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## The Change in the Economic Status of the Low-Income Elderly in Three Industrial Countries: Circa 1979-1986

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# Luxembourg Income Study Working Paper Series

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The Change in the Economic Status of the Low-Income  
Elderly in Three Industrial Countries: Circa 1979-1986

John Coder, Timothy Smeeding and BarbaraTorrey

March 1990

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Luxembourg Income Study (LIS), asbl

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**THE CHANGE IN THE ECONOMIC STATUS OF THE LOW-INCOME ELDERLY  
IN THREE INDUSTRIAL COUNTRIES: CIRCA 1979-1986**

by

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The views expressed do not necessarily represent the views of the U.S. Bureau of the Census. The use of some data not generated by the U.S. Bureau of the Census precludes performing the same statistical reviews on that data which the Bureau does on its own data.

# THE CHANGE IN THE ECONOMIC STATUS OF THE LOW-INCOME ELDERLY IN THREE INDUSTRIAL COUNTRIES: CIRCA 1979-1986

## INTRODUCTION

One of the greatest challenges faced by Western industrialized nations is providing economic security to their rapidly growing elderly populations. This group makes up more than 10 percent of the population in the three countries studied here and will be the fastest growing age group over the next 25 years. The share of gross national product (GNP) spent on income maintenance programs related to old-age, survivor, and disability ranged from 4 percent in the United States to 7 percent in Canada in 1983, and these shares are sure to rise. While public policy is not directly transferable between countries, international comparisons can serve to broaden the context in which we review and evaluate policies here in the United States. How and why do differences, such as that indicated in the levels of spending on social assistance in the United States and Canada, exist and what is the effect on the well-being of the elderly? Is their status changing over time and why?

This paper focuses on comparisons of the economic status of the elderly in Australia, Canada, and the United States, and how the economic status of this rapidly growing segment has changed in recent times. While the period for which we acquired data is rather short, some interesting differences and changes are observed. We give some special attention to examining the situation of elderly, single women in the United States, a group that continues to be among the most disadvantaged, even in the context of international comparisons. This effort follows previous comparative research [Smeeding, Torrey, and Rein, 1988; Kohl, 1988] which indicates that the income distribution of the elderly in the United States is more unequal than those in other countries, resulting in higher relative incomes overall but higher rates of low-income. These studies showed that in 1979, about 24 percent of the elderly in the United States had incomes below half the overall median income. This was the second highest low-income rate of the eight countries studied and compares to estimates for Australia and Canada of 16 percent and 17 percent, respectively, the third and fourth highest rates.

This paper begins with brief descriptions of the Luxembourg Income Study and the specific national surveys. It establishes the relative income position of the elderly with respect to all families. It examines the proportion of elderly families below 50 percent of the median income and how sensitive estimates of "low-income" are to the relative level below the median chosen. The severity of the situation of low-income elderly is examined by presenting estimates of the deficit or gap below the low-income threshold. The paper concludes with a discussion of the possible causes of the differing levels and changes in the economic status of the elderly in the three countries. Of course, this analysis raises more questions than it answers, as it is intended to do. More detailed analyses are needed to understand these differences.

## THE LUXEMBOURG INCOME STUDY

The data used for this study were derived from the Luxembourg Income Study (LIS) data base. The LIS is a cooperative, international research project designed to promote comparative analysis of the economic well-being of populations in countries that can be broadly defined as the "modern, industrialized, welfare states." The project has developed and now maintains a data base containing microdata from surveys of populations in 14 member countries (see Appendix A for a list of the data currently available).

Because the kind and amount of data available from the surveys available for each country varied considerably, one major function of the project has been to group socioeconomic variables into some standardized categories in order to facilitate comparative research. Working with the country coordinators, the data received for each country were formatted to fit these conceptual categories. The result is a data base that defines approximately 40 income sources, taxes paid, and 30 social, demographic, labor market, and geographic variables.

The data contained in the data base as of January 1990 cover two time periods, 1979-81 and 1985-87. Building of the data base for the second period has not been completed. Goals for the second period are to update data sets available from the earlier years and to add data for new countries.

The basic building block of data available for analysis has changed between the 1979-81 period and 1985-87. The structure of the initial data sets centered on the "household" or "family" as the unit of analysis, hence little detailed information is available for individual members other than the householder and spouse. This particular aspect of the data has limited our analysis to units with an elderly householder instead of the elderly population as a whole. For the more recent data sets, the LIS data base provides much more detail for individual household members other than the head and spouse, and allows persons, as well as households and families, as the unit of analysis.

## DEFINITIONS AND SURVEY DESCRIPTIONS

### Description of Surveys

The three surveys that are used in this comparison are the Australian Income and Housing Survey, the Canadian Survey of Consumer Finances, and the U.S. Current Population Survey. The decennial census is the basis of the three household sampling frames; the population covered is between 97 and 98 percent of the national populations. The surveys used came from different years: 1981 and 1985 for Australia; 1981 and 1987 for Canada; and 1979 and 1986 for the United States. All three samples exclude the homeless populations and the

institutionalized. The latter exclusion means that the three surveys are excluding the sickest and often the poorest of the elderly population. Therefore, the results may be biased upward with respect to generalizations about the economic status of all the elderly.

### **Defining Elderly Families**

The limited amount of information available from the data sets covering the 1979-81 period constrained the choice of units of analysis to families. No information is available from the earlier data sets which could allow a complete person-based analysis and the Canadian data set for 1981 does not permit an analysis based on the household unit concept. A family was defined to be either a group of related persons living together or an unrelated household member living alone or with other unrelated persons (a one-person family). The "elderly" classification was based on the age of the family householder using 65 years or over to define elderly. While it would have been desirable to examine subgroups based on age cohorts within this broadly defined elderly group, the relatively small sample sizes currently available in the LIS data base make this a difficult task from the standpoint of statistical reliability. The LIS data base contains subsamples of the larger full-samples from the surveys provided by the countries. The sample sizes for Australia, Canada, and the United States are about 9,000, 12,000, and 13,000 respectively for the update years of 1985-87 and 16,000, 15,000, and 15,000 respectively for the 1979-81 period.

Most of the tables in this paper contain statistics for the two largest and most widely studied subgroups of elderly families. These are female, one-person families and married couples. The one-person families are those individuals living alone or with other unrelated persons. The married couple category consist of a husband and wife couple living together with no other household members present. More details concerning family definitions can be found in Appendix B.

### **Defining Income and Low-income Thresholds**

A measure of "adjusted disposable" family income was used in this study. It was defined as equivalence-adjusted cash income after individual income and payroll taxes and after the receipt of government transfers (the income definition for the United States also includes the value of food stamps and energy assistance payments). The equivalence adjustment factors employed here are shown in Appendix Table C-1. All family incomes were divided by the equivalence factor corresponding to the number of family members before any computations or calculations were made. Three low-income thresholds were computed from the distribution of equivalence-adjusted incomes. These were 40, 50, and 60 percent of median family income for all families. Families with incomes below these levels were considered as low-income for specific parts of the analysis. These calculations were made separately for each country so that the low-income definitions used here were relative measures reflecting the shape of the income distribution in each country. More detailed information concerning the definition of income can be found in Appendix B.

## CHANGES IN THE RELATIVE INCOME POSITION OF ELDERLY FAMILIES

### Median Family Income

Table 1 shows the relative income position of elderly families based on the ratio of their median family income to the median family income of all families (as noted earlier, median incomes were computed after equivalence adjustment factors were applied). These measures of overall relative well-being appear to reveal significant trends toward improved income positions for the elderly in Canada and the United States during the reference periods of 1981-87 and 1979-86, respectively, but no overall improvement for the elderly in Australia. In 1981, this ratio of median incomes was 69 percent for Australia, 73 percent for Canada, and 77 percent for the elderly in the United States. The second observation for Australia (1985) yielded a ratio of 68 percent, virtually unchanged during that 5-year span. In contrast, the median ratio for Canada rose from 73 percent to 82 percent and the ratio for the United States climbed from 77 percent to 85 percent.

In the observations for both years, the relative position of female, one-person families remained well below the overall median income level. In Australia and the United States, these women made no gains, while the women in Canada experienced a major improvement in their relative incomes during the 1981-87 period, going from 59 percent to 70 percent of the median family income. This increase places these women, the vast majority made up of older women living alone, significantly above their Australian and American counterparts, who, in the earlier years, shared about the same level of relative income.

The relative position of elderly married couples increased in Canada and the United States, but held at about the same level for Australia. In the United States, the ratio for elderly couples rose from 93 percent to 109 percent, indicating that these families had a median income in 1986 which exceeded that of all families by 9 percent. The rise in Canada left their elderly couples with a median income that was 88 percent of the overall figure. This was up from the 83 percent in 1981. The stagnant position for elderly couples in Australia served to widen the inter-country gap that existed in the early 1980s when the ratio for Australia of 72 percent already lagged well behind those of the other two countries.

### Fifty Percent of Median Family Income (Low Income)

The definition of "low-income" in this study is based on the level of a family's income relative to a specified proportion of the overall median family income. For the most part, 50 percent of median family income, after equivalence adjustment, has been used as the low-income threshold below which a family was considered to be part of the low-income population.

Our findings concerning the proportion of families with low-incomes are shown in table 2. The previously discussed measure of relative well-being based on the ratio of median incomes indicated that the elderly in the United States were in a better position than those in either Australia or Canada for both periods examined. This is not, however, the case if only the

Table 1. Median Family Income for Elderly Families as a Percent of Overall Median Family Income\*, by Type of Family

A. AUSTRALIA: 1981 and 1985

Type of family	1981	1985	Change
Female, one-person	58	56	-2
Married couple, no other family members	72	70	-2
Total, all families	68	67	-1

B. CANADA: 1981 and 1987

Type of family	1981	1987	Change
Female, one-person	59	70	11
Married couple, no other family members	83	88	5
Total, all families	73	82	9

C. UNITED STATES: 1979 and 1986

Type of family	1979	1986	Change
Female, one-person	60	62	2
Married couple, no other family members	93	109	16
Total, all families	77	85	8

\*Family income after equivalence adjustment.



**Table 2. Percent of Elderly and Non-elderly Families Below 50 Percent of Median Family Income\*, by Type of Family**

**A. AUSTRALIA: 1981 and 1985**

Type of family	1981	1985	Change
Female, one-person, 65 years and over	6.1	9.9	3.8
Married couple, 65 years and over, no other family members	5.1	5.4	0.3
Total, 65 years and over	6.3	7.9	1.6
Total, under 65 years	12.3	11.1	-1.2
Total, all families	11.3	11.0	-0.3

**B. CANADA: 1981 and 1987**

Type of family	1981	1987	Change
Female, one-person, 65 years and over	28.5	9.1	-19.4
Married couple, 65 years and over, no other family members	6.8	3.5	-3.3
Total, 65 years and over	16.3	7.2	-9.1
Total, under 65 years	13.5	14.2	0.7
Total, all families	14.0	12.9	-1.1

**C. UNITED STATES: 1979 and 1986**

Type of family	1979	1986	Change
Female, one-person, 65 years and over	36.4	34.9	-1.5
Married couple, 65 years and over, no other family members	15.6	10.3	-5.3
Total, 65 years and over	25.4	22.4	-3.0
Total, under 65 years	16.1	18.2	2.1
Total, all families	18.0	19.1	1.1

\*Family income after equivalence adjustment.

lower half of the income distribution is examined using the low-income definition of half the median. In both periods, the proportion of elderly families with low-income is much greater in the United States than in either Australia or Canada. The rate of low-income declined in both the United States and Canada between the two periods measured. However, the rate for the United States in 1986 was about three times that for Canada and Australia.

In Canada, the rate of low-income among the elderly dropped between 1981 and 1987, falling from 16 percent to 7 percent. Most of this large decline can be attributed to the dramatic change for single, elderly women whose rate fell from 29 percent to only 9 percent during the 6-year period. The rate for married couples also fell from 7 percent to 4 percent.

In contrast to the large decline in the proportion of families below the low-income level in Canada and the modest decline in the United States, the rate for elderly families in Australia, while remaining relatively low, edged upward from 6 percent to 8 percent. This was mainly the result of an increase for single women whose low-income rate rose from 6 percent to 10 percent.

Elderly women living alone in the United States had the highest low-income rates in both the earlier and more recent periods studied and experienced no significant change between 1979 and 1986 (36 percent versus 35 percent). This rate was more than three times the rate for women in Australia and Canada (10 percent and 9 percent, respectively) for the mid-1980 period.

The low-income rates for married couples were higher also in the United States. Even though the low-income rate for these couples declined from 16 percent in 1979 to 10 percent in 1986, the rate was higher than those in Australia and Canada for both years. This is in spite of the fact that the overall measure of well-being derived using ratios of median incomes showed that the elderly couples in the United States were better off. This apparent contradiction points clearly to marked differences in the shapes of the family income distributions in these countries.

### **Alternative Low Income Thresholds**

An examination of low-income rates for elderly families using alternative thresholds of 40 percent and 60 percent of median family income reveals that the choice of the relative poverty level has an important effect on the comparative rates between countries. The low-income rates based on these alternative thresholds, which can be found in table 3, show that if 60 percent rather than 50 percent of median family income is chosen as the threshold, the overall low-income rates would increase from 8 percent to 36 percent for Australia, from 7 percent to 17 percent for Canada, and from 22 percent to 32 percent for the United States (figures for the later reference period). The general trend in changes in low-income rates over time appears similar for each of the three choices of threshold.

Choosing a low-income threshold at 60 percent of median income rather than 50 percent seems to have a much greater effect on the rates for Australia and Canada than on the rates

**Table 3. Percent of Elderly Families With Income Below Specified Percent of Median Family Income\*, by Type of Family**

**A. AUSTRALIA: 1981 and 1985**

Type of family	Below 40 percent			Below 50 percent			Below 60 percent		
	1981	1985	Change	1981	1985	Change	1981	1985	Change
Female, one-person	2.1	3.7	1.6	6.1	9.9	3.0	57.9	60.8	2.9
Married couple, no other family members	3.3	4.3	1.0	5.1	5.4	0.3	19.1	17.8	-1.3
Total, all families	2.5	3.9	1.4	6.3	7.9	1.6	34.2	36.1	1.9

**B. CANADA: 1981 and 1987**

Type of family	Below 40 percent			Below 50 percent			Below 60 percent		
	1981	1987	Change	1981	1987	Change	1981	1987	Change
Female, one-person	7.6	3.2	-4.4	28.5	9.1	-19.4	52.1	26.4	-25.9
Married couple, no other family members	1.9	0.6	-1.3	6.8	3.5	-3.3	17.5	8.4	-9.1
Total, all families	4.8	2.4	-2.4	16.3	6.8	-9.5	31.9	16.7	-15.2

**C. UNITED STATES: 1979 and 1986**

Type of family	Below 40 percent			Below 50 percent			Below 60 percent		
	1979	1986	Change	1979	1986	Change	1979	1986	Change
Female, one-person	21.5	17.6	-3.9	36.4	34.9	-1.5	49.6	48.2	-1.4
Married couple, no other family members	8.1	6.0	-2.1	15.6	10.3	-5.3	22.3	16.3	-6.0
Total, all families	14.7	12.4	-2.3	25.4	22.4	-3.0	34.9	32.1	-2.8

\*Family income after equivalence adjustment.

for the United States. This indicates that there is a much larger concentration of families between these two points in the income distribution for Australia and Canada. One possible explanation for this phenomenon is that the social transfer programs aimed at the elderly in these two countries provide benefits which are very uniform across the elderly population and at levels which fall in these specific areas of the distribution. In fact, both Australia and Canada use "flat-rate" social retirement schemes in contrast to the mainly earning-related scheme employed in the United States.

#### **Mean Relative Deficit Below the Low-Income Level**

In addition to measuring the incidence of low-income, it is important to examine the severity of the situation in which the low-income exist. One measure of this severity is the distance or deficit between the low-income threshold and the actual income of the family below that level. Table 4 contains estimates of the mean relative deficit for elderly families using the 50 percent of median threshold. In the earlier reference period of 1979-81, low-income families in the United States were, on average, further below the low-income level than those families in Australia and Canada. The United States, therefore, ranked first in both the highest rate and severity of low-income using the 50-percent criterion. This situation changed between the 1979-81 and 1985-87 period during which the mean relative deficit for low-income Australian families rose from 21 percent to 35 percent. The deficit for the United States also rose somewhat to 33 percent, about the same level as that for Australia. In contrast, the deficit for Canadian families did not change between 1981 and 1987, staying in the 16-17 percent range, well below the deficits of Australia and the United States. The mean deficit for Canada remained steady in spite of the large decline in the low-income rate from 16 percent to 7 percent.

### **DISCUSSION OF KEY FINDINGS**

The results thus far show that the differing approaches used to provide income security for the elderly in Australia, Canada, and the United States resulted in measurably different relative income positions for these groups within these countries. They also show that some interesting changes in the income position of these groups occurred within two of these countries during the short time spans covered in the LIS data base. This section of the paper attempts to discuss these changes in more detail and briefly contrast benefit levels payable to the elderly under the different social retirement schemes.

#### **Changes**

Because our comparisons are based on income relative to the overall median family income after-taxes, the changes observed could be, to varying extents, functions of demographic changes, economic changes, and changes in tax and social assistance policies (see tables in Appendix C for selected statistics in these areas). Since the time periods examined are

**Table 4. Mean Relative Deficit\* Below 50 Percent of Median Family Income, by Type of Elderly Family (Percent)**

**A. AUSTRALIA: 1981 and 1985**

Type of family	1981	1985	Change
Female, one-person	23	30	7
Married couple, no other family members	31	63	32
Total, all families	21	35	14

**B. CANADA: 1981 and 1987**

Type of family	1981	1987	Change
Female, one-person	15	17	2
Married couple, no other family members	17	14	-3
Total, all families	17	16	-1

**C. UNITED STATES: 1979 and 1986**

Type of family	1979	1986	Change
Female, one-person	29	36	7
Married couple, no other family members	28	28	--
Total, all families	28	33	5

\*Relative deficit computed by dividing the difference between 50 percent of median family income and actual family income by 50 percent of median family income.

relatively short, the role of demographic shifts on change in economic status will be small. Only where obvious have we connected changes in these other factors directly to changes in the economic status of the elderly.

In contrast to the other three countries, Australia's elderly appear to have seen the smallest change in their economic situation, however the data for Australia only permitted comparisons over a 4-year period, from 1981 to 1985. The overall income position of elderly relative to median family income remained stable, while the low-income rate increased slightly, from 6 to 9 percent, but remained low in the context of the three countries studied. The elderly population in Australia grew at a rate of 2.7 percent per year and their share of the total population increased from 9.8 percent to 10.2 percent. On the economic front, Australia suffered 2 years of double-digit inflation and a recession between 1981 and 1985. In real terms, family income after taxes fell by 5 percent in Australia, the only one of the three countries to experience a real decline. The unemployment rate began the period at 5.7 percent and was persistently higher, ending at 8.2 percent in 1985. The percent of income paid in income taxes (there is no mandatory employee payroll tax) rose slightly for both the elderly and the population overall. Pension amounts were increased by the rate of change in consumer prices but no major changes were made to the pension system.

In contrast to Australia, the income position of the elderly in Canada improved greatly. The ratio of their median income to that of all families rose from 73 percent in 1981 to 82 percent in 1987, and the proportion with incomes below the low-income level declined from 16 percent to 7 percent. The low-income rate for single, elderly women declined from 29 percent to 9 percent.

For Canada, the elderly population grew at a rate of 3.3 percent per year, resulting in an increase of from 9.7 percent to 10.9 percent in their share of the population. In real terms, family income remained unchanged between 1981 and 1987. The Canadians also suffered a recession early in this period, but experienced much lower levels of inflation than Australia, 5.5 percent versus 8.0 percent per year, respectively. Unemployment rates in Canada exceeded those in Australia and the United States, with levels near or above 10 percent for each year from 1982 to 1986, peaking at 11.8 percent in 1983. The proportion of the income of the elderly going to pay taxes rose slightly, as did that of the population in general. Pension benefits were indexed to the change in consumer prices.

The large improvements in the income situation of the elderly in Canada occurred mainly as the result of some major revisions to the pension schemes [OECD, 1988]. These included increased benefit levels under the universal pension plan for retirement, survivor, and disability provisions; increased supplemental means-tested benefit levels; and introduction of a provision to equally divide pension credits between former spouses in the earnings-based part of the pension scheme (essentially an earnings-sharing scheme for divorced women [Burkhauser and Holden, 1982]). Between 1981 and 1987, the annual minimum benefit levels rose from \$5,091 to \$7,941 for a single person and from \$9,015 to \$12,875 for a married couple. These increases of 52 percent and 43 percent, respectively, were far larger than the 38 percent change in consumer prices occurring during this period.

The pattern for changes in the economic position of the elderly in the United States is somewhat mixed, with married couples improving their position, while single women made no real gains and continue to be perhaps the most disadvantaged, elderly group in terms of relative income in these three countries. The improvements for married couples served to widen the income gap between subgroups of the elderly. Based on comparisons of median family incomes, the position of elderly families as a whole improved, rising from 77 percent of the overall median in 1979 to 85 percent in 1986. Single women showed no improvement, having a median income which is about 60 percent of the overall median. The median for married couples rose, however, from 93 percent of the overall median in 1979 to surpass it by 9 percent in 1986. Changes in the rates of low-income show a similar story, with improvement for married couples, but virtually no gains for single women.

From a demographic standpoint, the growth in the elderly population was slower at 2.3 percent per year in the United States than in the other countries. Their share of the total population, however, is slightly higher at 12.2 percent.

Economically, the United States experienced a faster rate of change in consumer prices than Canada, 6.1 percent per year, but lower unemployment rates and a real increase in median family income of 7.5 percent (1.0 percent per year). As in the case of both Canada and Australia, the economy in the United States passed through a recessionary period in the early 1980s.

In terms of taxes paid, the United States is the only country for which the proportion of income paid in taxes declined. This decline overall (Appendix Table C-6) did not extend to the elderly, who paid somewhat higher proportions of their income in taxes. The overall decline mainly reflects mandated reductions in federal income tax rates and indexing of "tax brackets" and personal exemptions for changes in consumer prices. The rise in taxes paid by the elderly is, in part, due to the initiation in 1984 of new tax regulations calling for the partial taxation of social security benefits [U.S. Bureau of the Census, 1988].

There were no major revisions to the regulations governing eligibility or benefit amounts for social pensions in the United States. Pension amounts were adjusted annually for the change in consumer prices. The consumer price index rose 51 percent during the 1979-86 period. In the absence of revisions designed to improve the relative position of the lowest income elderly, namely single women, increasing pension amounts by the change in prices could effect no real improvement unless the real income of the overall population was falling.

### **Benefit Levels**

Our results illustrate the effects of two very different approaches to providing economic security to the elderly. For Australia and Canada, the approach reflects a commitment to provide the entire elderly population a basic income level before considering past work experience and earnings. In the United States, no such minimum level is provided before considering past contributions based on earnings levels. The net effect of these two different approaches to social insurance is low-income rates in the United States, which exceed those of Canada and Australia by nearly four times for single elderly women and two to three times for

elderly married couples. On the other hand, this difference in pension scheme philosophy has had the net effect of making the elderly in the United States better off, on average, than those in the other two countries.

The figures in table 5 show that, in Canada and Australia, the flat-rate benefit levels including means-tested supplements for a single person were 54 percent and 57 percent of the overall median family income after equivalence adjustment compared to an estimate of only about 39 percent in the United States (calculated for persons or couples with no other countable income). Benefits for married couples in Australia and Canada are 1.67 and 1.62 times the single-person benefits (compared with a multiplier of only 1.5 in the United States). The benefits noted above for the United States are those attributable to the federal Supplemental Security Income (SSI) program excluding any state supplementation. These benefits fall about 12 percent below of the official poverty level for a single person, age 65 years and over, even after including the value of food stamps, and about 7 percent above the poverty level for a married couple using the same income definition.

Benefits payable under the earning-related portion of the overall social retirement system in the United States also are summarized in table 5. These figures, restricted to the Old Age (OA) portion of the Social Security program, show that in 1986 the maximum benefit available to a worker retiring at age 65 years in that year was 79 percent of the median family income after equivalence adjustment, and that the comparable proportion for a married couple was 105 percent. While these are the maximums, the average amounts received by single retired workers and married couples were 62 percent and 58 percent, respectively, of median family income, not much above the rate guaranteed to all elderly in Australia and Canada, even those with no earnings history.

## CONCLUSIONS

In terms of winners and losers, the early to mid 1980s saw the low-income elderly in Canada as big winners, as changes to the social pension systems in that country increased their level of income significantly relative to the overall population, which realized no real growth. Married couples in the United States also were winners, experiencing a decline in their low-income population and large increases in overall median family income. Median income for these families exceeded that of all families by 9 percent in 1986. Losers were the single, elderly women in the United States, a group suffering a low-income rate of 35 percent in 1986, nearly four times the rate for these women in Australia and Canada. Single, elderly women in Australia also appear to have lost some ground relative to the overall population, but still have far lower low-income rates than those in the United States.

The Australian and Canadian pension systems, which employ universal flat-rate benefits with means-tested supplements to all elderly persons, reflect a sensitivity toward providing "adequate" incomes to all elderly, regardless of their past experiences. The pension scheme in the United States, while establishing a "floor" through the SSI and food stamp programs, is far less generous to those who do not have claims on the earning-related portion of the system.



**Table 5. Benefit Levels\* for the Elderly as a Percent of Median Family Income\*\*, by Family Type**

Country and year	Single person	Married couple
Australia, 1985	57	64
Canada, 1987	54	59
United States, 1986	39	40
Maximum social security old age benefits	79	105
Average social security old age benefits	62	58

\*Estimates are for persons/couples with no other source of income or assets.

\*\*Family income after equivalence adjustment.

Sources: Organisation for Economic Cooperation and Development, "Reforming Public Pensions," Social Policies Study No. 5, Paris and U. S. Social Security Administration, Social Security Bulletin, Annual Supplement 1988, Washington, D.C.

Even those with claims receive average benefits, which are, on average, not far in excess of the minimum guarantees available to all elderly in Australia and Canada.

Improvement in the economic situation of the elderly in Canada took place during the 1981-87 period as the result of important changes to their pension system. These changes were undertaken during a period of high unemployment and no real growth in overall family income. One must ask the question as to whether the same changes in the United States' system is possible. The recent repeal of the Medicare Catastrophic Health Care Act may indicate that U.S. elderly, or at least, the middle- and higher-income elderly, are not interested in sacrificing benefits in order to provide increased assistance to the less fortunate. Until significant changes are made one can be sure that the elderly in the United States will continue to exist as two distinct groups, one having the lowest and one the highest income when compared to their counterparts in other countries.

This paper leaves many interesting issues to be examined. First, it would be useful to expand on previous work by Smeeding, et al. [1988] and Kohl [1988] on measuring income inequality within subgroups of the elderly population using some of the standard inequality measures. Second, it should be important to determine the role that property income and private pensions play in providing income security. Third, it might be interesting to develop some simulations of the Australian and Canadian pension benefits using U.S. data sets, such as the March Current Population Survey or the Survey of Income and Program Participation.

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## APPENDIX A

## SUMMARY OF CONTENTS OF THE LUXEMBOURG INCOME STUDY DATA BASE

FIRST TIME PERIOD: 1979-81

COUNTRY	REFERENCE YEAR
Australia	1981
Canada	1981
France	1979
Germany	1981
Israel	1979
Netherlands	1983
Norway	1979
Sweden	1981
Switzerland	1982
United Kingdom	1979
United States	1979

SECOND TIME PERIOD: 1985-87

COUNTRY	REFERENCE YEAR
Australia	1985
Canada	1987
Germany	1984
Italy	1986
Luxembourg	1985
Poland	1986
United States	1986

## APPENDIX B

### DEFINITIONS

- Earnings:** Earnings includes wages and salary income from all jobs as employees and the net self-employment income of both non-farm and farm unincorporated businesses. The compensation paid to owners of incorporated businesses is included as wage and salary income.
- Elderly:** The term "elderly" as it is used here refers to situations in which the family householder was 65 years or over at the time the data were collected.
- Family:** The term "family" refers to either a group of persons related by blood, marriage (includes cohabitation), or adoption who are living together in the same housing unit, an individual living alone, or an individual living in a housing unit occupied by other unrelated persons (who may or may not be related to each other). For Australia, a family may not consist of both members of a primary family and a "subfamily" (consisting of persons related to the primary family householder but defined as family units on their own right). These groups are treated as separate units. For Canada and the United States, these primary and related subfamilies are treated as a single unit. The family definition for the United States includes "unrelated" subfamilies as separate units but excludes all secondary unrelated individuals in group quarters (these individuals are normally included in published estimates of income and poverty for the United States but are not included as members of households).
- Family income:** Income is defined as the sum of cash income, after taxes and transfers, received by all members of the family. This definition excludes realized capital gains and one-time lump sum amounts. For the United States, this definition of income includes the value of food stamps and energy assistance payments. Taxes include federal and regional income taxes and mandatory employee payroll taxes.
- Married couples:** Married couples include both husbands and wives who have married in the legal sense and cohabitating men and women. For Australia and Canada, cohabitation is a living arrangement category specifically defined in the survey environment. For the United States, cohabitation is not identified specifically in the data collection process. This status was simulated for the 1986 data for the United States; however, the data for 1979 do not reflect the existence of such unions as married couples.
- Means-tested transfers:** For the United States and Canada, all means-tested cash benefits received from federal or state (provincial) sources. Means-tested benefits not identifiable for Australia. For the United States, this grouping also includes the value of food stamps and energy assistance payments.

**Occupational pensions:** Company or union-based pension income including the income from civil service and other public employee pension systems. Also includes annuities and other sources of retirement, disability, or survivor income arranged by or contracted with the employee. In Canada and Australia, this income generally is classified a superannuation.

**Property income:** Includes the sources listed below:

- Interest income from savings instruments such as saving accounts, treasury notes, certificates of deposit, bonds, money market accounts, mortgages held on owned property.
- Dividends derived from the ownership of shares of stock publicly and privately held corporations.
- Net rental income from the rent or lease of real property.
- Regular income from estates and trusts.
- Royalties.

**Social transfers:** For the United States and Canada, this income category includes all cash transfers received from federal or state (provincial) sources that are not means-tested. For Australia, this category also includes means-tested benefits as all social transfers have some type of means test. General categories include old age retirement, survivor, and/or disability benefits to retired workers and their families, unemployment benefits, child and family allowances (Australia and Canada), war-related benefits, compensation for work-related sickness and accidents, etc.

**APPENDIX C****DETAILED TABLES**

- Table C-1. Comparison of the Equivalence Scale Used in this Study to that Implied by the U.S. Poverty Thresholds Normalized to a Family Size of Three Persons
- Table C-2. Demographic Changes
- Table C-3. Annual Changes in Economic Indicators
- Table C-4. Percent of Elderly and Non-elderly Families Below 50 Percent of Median Family Income, by Type of Family
- Table C-5. Composition of Families, by Type of Family
- Table C-6. Percent of Gross Income Paid in Taxes\*, by Type of Family
- Table C-7. U.S. Poverty Thresholds Relative to Low-Income Definition Based on 50 Percent of Median Family Income

**Table C-1. Comparison of the Equivalence Scale Used in this Study to that Implied by the U.S. Poverty Thresholds Normalized to a Family Size of Three Persons**

Size and age of family	This study	U.S. poverty threshold
One-person, total, all families	0.50	0.64
One-person, 65 years and over	0.50	0.60
Two-person, total, all families	0.75	0.82
Two-person, 65 years and over	0.75	0.76
Three-person	1.00	1.00
Four-person	1.25	1.28
Five-person	1.50	1.52
Six-person	1.75	1.72
Seven-person	2.00	1.93



Table C-2. Demographic Changes

Change	Australia			Canada			United States		
	1981	1985	Change	1981	1987	Change	1979	1986	Change
<b>POPULATION</b>									
Number of persons 65 years and over (in thousands)	1,455	1,609	10.6 <sup>1</sup>	2,361	2,821	19.5 <sup>1</sup>	25,134	29,266	16.4 <sup>1</sup>
Persons 65 years and over as percent of total population	9.8	10.2	0.4	9.7	10.9	1.2	11.2	12.2	1.0
<b>FAMILY COMPOSITION</b>									
Type of elderly (65 years and over) family as percent of total families:									
Male, single	1.9	2.0	0.1	2.0	2.0	--	2.1	2.1	--
Female, single	5.8	6.8	1.0	5.8	5.8	--	7.2	7.7	0.5
Married couple	6.8	8.0	1.2	6.4	6.6	0.2	7.1	7.0	-0.1
Other families	2.8	2.5	-0.3	2.8	3.1	0.3	3.5	3.5	--
<b>LABOR FORCE</b>									
Participation rates of persons 65 years and over:									
Males	11.1	8.9	-2.2	14.7	12.3	-2.4	18.3	15.2	-3.1
Females	2.9	2.0	-0.9	3.3	4.2	0.9	7.6	6.8	-0.8

<sup>1</sup> Percent change; other figures in columns are percentage-point change.

Sources: Population: U.S. Bureau of the Census, Current Population Report, P. 25, No. 952, pp. 45-46; United Nations, Demographic Yearbook 1983, pp. 228-229 and Demographic Yearbook 1984, pp. 214-215; and projections of the Center for International Research, U.S. Bureau of the Census.

Family Composition: LIS estimates from national surveys.

Labor Force: Organisation for Economic Cooperation and Development, "Reforming Public Pensions," Social Policies Study No. 5, Paris 1988.

Table C-3. Annual Changes in Economic Indicators

Year	Real Gross Domestic Product			OECD Standardized Unemployment Rates			Consumer Price Index		
	Australia	Canada	United States	Australia	Canada	United States	Australia	Canada	United States
1979	4.2	3.9	2.0	6.2	7.4	5.8	9.1	9.3	11.3
1980	2.3	1.5	-0.1	6.0	7.4	7.0	10.2	12.3	13.5
1981	3.0	3.7	2.3	5.7	7.5	7.5	9.6	10.0	10.3
1982	-0.4	-3.2	-2.6	7.1	10.9	9.5	11.1	7.1	6.1
1983	0.5	3.2	3.9	9.9	11.8	9.5	10.1	4.4	3.2
1984	6.9	6.4	7.2	8.9	11.2	7.4	3.9	4.5	4.3
1985	4.9	4.6	3.8	8.2	10.4	7.1	6.8	3.8	3.5
1986	2.1	3.1	3.0	8.0	9.5	6.9	9.1	1.9	1.9
1987	4.1	4.0	3.6	8.1	8.8	6.1	8.5	2.8	3.7
Average annual rate*	2.9	3.1	2.4	8.0	10.0	7.6	8.0	5.5	6.1

\* For period covered in LIS Data Base.

Source: Organisation for Economic Cooperation and Development, "National Accounts of OECD Countries, Annual," Paris.

Table C-4. Percent of Elderly and Non-elderly Families Below 50 Percent of Median Family Income\*, by Type of Family

A. AUSTRALIA: 1981 and 1985

Type of family	1981	1985	Change
Male, one-person, under 65 years	14.9	11.1	-3.8
Female, one-person, under 65 years	16.2	13.0	-3.2
Male, one-person, 65 years and over	6.4	8.9	2.5
Female, one-person, 65 years and over	6.1	9.9	3.8
Married couple, under 65 years, no other family members	4.0	5.7	1.7
Married couple, under 65 years, with children under age 18 years	10.4	11.4	1.0
Married couple, 65 years and over, no other family members	5.1	5.4	0.3
Female single-parent, under 65 years	62.6	58.7	-3.9
Other families, under 65 years	4.9	5.5	0.6
Other families, 65 years and over	9.7	9.9	0.2
Total, all families	11.3	11.0	-0.3

B. CANADA: 1981 and 1987

Type of family	1981	1987	Change
Male, one-person, under 65 years	17.4	20.3	2.9
Female, one-person, under 65 years	21.1	23.9	2.8
Male, one-person, 65 years and over	14.2	10.4	-3.8
Female, one-person, 65 years and over	28.5	9.1	-19.4
Married couple, under 65 years, no other family members	5.5	5.9	0.4
Married couple, under 65 years, with children under age 18 years	10.2	11.2	1.0
Married couple, 65 years and over, no other family members	6.8	3.5	-1.3
Female single-parent, under 65 years	52.7	55.8	3.1
Other families, under 65 years	6.8	7.8	1.0
Other families, 65 years and over	14.7	7.3	-7.4
Total, all families	14.0	12.9	-1.1

**Table C-4. Percent of Elderly and Non-elderly Families Below 50 Percent of Median Family Income\*, by Type of Family--Continued**

**C. UNITED STATES: 1979 and 1986**

Type of family	1979	1986	Change
Male, one-person, under 65 years	14.6	17.8	3.2
Female, one-person, under 65 years	24.9	24.7	-0.2
Male, one-person, 65 years and over	36.3	20.8	-15.5
Female, one-person, 65 years and over	36.4	34.9	-1.5
Married couple, under 65 years, no other family members	5.4	6.3	0.9
Married couple, under 65 years, with children under age 18 years	11.5	15.7	4.2
Married couple, 65 years and over, no other family members	15.6	10.3	-5.3
Female single-parent, under 65 years	56.8	62.4	5.6
Other families, under 65 years	15.9	15.5	-0.4
Other families, 65 years and over	16.5	13.7	-2.8
Total, all families	18.0	19.1	1.1

\*Family income after equivalence adjustment.

**Table C-5. Composition of Families, by Type of Family  
(Percent)**

**A. AUSTRALIA: 1981 and 1985**

Type of family	1981	1985	Change
Male, one-person, under 65 years	11.4	13.0	1.7
Female, one-person, under 65 years	9.3	8.7	-0.6
Male, one-person, 65 years and over	1.9	2.0	0.1
Female, one-person, 65 years and over	5.8	6.8	1.0
Married couple, under 65 years, no other family members	14.1	14.8	0.7
Married couple, under 65 years, with children under age 18 years	34.4	31.5	-2.9
Married couple, 65 years and over, no other family members	6.8	8.0	1.2
Female single-parent, under 65 years	3.8	3.4	-0.4
Other families, under 65 years	9.6	9.2	-0.4
Other families, 65 years and over	2.8	2.5	-0.3
Total, all families	100.0	100.0	(X)

**B. CANADA: 1981 and 1987**

Type of family	1981	1987	Change
Male, one-person, under 65 years	10.1	11.6	1.5
Female, one-person, under 65 years	10.1	9.8	-0.3
Male, one-person, 65 years and over	2.0	2.0	--
Female, one-person, 65 years and over	5.8	5.8	--
Married couple, under 65 years, no other family members	14.5	15.0	0.5
Married couple, under 65 years, with children under age 18 years	34.0	30.7	-3.3
Married couple, 65 years and over, no other family members	6.4	6.6	0.2
Female single-parent, under 65 years	4.0	3.0	-1.0
Other families, under 65 years	10.3	12.5	2.2
Other families, 65 years and over	2.8	3.1	0.3
Total, all families	100.0	100.0	(X)

**Table C-5. Composition of Families, by Type of Family--Continued  
(Percent)**

**C. UNITED STATES: 1979 and 1986**

Type of family	1979	1986	Change
Male, one-person, under 65 years	11.6	10.6	-1.0
Female, one-person, under 65 years	9.5	9.1	-0.4
Male, one-person, 65 years and over	2.1	2.1	--
Female, one-person, 65 years and over	7.2	7.7	0.5
Married couple, under 65 years, no other family members	13.9	14.7	0.8
Married couple, under 65 years, with children under age 18 years	29.5	30.0	0.5
Married couple, 65 years and over, no other family members	7.1	7.0	-0.1
Female single-parent, under 65 years	5.4	5.1	-0.3
Other families, under 65 years	10.3	12.3	2.0
Other families, 65 years and over	3.5	3.5	--
Total, all families	100.0	100.0	(X)

**Table C-6. Percent of Gross Income Paid in Taxes\*, by Type of Family****A. AUSTRALIA: 1981 and 1985**

Type of family	1981	1985	Change
Female, one-person, 65 years and over	9.1	13.0	3.9
Married couple, 65 years and over, no other family members	12.0	13.0	1.0
Total, all families, all ages	21.2	22.6	1.4

**B. CANADA: 1981 and 1987**

Type of family	1981	1987	Change
Female, one-person, 65 years and over	6.5	8.3	1.8
Married couple, 65 years and over, no other family members	8.9	10.6	1.7
Total, all families, all ages	15.1	18.4	3.3

**C. UNITED STATES: 1979 and 1986**

Type of family	1979	1986	Change
Female, one-person, 65 years and over	6.2	8.3	2.1
Married couple, 65 years and over, no other family members	9.2	10.6	1.4
Total, all families, all ages	20.8	18.4	-2.4

\*Taxes include the sum of income and mandatory payroll taxes. Includes families with zero tax liability.

**Table C-7. U.S. Poverty Thresholds Relative to Low-Income Definition Based on 50 Percent of Median Family Income**

Size and age of family	Ratio*
One-person, total, all families	.94
One-person, 65 years and over	.89
Two-person, total, all families	.81
Two-person, 65 years and over	.75
Three-person	.74
Four-person	.76
Five-person	.75
Six-person	.73
Seven-person	.72

\* Ratios apply to data for 1986 for the United States only.



APPENDIX D

PROVISIONS OF PUBLIC PENSION PROGRAMS

Provision	Australia	Canada	United States
Type of scheme	flat-rate, means-tested, means-tested supplements	universal flat-rate, means-tested supplements, earnings-related	earnings-related, means-tested supplements
Full retirement age: men	65 years	65 years	65 years
women	60 years	65 years	65 years
Spouse supplement	+67 percent	+62 percent	+50 percent
Indexation	prices (CPI)	prices (CPI)	prices (CPI)
Index period	6 months	annually (some quarterly)	annually
Benefit amount (monthly) <sup>1</sup> :			
1 person	\$424	\$651	\$336
2 persons	\$708 (1986)	\$1,055 (1987)	\$504 (1986)
Occupational pension coverage	50 percent of full-time employees	50 percent coverage	56 percent coverage
Source of revenues	general revenue	general revenue and payroll tax	payroll tax and general revenue

<sup>1</sup>Amount of entitlement for those with no other source of "countable" income.

Source: Organisation for Economic Cooperation and Development, "Reforming Public Pensions," Social Policies Study No. 5, Paris, 1988.