 in 2031 (Health and Welfare, 1988). Unlike the youth dependency ratio which was decreasing at a decreasing rate after 2011, the elderly ratio is increasing at an increasing rate since that year. This would suggest that the elderly rate will still increase

past 2031 before it has reached its apex. This is shown graphically in Figure 2.

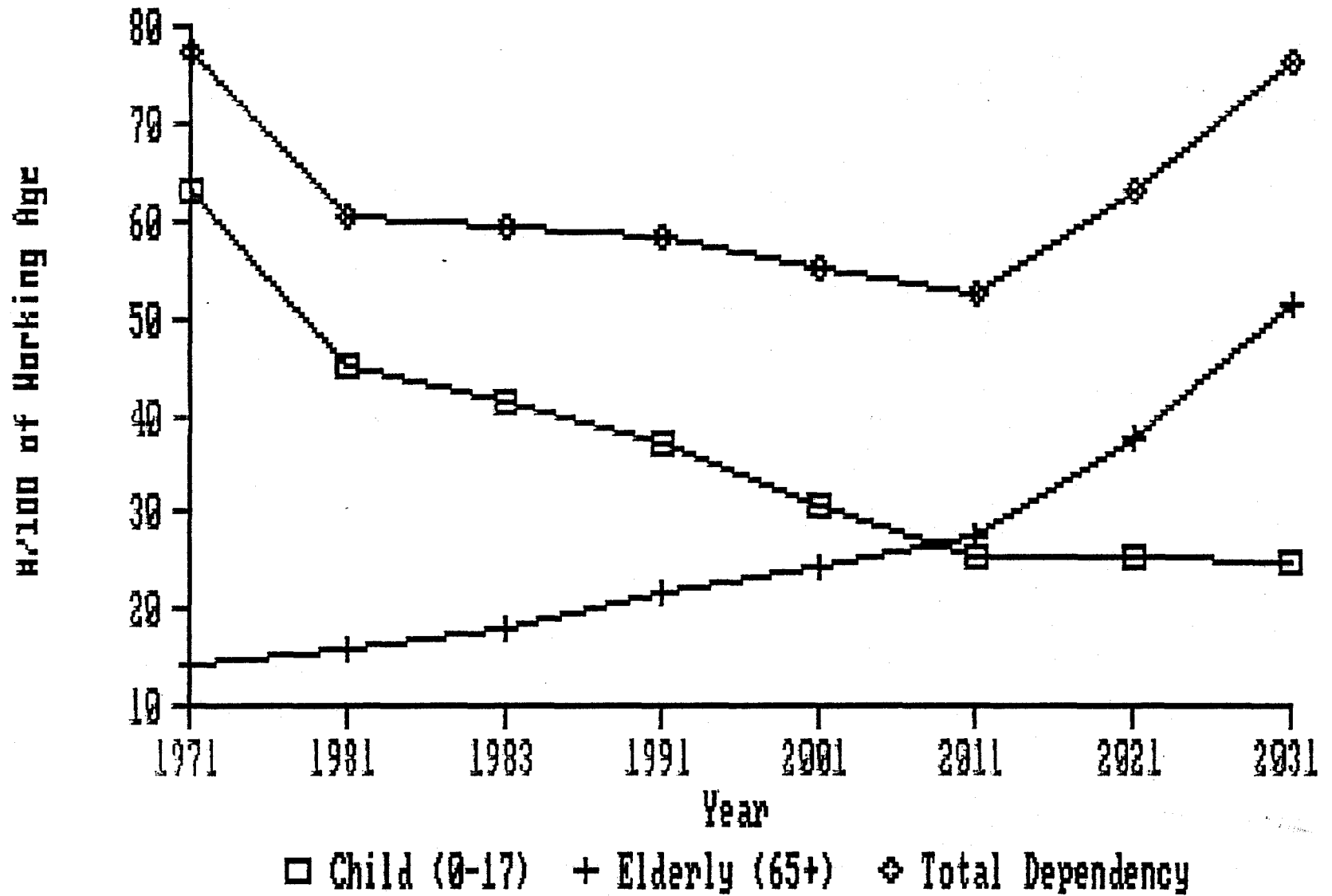
The implications of this trend could be severe. Although the overall rate is the same as 1971, there is a major shift in the type of dependency. The majority of the dependents in the future will rely on public assistance rather than private which could strain the social assistance network if precautions are not taken.

4.5 The Labour Force:

The strain would be less severe if people worked longer and postponed their use of government supplements. Unfortunately, this is not the case at the present time. The percentage of the labour force which is between 55 and 64 and labourers over 65 have shown a decline in recent years for both males and females. Males 55-64 years old constituted 12.3% of the working population in 1971 but only 10.8% in 1981. The same is true of females in this age group. Their percentage of the total labour force also declined from 9.6% in 1971 to 7.8% in 1981 (Second Canadian Conference on Aging, 1983).

Workforce percentages for those 65 and over also declined. In the 1971 to 1981 period male percentages declined from 2.6% to 1.9%. Female percentages also experienced a decline from 1.7% to 1.1% over this time

Figure 2
Dependency Ratio



period. This was at a time when their overall percentage of the population was increasing. In order to determine whether or not this is the result of an actual decline in the number of participants or an influx of young workers into the system, labour force participation rates for these two age groups are analyzed (Second Canadian Conference on Aging, 1983).

Participation rates for the ages 55-64, 65-69 and 70+ were examined for the census years 1966 through 1981. Male participation rates remained fairly constant over this period at approximately 78%. Males between 55-64 have shown a steady declining participation rate from 86% in 1966 to 75.1% in 1981. The same is true for the 65-69 age group. Participation rates declined from 46.5% in 1966 to less than half that amount at 21.9% in 1981. In 1966 14.6% of those 70 or older were employed whereas only 8.9% were occupied this way in 1981 (Second Canadian Conference on Aging, 1983). Clearly, males are showing a tendency toward early retirement which is not a good omen for the future.

Overall female participation rates in the workforce has increased from 33.6% in 1966 to 51.6% in 1981, an enormous increase in a relatively short period of time. Participation rates for the older workers of this gender were less impressive. Those in the 55-64 age group showed an increase from the comparatively low rate of 28.5% to 33.7% during the same period. The next age group, those aged 65-69

experienced a decline from 10.9% to 7.9%. The final group those 70 years of age and older showed a marginal decline from 3.2% to 2.5% (Second Canadian Conference on Aging, 1983). This indicates that females are not tending toward early retirement as more are joining the workforce. The statistics show however, that participation declines after the retirement age which is bad for the system but not as bad as the trend toward early retirement shown by males.

4.6 Retirement Income Composition:

The income of the elderly is of great importance to our discussion. There is an alarming percentage of the elderly who are in the lower income groups as compared with the national figures. In 1981, 65% of attached individuals aged 65 and over, had income less than twenty thousand dollars. This is compared with the national average which was less than half that amount at 26%. The single largest income group was 31% of the elderly who had an income between \$10 000- 14 999. This is compared to the largest single group for the nation with 18% in the highest income bracket of \$45 000+ (Second Canadian Conference on Aging, 1983). The results were even more serious for unattached individuals. Statistics showed that 47% of this group 65 years of age or over were in the \$5 000-6 999 income bracket. This compared to 9% of the national population in this bracket. Clearly,

the elderly are on the bottom end of the socio-economic scale, indicating that the elderly do need assistance and will continue to depend on government assistance as their numbers increase.

This is where the importance of the elderly's source of income comes into prominence. 1981 figures indicate that 30% of the income for those 66 years of age comes from the Canada Pension Plan. Another 10% come from Old Age Security benefits and 2% from other government sources for a total of 42%. Investments account for 28% and earnings for 15%. Employer pensions make up the difference of 13% of the total income (Second Canadian Conference on Aging, 1983). Again, it is evident that a large proportion of elderly income comes from government sources; the amount of government assistance now constitutes 52% of seniors' income (Canadian Social Trends, 1988).

4.7 Canada Pension Plan:

As can be expected, Canada Pension Plan contributions and amounts paid have increased steadily with the percentage of elderly. Since its inception in 1966 contributions have risen from \$531 million to \$4.72 billion in 1986. The amounts paid have also increased from \$611 909 in 1967 to \$5.39 billion in 1986 (See Appendix A, Table A.A5). What is disturbing about the data is the deficit

contributions in three of the last four years recorded. In 1983, 1985 and 1986 the amount contributed was less than the amount paid out. In 1983 the deficit was \$38 million but this increased dramatically in 1985 to \$700 million and slightly decreased to \$670 million in 1986. The surplus year in between (1984) was a comparatively small \$28 million dollars. (See Appendix A, Table A.A5) Although surplus revenue was recorded due to interest incurred on past contributions, it is increasing at a decreasing rate and will eventually begin to decline. The "pay as you go" pension plan system will definitely strain given the future number of Canada Pension Plan recipients. Clearly, the economic and social policies of the country must be re-examined before the pension system is beyond salvage, to the detriment of the elderly.

Projections to the year 2030 indicate that the number of CPP recipients will steadily increase to just under 7 million people in that year. Expenditures for that year will surpass \$187 billion. (See Appendix A, Table A.A6) These expenditures exceed contributions for every year the projections are shown. Projections for future beneficiaries and expenditures are shown graphically in figures 3 and 4.

LONG-TERM YEARLY FORECASTS
OAS, GIS, SPA, FA AND CPP EXPENDITURES
(BILLIONS OF DOLLARS)

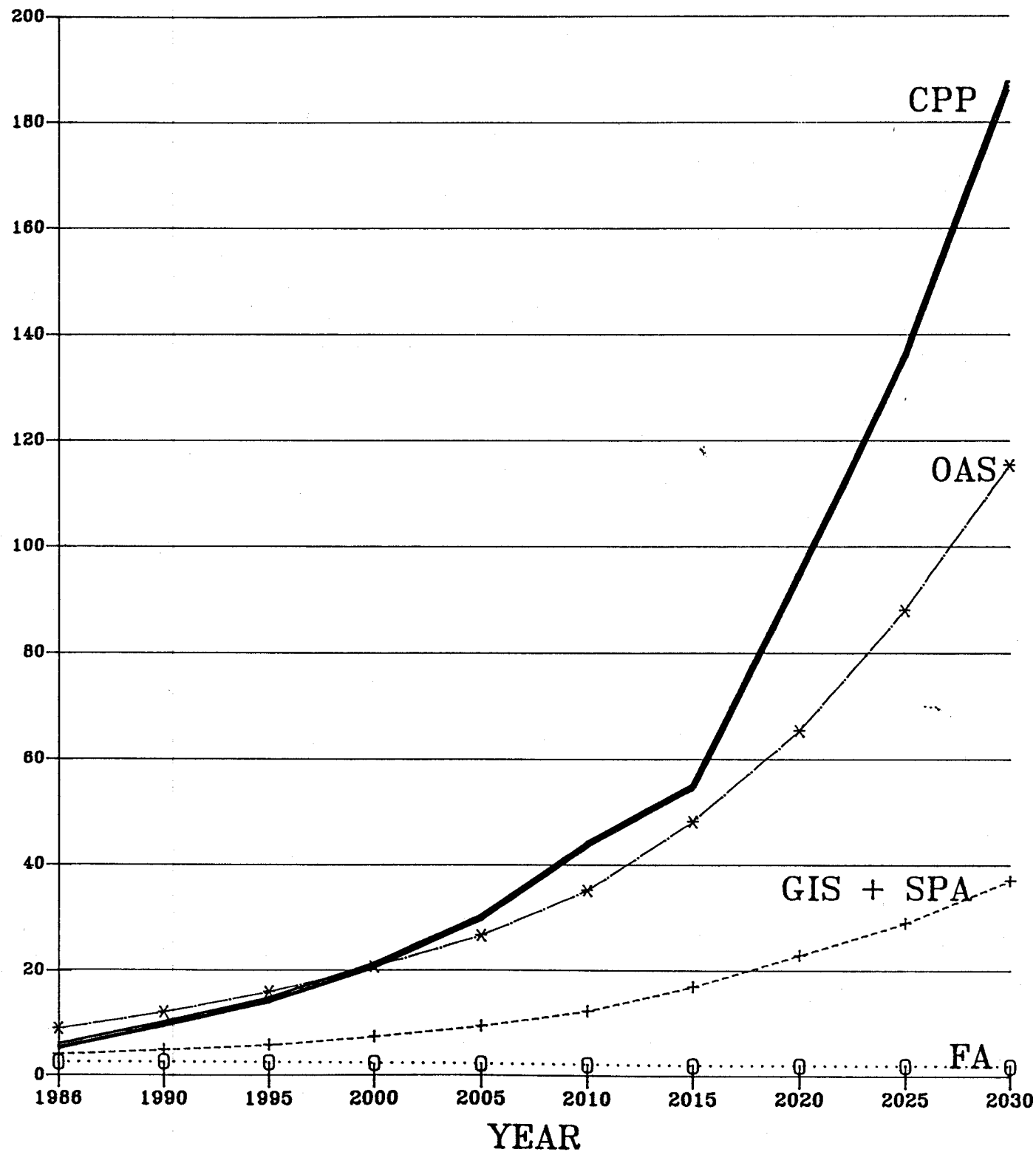


Figure 3

Source: Health and Welfare, 1988

32
LONG-TERM YEARLY FORECASTS
NUMBER OF BENEFICIARIES
OAS, GIS, SPA, FA AND CPP
(MILLIONS)

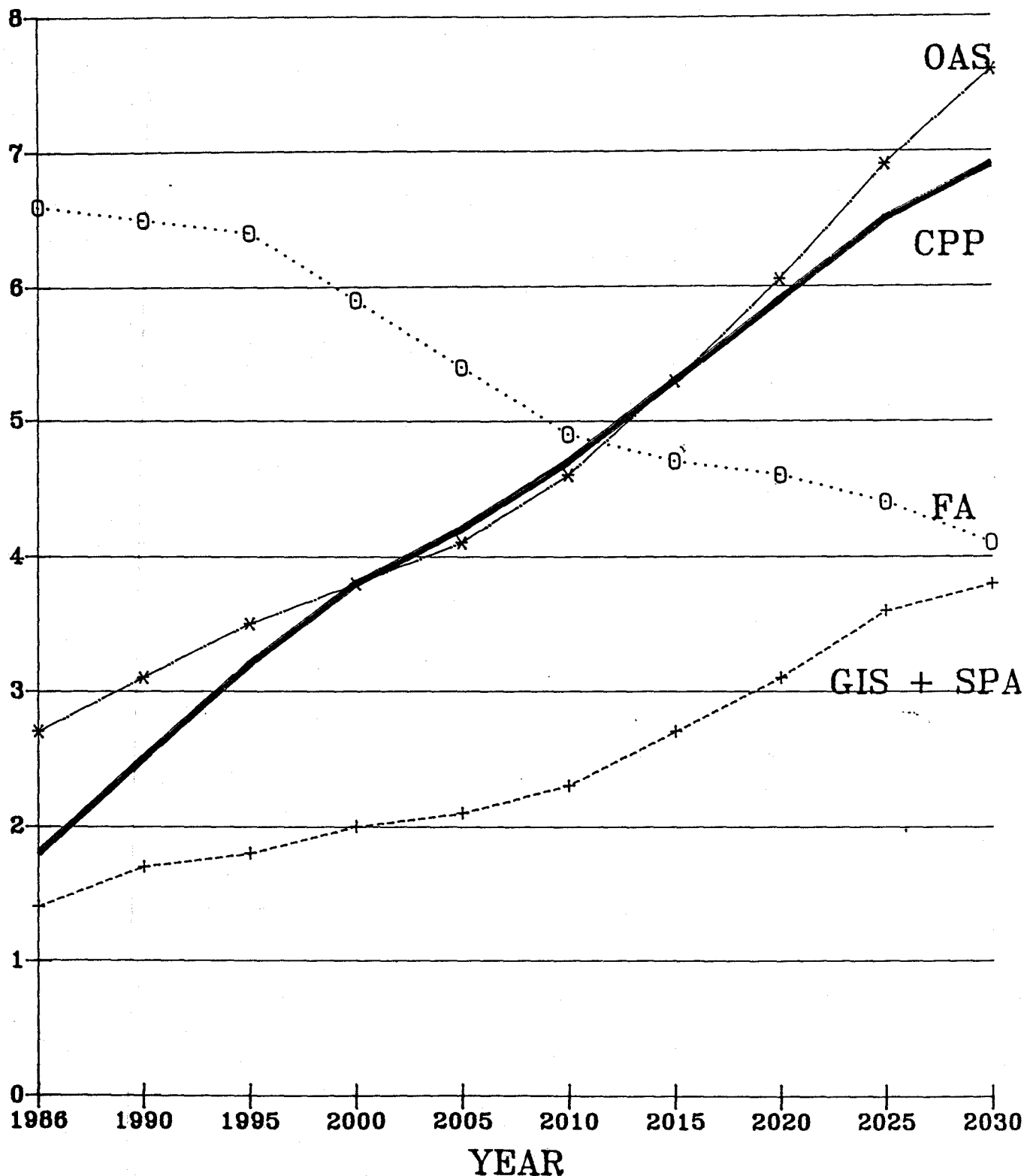


Figure 4

Source: Health and Welfare, 1988

4.8 Old Age Security:

The other main contributor to the elderly's income is Old Age Security benefits (OAS). The history of amounts paid and number of beneficiaries parallel the preceding scenario of the Canada Pension Plan. The number of recipients and payments to them have increased steadily since the program was first introduced in 1952. Between 1960 and 1970 the number of recipients increased by 90.6% from 876 410 to over 1.6 million. During this same time period, the amounts paid increased by over 200% from \$575 million to \$1.73 billion. As would be expected from this information, the average amount paid per person increased from \$655 in 1960 to \$1035 in 1970; an increase of 58% in 10 years. However, it is important to note the fluctuations in the percentage increases per year. It was as high as 20% between 1957 and 1958 but in the later years (1969,1970) the increases have been below the inflation rate at approximately 1%. (See Appendix A, Table A.A7)

As is expected the number of recipients of Old Age Security is increasing relative to the rest of the population, labour force, and those aged 18-64. In 1971 the relative number of OAS recipients was 7.9% of the total population and increased to 9.8% in 1981. Recipients as a percentage of the labour force also increased slightly from 19.9% to 20.1% for the same time period. (See Appendix A,

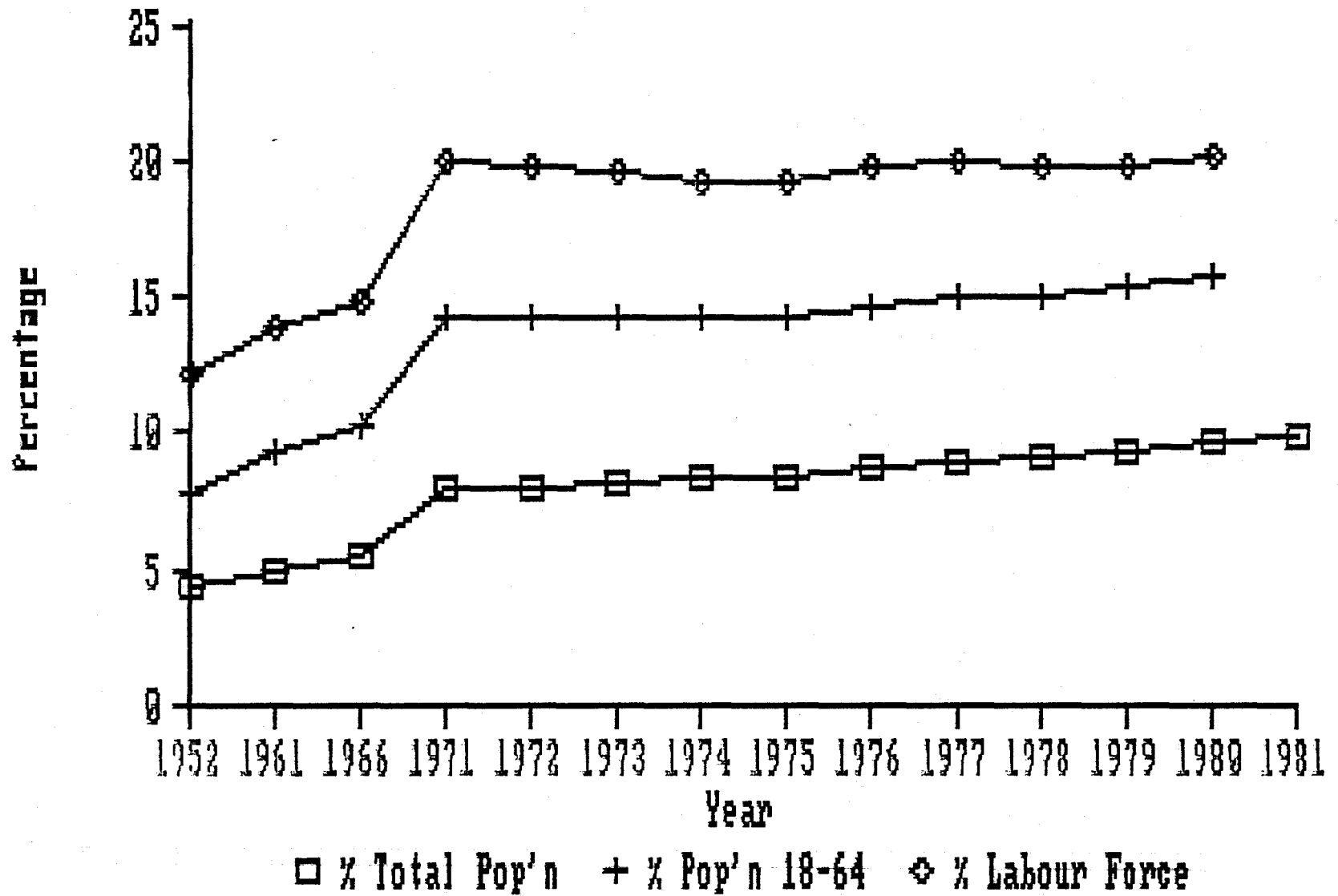
Table A.A8) This would indicate that both population groups increased proportionately during this period. The same is true for the comparison of OAS recipients to those age 18-64. this percentage only increased 1.6% from 14.1% to 15.7% in the decade 1971-81. (See Appendix A, Table A.A8) This is shown graphically in figure 5.

4.9 Illness and Hospital Occupancy:

Unfortunately, one of the consequences of old age is an increasing amount of ill health. Data from 1981 indicated that 36% of males and 34% of females over 65 years of age were limited either significantly or totally in the activities they preformed. This compares to a national average of 9% for males and 10% for females. Of males over 75 years old, 39% were in this predicament and females 39% (Second Canadian Conference on Aging, 1983).

The possibility of chronic illness increases as one ages. Self reported health problems are significantly higher for the elderly than the national average. Heart disease was reported by 17% of males between 65-74 and by 26% of those 75 and over. The national average for men in the nation is 4%. Female rates were 15% for those 65-74 and 26% of those 75+ as opposed to a female national average of 4%. Arthritis and rheumatism problems were high among both males and females. For the 65-74 age group, 31% of male and 47% of

Figure 5
OAS Recipients As % of Population



females were afflicted. Of the males and females above 75, the percentage effected were 36% and 55% respectively (Second Canadian Conference on Aging, 1983).

This results in the increased use of health care services by seniors. Consultations with a medical doctor in a twelve month period between 1978-79, indicated that the elderly visit physicians more frequently than the rest of the population. Fifty percent of those older than 65 consulted a physician more than three times in a year. Sixty percent of those 75+ did the same compared to the national average of 23% (Second Canadian Conference on Aging, 1983).

Related to this is the number of beds for the chronically ill and their occupancy rates. Data was obtained for Ontario hospitals during the period 1980-87. They indicate that 9 413 (19.9%) of Ontario's 47 156 hospital beds were designated for the chronically ill. Although the number of total beds increased in 1987 to 49 658, so did the number of chronic beds to 11 156 or 22.4% of the beds. (See Appendix A, Table A.A9) This is a 2.5% real increase over the seven year period. Of course this would be of no concern if the beds weren't occupied, but such is not the case. Occupancy for the chronic care beds were consistently higher than the rate for the entire hospital. In 1980 chronic occupancy was 89.8% as compared to 84.5% for the hospital as a whole. These rates rose to 95.3% and 87.7% respectively in 1987. (See Appendix A, Table A.A9)

Even though the number and percentage of chronic care beds is increasing occupancy rates remain high. Since it has been shown that the elderly suffer a disproportionately high rate of chronic disease, the ability of the health care system to deal with the influx of more elderly who are living longer will be called into question.

4.10 Community Services:

In order to supplement assistance whether it be physical or monetary, community services are needed. Current trends would suggest that existing services are in great demand and those that are used are overburdened with the elderly. In 1981, the percentage of OAS recipients utilizing community services and those in need of the services were recorded. Utilization rates were given for the following: Meal service .8% (1.1%), transportation 3.5% (5.5%), homemaker 4.3% (5.5%), home medical assistance 4.3% (2.3%) and home nursing 3.7% (3.6%)(Second Canadian Conference on Aging,1983). The number in brackets indicates the percentage of OAS recipients who need these services but they are not available.

Of all admissions for the Victoria Order of Nurses (VON) in 1977, 51.3% were people 65 years of age and older. The greatest concentration by far was in Ontario which made up over 60% of total admissions (Statistics Canada,1978).

This would indicate an unequal distribution of services across the country. Consequently, services will have to be expanded to accommodate the increasing number of infirm.

As an example, accommodations for the elderly in the Hamilton area were examined. The total number of beds for the elderly number 8 627 beds. Of these, 1 154 were in homes for the aged, 1337 were in nursing homes, 1315 in rest homes and 4821 in seniors apartments. People on waiting lists for these type of dwellings numbered 1319 or 15.3% of the existing number of beds.(Appendix A, Table A.A10) Although one person can be on more than one waiting list, there is a clear need for more accommodation for the elderly infirm.

CHAPTER 5

Literary Data Analysis

Strategies For the Future

5.1 Introduction:

The National Advisory Council on Aging (NACA) is a federal government body which recommends policy positions to the government through the Ministry of Health and Welfare. Their position calls for an integration of community and institutional services for the elderly and education of society as a whole.

5.2 Long Term Care:

The goal of long term care is to maintain or reduce the declining amount of autonomy of individuals as they grow older. To this end, the NACA recommends a "single entry point" system which will give senior citizens access to a wide range of services. This is to decrease the confusion suffered by seniors who are approached by a multitude of care givers (NACA,1988). Important to this end is that the services have similar philosophies and goals, compatible standards and there must be a spirit of cooperation between all levels of health care professionals (NACA,1988).

An ideal long term system of care would provide an initial and on-going assessment of the physical and mental condition of the senior. This should be done by a physician trained in geriatric medicine and be willing to make house calls. There should also be community based services ranging

from home nurses and dietitians to housekeepers and friends. The availability of group homes should also be made for seniors unable to continue on their own. Most importantly, there should be an evaluation of such a system using national standards (NACA,1988).

5.3 Community Support Policy:

The number and variety of community support services should be increased if independent living is to be a realistic goal for seniors (NACA,1986). Services which should be implemented include homecare support, recreation programs, transportation services, social services (visitors) and a relief service for care givers. An integral aspect of this is that seniors have input into the decisions of what, when and how the services will be provided in order to maintain autonomy. The need for equity in availability and accessability are also crucial to the success of community support services, which isn't the case throughout the nation. It is up to the provincial government to provide health education and social services and the federal government to ensure they exist and are equitable (NACA,1986).

5.4 Adapting Through Education:

The National Advisory Council on Aging suggests a two-fold policy for the adaption of the population to an aging population through education. The first of these is the concept of life-long learning for the elderly which

concentrates on self-sufficiency skills, health promotion, education in economics and education for work related skills for those older workers who don't want to retire but need to be retrained. Another feature is the education of health care professionals in the field of geriatrics. This is to include not only the physician but also the rest of the health care professionals (NACA,1988).

On a macro level, education of the public for better understanding of the aging process is required. Since there is often a negative connotation of old age, more knowledge will improve understanding and hopefully change our society's attitudes and prejudices. Lastly, to this end, the NACA suggests the incorporation of gerontology courses in all human related courses. People must understand how aging relates to their field and how to adapt to it (NACA,1988).

5.5 Adapting Through Technology:

Technology should be adapted so that life can be made easier and safer for the senior and to keep them integrated in society. Industry, business and educational institutions all have a role to play. Industry can develop technology specifically for the elderly, adapt existing technology and establish norms to ensure product safety. Businesses could tailor marketing strategies to reach the growing market and make the products financially accessible. As stated earlier educational programs are needed to help seniors adjust to the new technology.

CHAPTER 6

Conclusion

6.1 Discussion:

The data presented indicate definite trends have been established over the century and will continue into the future. The percentage of the population sixty five and over in the nation as a whole and in Ontario has shown steady increases since the turn of the century except for the baby-boom years between 1951-61. Projections show that these trends will continue but will differ in intensity depending on the growth rate.

The percentage of the labour force in the 55-64 and 65+ age groups are decreasing as are participation rates for those of retirement age. This is occurring even though incomes for retirees are substantially lower than the national average.

This has meant an increased reliance on government programs as a major component of retirement income. Canada Pension Plan and Old Age Security expenditures have steadily increased since their inception and will exceed contributions in the future, placing the "pay as you go" pension system in jeopardy. The health care system will come under increasing strain with more physician consultations, chronic illness and increased demand for chronic care beds.

The need for more community services is evident by the utilization and demand of existing services as well as

the waiting lists for seniors' accommodation. The NACA's policy recommendations for better integration of community services, increased education for seniors, professionals and the public will need to be implemented if senior citizens are to maintain any degree of autonomy. The consequences of increased fiscal strain on the Canada Pension Plan and Old Age Security systems will be devastating if proper measures are not taken to prepare for the future. Whether these measures are taken or not remains to be seen.

APPENDIX A

TABLE A.A1

PERCENTAGE OF POPULATION 65 AND OLDER: 1921-86

Canada:

	Total Pop'n	Pop'n >65	% of Total
1921	8787949	420244	4.782049
1931	10376786	576076	5.551584
1941	11506655	767815	6.672791
1951	14009429	1086273	7.753871
1956	16080791	1243938	7.735552
1961	18238247	1391154	7.627674
1966	20014880	1539548	7.692017
1971	21568310	1744410	8.087838
1976	22992600	2002350	8.708671
1981	24343180	2360975	9.698712
1986	25309330	2697580	10.65844

Ontario:

	Total Pop'n	Pop'n >65	% of Total
1921	2933662	172251	5.871535
1931	3431683	234161	6.823503
1941	3787655	301325	7.95545
1951	4597542	394363	8.577692
1956	5404933	454375	8.406672
1961	6236092	508073	8.147298
1966	6960870	567322	8.150159
1971	7703105	644410	8.365588
1976	8264465	738915	8.940869
1981	8625110	868190	10.06584
1986	9101695	992700	10.90676

Source: Statistics Canada, Canadian Census: 1921-1986

TABLE A.A2

Percentage of Population > 65 By Province (1986)

Province	Total Pop'n	Pop'n > 65	% of Pop' 65 and Ov
Newfoundland	568350	49955	8.7
P.E.I.	126645	16090	12.7
Nova Scotia	873175	103840	11.9
New Brunswick	709445	78655	11.1
Quebec	6532460	651640	9.9
Ontario	9101690	992695	10.9
Manitoba	1063015	133165	12.5
Saskatchewan	1009615	128600	12.7
Alberta	2365825	191325	8.1
British Columbia	2883365	349480	11.7
Yukon	23505	865	3.7
N.W.T.	52249	1475	2.8

Source: Statistics Canada, Census Canada: 1986

TABLE A.A3

POPULATION PROJECTIONS: CANADA TO 2031

Low Growth

	% Aged 0-17	% Aged 18-64	% Aged 65
1981	28.1	62.2	9.7
1983	26.8	63.2	10
1986	25.7	63.6	10.7
1991	24.3	63.8	11.9
1996	22.7	64.2	13.1
2001	20.7	65.3	14
2006	18.7	66.6	14.7
2011	17.3	66.6	16.1
2016	16.6	65	18.4
2021	16.2	62.8	21
2026	15.6	60.5	23.9
2031	14.9	58.5	26.6

High Growth

	% Aged 0-17	% Aged 18-64	% Aged 65
1981	28.1	62.2	9.7
1983	26.8	63.2	10
1986	25.8	63.6	10.6
1991	25.2	63.1	11.7
1996	25.5	62.1	12.4
2001	25.6	61.6	12.8
2006	25.3	61.7	13
2011	24.7	61.7	13.6
2016	24.2	60.8	15
2021	24.2	59.4	16.4
2026	24.4	57.7	17.9
2031	24.6	56.5	18.9

Source: Health and Welfare Canada, 1988

TABLE A.A4

ONTARIO POPULATION PROJECTIONS BY AGE OF REFERENCE PERSON

(.000)

High

	Total Pop'n	Pop'n > 65	% of Total
1981	2279	286.2	12.55814
1985	2478.4	318	12.83086
1986	2526.6	330.5	13.08082
1987	2571.3	343.4	13.35511
1988	2613.7	356.1	13.62436
1989	2653.2	368.9	13.90397
1990	2691.4	381.3	14.16735
1991	2726.9	393.5	14.43031
1996	2876.8	452.1	15.71538
2001	2991	494	16.51622
2006	3071.4	526.6	17.14528

Medium

	Total Pop'n	Pop'n >65	% of Total
1981	2279	286.2	12.55814
1985	2471.8	319.5	12.9258
1986	2522.4	332.7	13.18982
1987	2570.8	346.3	13.47052
1988	2619.1	359.5	13.72609
1989	2666.7	373.2	13.99483
1990	2712.6	386.3	14.24095
1991	2755.7	399.4	14.4936
1996	2945	462.3	15.69779
2001	3099.8	508.3	16.39783
2006	3219	545.4	16.94315

Low

	Total Pop'n	Pop'n >65	% of Total
1981	2279	286.2	12.55814
1985	2463.2	320.4	13.00747
1986	2511.7	333.7	13.28582
1987	2558.2	347.5	13.58377
1988	2605	361.1	13.8618
1989	2651.2	375	14.14454
1990	2696.3	388.5	14.40863
1991	2738.6	401.9	14.67538
1996	2929.5	466.5	15.92422
2001	3088.2	514	16.644
2006	3209.5	552.2	17.20517

Source: Statistics Canada. Population Projections: 1984-2006

TABLE A.A5

CANADA PENSION PLAN: 1966-86

	Contribution	Total Revenue	Amount Paid
1966	5.31E+08	5.36E+08	0
1967	6.23E+08	6.61E+08	611909
1968	6.86E+08	7.65E+08	10415176
1969	7.37E+08	8.66E+08	38167132
1970	7.73E+08	9.67E+08	77871818
1971	8.16E+08	1.08E+09	1.29E+08
1972	8.69E+08	1.20E+09	1.90E+08
1973	9.39E+08	1.35E+09	2.56E+08
1974	1.20E+09	1.70E+09	3.63E+08
1975	1.43E+09	2.03E+09	5.30E+08
1976	1.63E+09	2.38E+09	7.78E+08
1977	1.83E+09	2.72E+09	9.98E+08
1978	2.02E+09	3.07E+09	1.25E+09
1979	2.32E+09	3.55E+09	1.54E+09
1980	2.60E+09	4.07E+09	1.91E+09
1981	3.01E+09	4.79E+09	2.33E+09
1982	3.67E+09	5.83E+09	2.88E+09
1983	3.47E+09	5.97E+09	3.51E+09
1984	4.12E+09	6.95E+09	4.09E+09
1985	4.03E+09	7.15E+09	4.73E+09
1986	4.72E+09	8.12E+09	5.39E+09

	Surplus Contribution	Surplus Revenue	
1966	5.31E+08	5.36E+08	
1967	6.23E+08	6.61E+08	
1968	6.76E+08	7.55E+08	
1969	6.99E+08	8.27E+08	
1970	6.95E+08	8.89E+08	
1971	6.87E+08	9.48E+08	
1972	6.79E+08	1.01E+09	
1973	6.83E+08	1.09E+09	
1974	8.41E+08	1.34E+09	
1975	8.97E+08	1.50E+09	
1976	8.52E+08	1.60E+09	
1977	8.30E+08	1.72E+09	
1978	7.72E+08	1.82E+09	
1979	7.77E+08	2.01E+09	
1980	6.92E+08	2.16E+09	
1981	6.83E+08	2.47E+09	
1982	7.87E+08	2.95E+09	
1983	-3.8E+07	2.46E+09	
1984	28760297	2.86E+09	
1985	-7.0E+08	2.42E+09	Source: Health and Welfare
1986	-6.7E+08	2.72E+09	1988

TABLE A.A6
CANADA PENSION PLAN FUND PROJECTION

PROPOSED PLAN - NEW ASSUMPTIONS

<u>YEAR</u>	<u>CONTRIBUTIONS</u>		<u>BENEFITS AND EXPENSES</u>	<u>NEW LOANS TO PROVINCES</u>	<u>FUND AT YEAR- END</u>	<u>RATIO OF FUND TO EXPEN- DITURE*</u>
	<u>RATE</u>	<u>AMOUNT</u>				
	(1)	(2)	(4)	(5)	(6)	(7)
	%	\$	\$	\$	\$	
1986	3.60	4900	5514	2687	33.8	4.99
1987	3.80	5414	8780	2225	36.0	4.58
1988	4.00	6071	6867	2052	38.1	4.29
1989	4.20	6837	8884	2037	40.1	4.11
1990	4.40	7644	9775	2181	42.3	4.00
1991	4.60	8475	10576	2449	44.8	3.93
1992	4.75	9233	11381	2664	47.4	3.87
1993	4.90	10111	12253	2917	50.3	3.80
1994	5.05	11043	13256	3070	53.4	3.72
1995	5.20	12075	14359	3180	56.6	3.64
1996	5.35	13214	15550	3276	59.9	3.56
1997	5.50	14412	16827	3345	63.2	3.49
1998	5.65	15693	18125	3475	66.7	3.42
1999	5.80	17046	19517	3579	70.3	3.34
2000	5.95	18555	21038	3687	74.0	3.26
2001	6.10	20216	22669	3787	77.7	3.19
2002	6.25	21939	24361	3824	81.6	3.12
2003	6.40	23870	26143	3987	85.5	3.05
2004	6.55	25879	28043	4197	89.7	2.98
2005	6.70	28073	30098	4418	94.2	2.91
2006	6.85	30412	32400	4594	98.8	2.83
2007	7.00	32923	34906	4737	103.5	2.75
2008	7.15	35602	37623	4853	108.3	2.67
2009	7.30	38411	40590	4861	113.2	2.58
2010	7.45	41442	43844	4806	118.0	2.49
2011	7.60	44680	47485	4563	122.6	2.39
2012	7.90	48975	51357	5139	127.7	2.30
2020	10.10	94857	94720	11234	196.2	1.92
2025	11.07	133519	135885	12245	256.4	1.76
2030	11.65	181605	187598	12205	317.0	1.60

*Expenditure is taken from following year. Table extracted from Table 4 - CPP Actuarial Report #10. (Tabled in House of Commons October 3, 1986)

Note: Fund in billions of dollars, other dollar figures in millions.
Contribution rates as percent of contributory earnings.

Source: Health and Welfare, 1988

TABLE A.A7

OLD AGE SECURITY: BENEFICIARIES AND PAYMENTS (1952-70)

	Number	Total Amount	Amount /Person
1952	643013	76066834	118.2975
1953	686127	3.23E+08	470.9648
1954	716300	3.39E+08	473.2246
1955	745620	3.53E+08	473.7069
1956	771753	3.66E+08	474.2937
1957	797486	3.79E+08	475.3831
1958	827560	4.74E+08	572.5979
1959	854284	5.59E+08	654.6767
1960	876410	5.75E+08	655.9567
1961	904906	5.92E+08	654.6683
1962	927590	6.25E+08	673.9053
1963	950766	7.34E+08	772.4105
1964	971801	8.08E+08	831.8486
1965	993582	8.85E+08	891.013
1966	1105776	9.27E+08	838.5961
1967	1229561	1.07E+09	872.6738
1968	1366210	1.39E+09	1016.036
1969	1504862	1.54E+09	1024.227
1970	1670639	1.73E+09	1035.852

	% Change	% Change /Person
1952	324.8128	298.1189
1953	4.898513	.4798297
1954	4.199342	.1019132
1955	3.633085	.1238746
1956	3.571708	.2296918
1957	24.99206	20.44977
1958	18.02661	14.33447
1959	2.790586	.1955174
1960	3.04864	-.19642
1961	5.51887	2.938431
1962	17.4808	14.61707
1963	10.07782	7.695145
1964	9.513112	7.112399
1965	4.744751	-5.88284
1966	15.71296	4.063659
1967	29.36734	16.42795
1968	11.03656	.8060945
1969	12.27621	1.135074
1970		

Source: Statistics Canada. Old Age Security. 1982

TABLE A.A8

OLD AGE SECURITY STATISTICS: 1952-81

	Number of Recipients	Total Population	Population 18-64	Labour Force
1952	643013	14459000	8237700	5324000
1961	904906	18238300	9751500	6521000
1966	1105776	20014900	10739400	7420000
1971	1720128	21568300	12128000	8631000
1972	1762834	21820500	12408200	8891000
1973	1808233	22094700	12717000	9279000
1974	1858481	22446300	13087000	9662000
1975	1915679	22799500	13452200	9974000
1976	2011482	22992600	13661700	10206000
1977	2086082	23257600	13950500	10498000
1978	2149082	23475600	14222900	10882000
1979	2220675	23681300	14484500	11207000
1980	2317073	23936300	14757300	11522000
1981	2388020	24189400		

	% Total Population	% Pop'n 18-64	% Labor Force
1952	4.447147	7.805735	12.07763
1961	4.96157	9.27966	13.8768
1966	5.524764	10.29644	14.90264
1971	7.97526	14.18311	19.92965
1972	8.078797	14.20701	19.82717
1973	8.184012	14.21902	19.48737
1974	8.279676	14.20097	19.23495
1975	8.402285	14.24064	19.20673
1976	8.748389	14.72351	19.70882
1977	8.969464	14.95346	19.87123
1978	9.154535	15.11001	19.74896
1979	9.377336	15.33139	19.81507
1980	9.680164	15.7012	20.10999
1981	9.872175		

Source: Statistics Canada. Old Age Security, 1982

TABLE A.A9

ONTARIO HOSPITAL OCCUPANCY RATES

	Total Beds	Chronic Beds	% of Total
1980	47145	9413	19.9
1981	47484	10050	21.2
1982	47879	10205	21.3
1983	47943	10529	21.9
1984	48373	10472	21.6
1985	48815	10790	22.1
1986	49333	10864	22
1987	49658	11156	22.4

	Occupancy Rate For All Beds (%)	Occupancy Rate Chronic Beds (%)
1980	84.5	89.8
1981	85.3	93.4
1982	86.5	96.1
1983	87	95.1
1984	86.6	96.6
1985	87	95.1
1986	87.1	96.8
1987	87.7	95.3

Source: Ministry of Health and Welfare: 1980-87

TABLE A.A10

Accommodation for the Elderly

Type	Number of Beds	Waiting List
Homes for the Aged	1154	151
Nursing Homes	1337	325
Rest Homes	1315	195
Seniors Apts.	4821	643
Total:	<u>8627</u>	<u>1314</u>
	%of Total	15.2

Source: Hamilton Wentworth Information Service

LIST OF REFERENCES

- Dominion Bureau of Statistics.Sixth Census of Canada, 1921.
Ottawa. 1922.
- Dominion Bureau of Statistics.Seventh Census of Canada,
1931. Ottawa. 1933.
- Dominion Bureau of Statistics.Eighth Census of Canada,
1941. Ottawa. 1942.
- Dominion Bureau of Statistics.Ninth Census of Canada, 1951.
Ottawa. 1952.
- Dominion Bureau of Statistics.Census of Canada, 1956.
Ottawa. 1957.
- Dominion Bureau of Statistics.Census of Canada, 1961.
Ottawa. 1962.
- Dominion Bureau of Statistics.Census of Canada, 1966.
Ottawa. 1967.
- Ferguson, B.S. "Labour Force Substitution and the Effects of
an Aging Population".Applied Economics. 1986.Vol.18
- Hamilton Wentworth Information Services. List Of Seniors
Accommodations. Hamilton. No date given.
- Havens, B. "Population Projections: Certainties and
Uncertainties". Canada's Changing Age Structure.
Burnaby, Simon Fraser University Publications. 1982
- Health and Welfare Canada.Canada Pension Plan Statistical
Bulletin. Ottawa. 1987.
- Health and Welfare Canada. Family Allowances, Old Age
Security, and Canada Pension Plan: Report Ending
March 31, 1987. Ottawa. 1988.
- Herzog, J. "Aging, Pensions and Demographic Change".
Canada's Changing Age Structure. Burnaby. Simon
Fraser University Publications. 1982.
- Martin, J. "Social Policy Concerns Relating To Retirement:
Implications For Research". Canada's Changing Age
Structure. Simon Fraser University Publications.
1982.
- National Advisory Council on Aging. Adapting To An Aging
Population Through Education. Ottawa. 1988.

National Advisory Council On Aging. Philosophy On Technology For An Aging Population. Ottawa. No date given.

National Advisory Council On Aging. Position On Long Term Care. Ottawa. 1988.

National Advisory Council On Aging. Toward A Community Support Policy For Canadians. Ottawa. 1986.

Ontario Ministry of Health. Hospital Statistics, 1980. Toronto. 1980.

Ontario Ministry of Health. Hospital Statistics, 1981. Toronto. 1981.

Ontario Ministry of Health. Hospital Statistics, 1982. Toronto. 1982.

Ontario Ministry of Health. Hospital Statistics, 1983. Toronto. 1983.

Ontario Ministry of Health. Hospital Statistics, 1984. Toronto. 1984.

Ontario Ministry of Health. Hospital Statistics, 1985. Toronto. 1985.

Ontario Ministry of Health. Hospital Statistics, 1986. Toronto. 1986.

Ontario Ministry of Health. Hospital Statistics, 1987. Toronto. 1987.

Schulz, J. The Economics of Aging. Wadsworth Publishing Co., Belmont, California. 1985.

Second Canadian Conference on Aging. Fact Book on Aging. Ottawa. 1983.

Statistics Canada. "Income of Canada's Seniors". Canadian Social Trends. Autumn. 1988.

Statistics Canada. Census of Canada, 1971. Ottawa, 1972.

Statistics Canada. Census of Canada, 1976. Ottawa, 1977.

Statistics Canada. Census of Canada, 1981. Ottawa, 1982.

Statistics Canada. Census of Canada, 1986. Ottawa, 1987.

Statistics Canada. Population Projections For Canada.

Provinces and Territories: 1984-2006. Ottawa. 1985.

Statistics Canada. Old Age Security, Guaranteed Income Supplement and Spouses Allowance. Ottawa. 1982.

Victoria Order Of Nurses. Annual Report, 1977. Ottawa. 1977