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### A PROGRAM FOR RESEARCH ON

# SOCIAL AND ECONOMIC DIMENSIONS OF AN AGING POPULATION

The Diversification and the Privatization of the Sources of Retirement Income in Canada

> Long Mo Jacques Légaré Leroy Stone

**SEDAP Research Paper No. 159** 

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# The diversification and the privatization of the sources of retirement income in Canada<sup>1</sup>

By

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<sup>&</sup>lt;sup>1</sup> This paper was initially published in the book, *New Frontiers of Research on Retirement*, by Leroy O. Stone (Editor-in-chief), Statistics Canada Catalogue no. 75-511-XIE, pages 407-428.

## <u>Abstract</u>

Recent labour market developments in the context of population ageing have generated many changes concerning sources of retirement income. More precisely, this paper, which is based on two Statistics Canada surveys (Survey of Consumer Finances and Survey of Labour and Income Dynamics,) will look at the processes of diversification and privatisation of income sources of Canada's retirees during the period 1980-2002. This study has used the concept of individualized income based on the economic family in order to consider economies of scale and revenue sharing. An appropriate assessment of the composition of retirement income sources has been realized, while discerning five distinct categories; net government transfer payments, CPP/QPP benefits, private pensions, investment income and employment income. The situation of older women living alone and of older immigrants has been more carefully analyzed in order to detect some particularities among those two vulnerable groups. The results of this study demonstrate that retirees' income composition has undergone many changes. In addition, sources of retirement income have become substantially more diversified and privatized during the period under study. These adjustments are becoming essential in western societies in order to overcome the obstacles caused by population ageing that could disrupt pension systems.

**Keywords:** Retirement, pensions, financial security, Canada **JEL Classification:** J260 - Retirement; Retirement Policies

## <u>Résumé</u>

L'évolution du marché du travail dans le contexte du vieillissement de la population au cours des dernières années a engendré de nombreux changements en ce qui concerne les sources de revenu des retraités. Plus particulièrement, cet article examine les phénomènes de diversification et de privatisation des sources de revenu chez les retraités canadiens pour la période 1980-2002 à l'aide d'analyses menées à partir de l'Enquête sur les finances des consommateurs (EFC) et de l'Enquête sur la dynamique du travail et du revenu (EDTR). Cette étude a utilisé le concept de revenu individualisé, basé sur la famille économigue, afin de prendre en compte les économies d'échelle et le partage des revenus. Une évaluation de la composition des sources de revenu a été réalisée en distinguant cing catégories : les transferts gouvernementaux nets, les prestations du RPC/RRQ, les pensions privées, les revenus de placements et le revenu du travail. Les situations des femmes âgées vivant seules et des immigrants âgés ont fait l'objet d'analyses distinctes dans le but de déceler certaines particularités chez ces deux groupes vulnérables. Les résultats de cette recherche démontrent que la composition du revenu des aînés a subi plusieurs modifications. Par ailleurs, les sources de revenu des personnes âgées se sont substantiellement diversifiées et privatisées au cours de la période étudiée. Ces ajustements s'avèrent nécessaires afin de surmonter les obstacles éventuels occasionnés par le vieillissement démographique qui risquent de perturber les systèmes de pensions.

**Mots-clés :** Retraite, pension, sécurité financière, Canada **Classification JEL :** J260 - Retirement; Retirement Policies

## The diversification and the privatization of the sources of retirement income in Canada

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Long Mo, Jacques Légaré and Leroy Stone<sup>1</sup>

#### **Research question**

Between the mid-1970s and the mid-1990s, the number of the elderly living below the low income cut-offs in Canada has decreased considerably. The success of Canada in this connection has been well documented in recent years. OECD (2001) largely attributes this success to the combination of different sources of income at the time of retirement. However, there is a lack of thorough knowledge about the recent evolution of the sources of retirement income in Canada.

Baldwin and Laliberté (2000) as well as Myles (2000) have examined the evolution of the sources of income of the elderly Canadians between the middle of the 1970s and the middle of the 1990s. However, their studies have not treated two crucial phenomena, namely the diversification and the privatization of the sources of retirement income, phenomena whose importance has been recognized in recent years (OECD 2001, Yamada 2002, Mo 2003, Pedersen 2004).

The evolution of the sources of income of elderly must be studied by taking into account the historic context in which it has happened in Canada. The Canada Pension Plan (CPP) and the Quebec Pension Plan (QPP) were started in 1966 and the first cohort to receive full benefits of the QPP/CPP was 65 years old in 1976. Cohorts that have taken their retirement after this period have profited from the expansion of the private professional pension plans that were established between the 1950s and the 1970s. Consequently, the Canadian public and private pensions that are proportional to earnings have been in maturation, with the result that persons with pension rights have been increasingly numerous since the 1980s (Myles 2000). In addition, in Canada as in most of the developed countries, the reform of pensions, initially due to financial pressures associated with demographic aging, has resulted in a recombination of the elements of the retirement income system (Goodin and Rein 2001).

Regarding the elderly themselves, the period since 1980 is one in which the proportion of those who are pre-retired is rising. In addition, there has been a rapid increase of their longevity, an unprecedented phenomenon. These circumstances

<sup>&</sup>lt;sup>1</sup> This text is a translation of the original French version. The authors would like to thank the *Fonds québecois de la recherché sur la sociéte et la culture* for their financial assistance. The authors would also like to express their gratitude to Statistics Canada for its assistance, to three external evaluators, and finally to Mr. Claude Chesnais and Mr. Frédéric Lesemann, for their pertinent remarks.

should always to be kept in mind when one studies the evolution of composition of retirement income over the period.

The present study aims to contribute to the furtherance of knowledge on this subject by helping to fill the above-mentioned gaps. Our research covers the period 1980 to 2002 and addresses the following question: to what extent have there been a diversification and a privatization of the sources of retirement income in Canada? We pose this question as much at the level of the totality of the older population as at that of two particular sub-populations, who are the older women living alone and the older immigrants. The latter are persons that have immigrated to Canada at various ages and that are now elderly. The older women living alone are traditionally seen as belonging to the more vulnerable groups among the elderly (OECD 2001).

As for the older immigrants, they often have a less complete and more precarious professional careers than native-born Canadians. According to a study of Statistics Canada (2004), earnings of the new immigrants in Canada have deteriorated during the 1980s and 1990s. Another recent study shows that in Québec the older immigrants of 45 to 54 years had in 2001 a lower income than the average of the population of the same age, but also that their income has deteriorated significantly by comparison with immigrants of similar age in 1981 (Mo and Légaré 2005). It follows that immigrants will form part of the vulnerable groups of the elderly of tomorrow, a result of the growing prevalence of defined contribution pension plans, and of the establishment of a closer correspondence between benefits received and contributions made, the latter depending on occupational earnings. The evolution of the composition of retirement income of the persons of these two groups is, therefore, going to attract our attention.

#### Context

For humanity, the economic protection of the elderly is a subject of constant interest. However, in the context of population aging and the transformations of the labor market, the situation in this connection has become, during our days, increasingly worrisome to the point that one speaks of a "geriatric crisis" (World Bank 1994), of "retirement in peril" (Bichot 1999), and of the "insecurity of retirement" (Wolff 2002).

After the Second World War, especially during the last three decades, the elderly living in developed countries have considerably improved their standard of living, thanks to the installation of social protection systems. However, given the large number of persons that take an early retirement, the increase of longevity, the risk of future shortages of labor and, especially the major arrival to the age of retirement of the generations of the Baby Boom, the financial pressure on social protection systems grows considerably and the security of income of the future retired is called into question. Such a situation is of great concern to scientific researchers and policy makers, as well as the general public. Even if the sources of retirement income are not a new subject, the importance of studies in this connection has attracted the attention of researchers and of policy makers.

For the first time in 1986, Rein and Rainwater proposed the concept of "income package" (Rein and Turner 1997:101). In contrast with the notions of life-cycle that are centered on intergenerational relationships, that of the income package deals primarily with the evolution of the economic role of the State as regards the various sources of income. These two approaches focus on different aspects of income, but they are linked and complementary. From its appearance, this innovative concept has been applied widely in studies on problems relative to incomes of the elderly.

With this approach, Rein and Turner (1997) have examined the historical evolution of the composition of retirement income, while casting light on the roles of work, the family, the State and of the market in the security of the income of the elderly. They have demonstrated that the evolution in this connection has been marked historically by the following three stages: the first corresponding to the development of the welfare state (between years that preceded the first world war and the years after the second), the second corresponding to the focus of its primary role in the strategy of protection (occurring towards the 1960s), and the third comprises the emergence of diversification. This third stage is of central importance, according to the authors; because it represents a guarantor of the security of retirement income in the context of population ageing. Diversification leads to a reduction in the role of the State, on the one hand, and to major transformations of family and labour market, on the other hand.

With an in-depth analysis based on comparable data, a recent study of OECD (2001) has confirmed the hypothesis stated above. According to this study, several OECD countries have reacted in recent years to the increase of the demographic and budgetary pressures by modifying the combination of the sources of income at the time of retirement and, especially, by the establishment of a balance between the public and private benefits, as well as between the defined benefit systems and the defined contribution systems, in their pension regimes. Public pension regimes are revised downward in order that the budgetary pressure is lessened and that a greater place is left to the financing of occupational pension plans and personal retirement savings plans. At the same time, public authorities have intervened, at least in their words if not in reality, to diversify the passage from economic activity to retirement and to lessen the tendency toward early retirement. Consequently, the income package of the elderly has changed markedly. Yamada (2002) believes that this change is even more important than that of the level of income.

Some results of the major research concerning the diversification of the sources of retirement income deserve our attention:

(1) Many studies have found that poverty among the retired is often linked to a limited number of sources of income. Low-income retirees count mainly, perhaps solely for some of them, on social transfers (Rein and Turner 1997, Disney et al. 1998, Baldwin and Laliberté 2000, Smeeding 2001, OECD 2001, Yamada 2002).

- (2) The diversification of resources has been, in the course some periods of history, an important strategy of adaptation used by the elderly to preserve their living standard (Rein and Turner 1997).
- (3) Currently, analyses demonstrate that the diversification of the sources of income favors both the adequacy and the security of income at the time of retirement (Rein and Turner 1997, Yamada 2002). OECD (2001) has also underlined the importance of a greater diversification of the sources of income at the time of retirement.
- (4) As an example of the importance of diversification, OECD (2001) has cited the example of Canada. This country passed, between the middle of the 1970s and that of the 1990s, from the one with of the lowest rate of income replacement for the retired, among the nine countries studied by OECD, to the one with the highest rate. Indeed, one finds that, among nine examined countries, not only is Canada the country where the income of elderly low income persons increased the most rapidly during the studied period, but equally one of the countries where the relative weight of investment income among the elderly has increased the most. It should be remembered, however, that Canada has harvested the fruit of the setting-up, in decades preceding the 1980s, various forms of investment to ensure that the sources of retirement income are diversified.

#### Method

The analysis of retirement income should take into account at the same time the individual and her family. If only the family whose head is elderly is considered, as is sometimes the case in the literature, some of the elderly are omitted – for example, those that reside in a family whose head is not elderly. On the other hand, the analysis that takes only individuals into account ignores the fact that some sources of income are shared among members of the family and that there exists economies of scale. It is not necessary for a six-person family to have twice the income of a family of three persons in order to have the same living standard.

In the present study, we use the concept called "individualized income based on the economic family". This concept allows one to examine the income of the elderly, those aged 65 years and more, by taking account both the sharing of income inside the family and of the economies of scale. The economic family includes all persons sharing an accommodation and who are related by blood, marriage or adoption.

To calculate the individualized income in terms of that of the family, we use the square root of the scale of equivalence. We divide the family income by the square root of the size of the family in question, rather than by the actual size of this family. As an example, for a family of four persons that has an income of \$40,000, the value of the individualized income is, for each member of this family, \$20,000 ( $40000/\sqrt{4}$ ) instead of

\$10,000 (40000/4). It is a commonly used approach (Yamada 2002), although it is arbitrary.

If one chooses other equivalence scales, for example that of the "central variant" that attributes a weight of 1.0 to the first person of the family and 0.4 to each supplementary person, the observed individualized incomes are different. However, the influence on results of the analyses done in the present study would not be great.<sup>2</sup>

This approach of adopting the "individualized income based on the economic family" is appropriate for an analysis like ours concerning the economic well-being of the elderly (Atkinson, Raiwater and Smeeding 1996, Yamada 2002). The underlying hypothesis is that the elderly who live in high-income families enjoy a better quality of life compared to that of the elderly living in low-income families, regardless of who earns this income. It is possible, consequently, that the income of the elderly includes the income received by other non-aged members of the family, for example the income from work earned by an adult child. It will be necessary to take this into account when interpreting the results of analysis.

Given the objective of the present study, we use the available income, namely the income after tax. In principle, we classify the available income of the elderly into the five following sources of income:

- (1) Net governmental transfers, that is to say the totality of the governmental transfers received less taxes. (Governmental transfers include benefits of the Old Age Security (OAS) and of the Guaranteed Income Supplement (GIS)<sup>3</sup>).
- (2) Benefits from the Canada Pension Plan (CPP) or from the Quebec pension plan (QPP).
- (3) The income arising from private pension regimes, including mainly benefits of employer pension plans and of Registered Retirement Savings Plans (RRSP).
- (4) The returns on investment, including the returns of dividends, interest and rent.
- (5) Income from work.

 $<sup>^2</sup>$  The OECD (2001) and Yamada (2002) demonstrate that there is no major difference in the international comparison of sources of revenue among senior citizens when the different scales of equivalence are applied. Using microdata files from SLID in 2002, we have calculated the proportion of each source in the incomes of persons aged 65 and older, using both kinds of equivalence scale cited above. The differences between the calculated results are not significant.

<sup>&</sup>lt;sup>3</sup> This way of proceeding is not ideal when taking into account the part of individuals' retirement income that comes from government. In effect, the government spends resources on older people but also receives a portion back in taxes. Subtracting one from the other for net transfers is related more to the preoccupations of the government who provides retirement income.

This division of the sources of income reflects the structure of the system of retirement income in Canada, which is considered a system with three pillars (HRDC 2001). The two first sources include all relevant government programs and represent, respectively, the first and the second pillars of the system of retirement income. The rest constitutes the third pillar. (To ensure comparability, values of income of all years are expressed in constant dollars of 2002.)

#### Sources of data

In order to reply to the research questions, we have used a series of data that come partly from Survey of Consumer Finances (SCF) of Statistics Canada for years 1980, 1985 and 1990, and partly from its successor, Survey on Labour and Income Dynamics (SLID), for years 1996, 2000 and 2002. These two surveys represent, for the studied period, the sole sources of data on retirement income that provide details about sources of pensions in Canada (Statistics Canada 2000).

It should be noted, however, that the data of these two surveys are not exactly similar. Since 1998, SCF has been replaced by SLID, which began in the year 1993. Two studies have confirmed that SCF and SLID agree well for the period 1993 to 1997. This is the period when these two surveys were both conducted (Statistics Canada 1999; 2000). However, data on sources of income have not been analyzed in these two studies.<sup>4</sup>

#### The composition of the income of the elderly

Before passing to the previously presented research questions, a review of the main trends in the composition of the income of the elderly is useful.

From the 1980s until the beginning of the present century, the composition of the income of the Canadian elderly has changed considerably. The importance of each of the five sources studied, within the totality of the retirement income, has notably changed. Here are some key findings (see Chart 21.1):

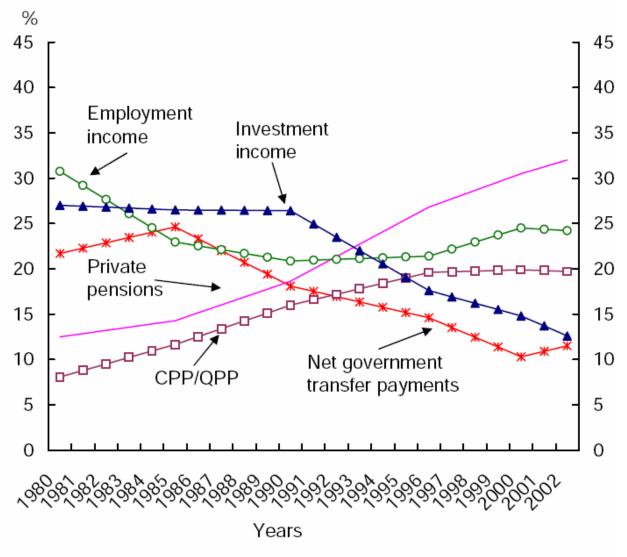
- (1) The financial dependence of the retired on governmental transfers has declined.<sup>5</sup> The share of net governmental transfers has decreased from 21.7% in 1980 to 11.5% in 2002. The decline has taken place mainly over the period from the middle of the 1980s to the end of the last century.
- (2) The share of the public pensions (CPP/QPP) has grown from 8.1 % in 1980 to 19.6% in 1996, and then has stabilized until near 2002.

<sup>&</sup>lt;sup>4</sup> See Mo (2005) for a more in-depth study of the differences between the data of the two studies and the nuances in the analysis.

<sup>&</sup>lt;sup>5</sup> The observed loss is in large part linked to our definition of net transfers (see note 3). In Myles (2003), there is smaller difference from 28.7% in 1980 to 27.4% in 1995. It is also important to note that according to the classification of revenue sources used in the present study, governmental transfers do not reflect public pensions (CPP/QPP).

- (3) The marked increase in the share of private pensions is well known, passing from 12.5% in 1980 to 32.0% in 2002.
- (4) The share of investment income has fallen from 26.5% during the 1980s to 12.6% in 2002.
- (5) Over the whole period, the share of employment income has been in decline, from 30.8% in 1980 to 24.2% in 2002. However, this decline took place mainly during the first half of the 1980s, since this share increased from that time to the end of the 1990s.

# Chart 21.1: Evolution of the distribution of income by source, population aged 65 and over, Canada, 1980 to 2002



Source : Data compiled by the authors from the SCF (1980, 1985, 1990) and the SLID (1996, 2000, 2002) micro-data files of Statistics Canada. Data for other years come from interpolation.

The evolution of the proportion of employment income reflects the tendency of the elderly to take an early retirement in the 1980s. However, this trend was reversed by the end of the 1990s. In the beginning of the 1980s, employment income was the largest among all five studied sources, but this position has been ceded to income from private pension regimes since mid-1990s. Such an evolution can also reflect other factors such as the growing weight of the more elderly persons (75 years and older) who do not participate in the labor market, or a decline of the number of hours worked among those older than 65 years.

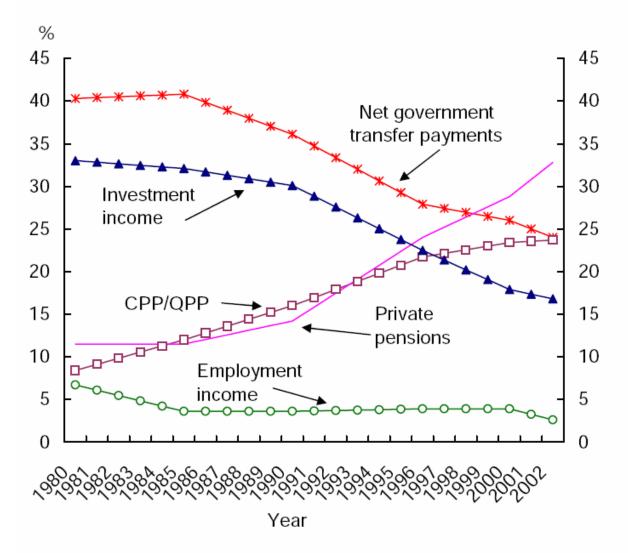
The recent trends deserve careful attention. If the proportions of private pensions, of the CPP/QPP and of investment income have maintained their past trends since the year 1996, that has not been the case for the two other sources. After having had a rebound, the share of employment income resumed its decline between 2000 and 2002. Also, after a decline during 5 years, the share of net governmental transfers has increased notably since the year 2000. Whether these are cyclical phenomena or they new trends that could be linked to the maturation of some programs is an issue to be addressed in future studies.

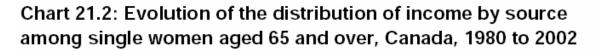
As mentioned earlier, it is useful to examine the situations of two sub-populations that are often considered the most vulnerable – namely, older women living alone and older immigrants. Then, we pass to a brief examination of the situations of these two groups in connection with the evolution of the sources of income.

Overall, the tendency of the evolution of the sources of income of older women living alone is similar to that observed for the totality of the elderly population during period 1980 to 2002. The share of governmental net transfers and that of investment income have decreased, while the share of public and private pensions has increased. The share of employment income has been in slight decline (chart 21.2).

The importance of each source for older women living alone has changed markedly. During the 1980s, older women living alone depended mainly on governmental transfers and on investment income (73.3% in 1980). However, this is no longer the case. Not only governmental transfers but also pensions play an important role, their shares totaling more than 80% in 2002. It is notable that this segment of the older population has benefited markedly from the maturation of the systems of public and private pensions during the period studied.

As regards the situation of older immigrants, in contrast with the general situation of the elderly, employment income has always constituted the main source of income of this group from the 1980s until 2002. Moreover, this source has always been much larger than the one that occupies second place. Also notable is the finding that the older immigrants' dependence on employment income has had a tendency to grow markedly since the year 1996.





Source : Data compiled by the authors from the SCF (1980, 1985, 1990) and the SLID (1996, 2000, 2002) micro-data files of Statistics Canada. Data for other years come from interpolation.

As is true of the elderly population, the share of investment income, and that of governmental net transfers, have decreased during period 1980 to 2002 among older immigrants. On the other hand, the shares of public and private pensions have increased. Nevertheless, we observe that the effect of the expansion of public and private system pensions is not as strong among older immigrants as for all the elderly. In other words, it seems that as regards financial security in old age, immigrants profit less from the maturation of public and private pension systems.

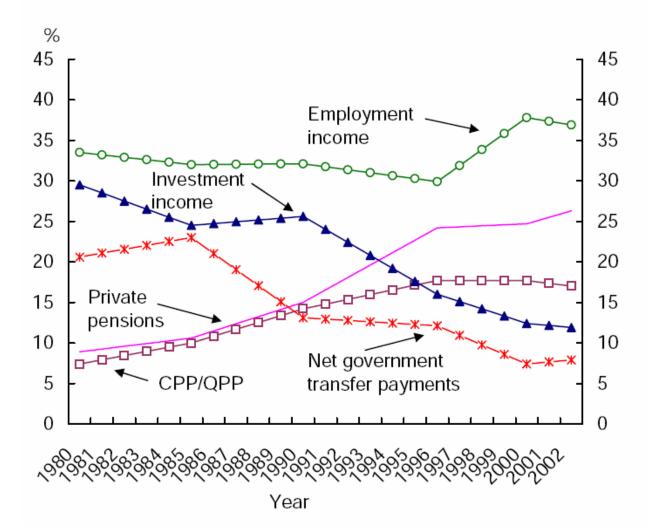


Chart 21.3: Evolution of the distribution of income by source among immigrants aged 65 or older, Canada, 1980 to 2002

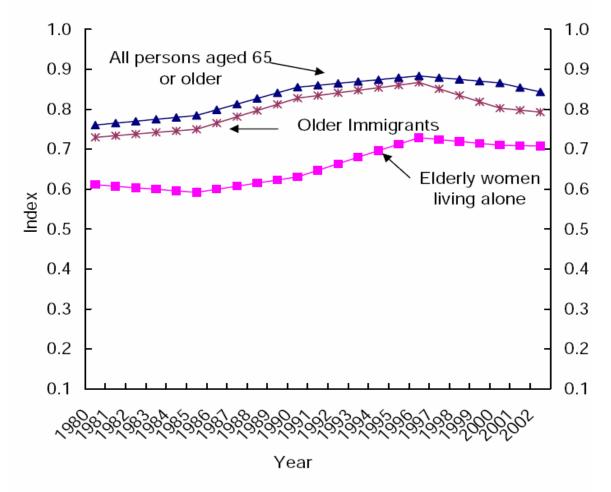
Source : Data compiled by the authors from the SCF (1980, 1985, 1990) and the SLID (1996, 2000, 2002) micro-data files of Statistics Canada. Data for other years come from interpolation.

#### The diversification of the sources of income of the elderly

According to a study of OECD (2001), to the extent that the share of public pension programs decreases under the pressure of the aging of populations, other resources should be substituted, otherwise the financial situation of the elderly would deteriorate. In Canada, if the share of public regimes has decreased, that would not, until now, be due to a reduction of public pensions linked to population aging. Instead, it would reflect the gradual maturation of private pensions. The privatization of the state from the area.

The past studies of diversification have often been limited to theoretical or qualitative research. In the present study, we make a quantitative analysis of this phenomenon in Canada, by using an index of the diversification of the sources of income (IDSI) (see chart 21.4), which is defined in Appendix E. In general, given a classification of sources of income, the more the sources are diversified, the greater is the value of the IDSI. For example, in the case where one classifies income into five sources, as in the present case, IDSI equals 1/5 for the person whose income concentrates in one source only. On the other hand, it is equal to one if the income of the person is equally distributed among the five sources (that is to say that the income from each source represents 1/5 of the total income). In reality the value of IDSI is situated between these two extreme cases, the IDSI varying thus between 0.2 and 1.

Chart 21.4: Index of diversification of the sources of income of elderly persons, Canada, 1980 to 2002<sup>1</sup>



1. See Appendix E.

Source : Data compiled by the authors from the SCF (1980, 1985, 1990) and the SLID (1996, 2000, 2002) micro-data files of Statistics Canada. Data for other years come from interpolation.

First, we confirm the arrival of "the era of the diversification of retirement income" in Canada since the 1980s. The IDSI has increased steadily from 0.760 in 1980 to 0.884 in 1996 for the total elderly population. Between years 1996 and 2002, the IDSI has seen a slight decline; but it has remained above the level of 0.84. Thus, in general, the elderly Canadians have had a tendency to have a better balance among the said five sources of income.

The dynamics of the diversification involves a recombination of financial resources that leads to a quasi-balance among the various elements of the system of retirement income. Since the 1980s, the elderly rely more than ever on their public and private pensions, which decreases the dependence on income from work, on investment income and on governmental transfers.

Our results run counter to the perception that the diversification of the sources of income has affected only the high-income elderly (Yamada 2002). In Canada, the diversification of the sources of income has happened among the elderly of all the quintiles of income.<sup>6</sup> If we compare levels of the IDSI between the 1980s and 2002, we observe that the rate of increase of the IDSI between 1980 and 2002 is 21.7%, 32.1%, 6.9%, 1.2% and 13.0% for first (lowest income), second, third, fourth and fifth (highest income) quintiles respectively (Mo 2005). This finding shows that, in a sense, the speed of the diversification is even more rapid among the low-income elderly, although the level of diversification is generally lower among them.

Thus, on the average, the low-income elderly counted traditionally on a lower number of income sources to ensure their standard of living; but the situation has improved in recent years.

The diversification has also happened among older women living alone. Twenty years ago, this group of older population depended mainly on the governmental transfers and on the investment income. As they diversify sources of income, they depend more on their pensions. Being always lower, and by far, than the average for the totality of the elderly, the IDSI of the older women living alone has increased from 0.592 in 1985 to 0.729 in 1995, and then it has been in slight decline to reach 0.708 in 2002.

On the other hand, both the level and the speed of the diversification of the sources of income of the older immigrants have been close to those of the totality of the elderly. The IDSI of the older immigrants has increased from 0.730 in 1980 to just above 0.867 in 1996. However, reflecting the constant importance of the workers' earnings among older immigrants, the IDSI has then been in decline since 1996, to reach 0.793 in 2002.

<sup>&</sup>lt;sup>6</sup> It is important that the two notions of "diversification" and the "level of diversification" are clearly distinguished. According to the IDSI, the first is interpreted as the amount of the IDSI, and the second is measured by the level of the IDSI.

#### The privatization of the sources of income of the elderly

It has been observed that as a result of the remarkable expansion of defined contribution pension plans, the proportion of the income of the retired arising from private sources has increased markedly in the USA. This phenomenon of the privatization of the sources of retirement income also seems evident in some other industrialized countries, and it increasingly attracts the attention of researchers (Pedersen 2004). In most of the industrialized countries, and in Canada especially, defined contribution pension plans will be found especially among the younger generations, in contrast with the current pensioners being studied here.

There is no indicator that is accepted unanimously to measure the phenomenon of privatization of income sources. For the purposes of our study, and given the characteristics of the system of retirement income in Canada, we use two indicators to measure the privatization of the sources of income in retirement: (1) the proportion of private pensions in total income, and (2) that of total income arising from private sources (that is, the income available minus the governmental net transfers).

One can debate for long whether the CPP/QPP should be allocated to the private sources of income, or should be treated as governmental transfers. We consider them as belonging to private pensions because CPP/QPP consist essentially of payments related to past employment income, although they also include some governmental transfers and they are administered by the agents of the State.

Our results reveal that whatever be the proposed indicator, sources of income of the elderly are increasingly from the private category in Canada during the period from 1980 to 2002<sup>7</sup>. This phenomenon constitutes an important characteristic of the evolution of the composition of retirement income during the last twenty years.

Let us examine first the proportion of the available income that arises from private sources (that is, the income available less the governmental net transfers). This proportion has increased steadily during the last fifteen years of the 20th century among older Canadians, passing from 75.4% in 1985 to 89.7% in 2000. It was at 88.5% in 2002, well above the figure of 78.3% for 1980.

According to this indicator, the sources of income have been also increasingly privatized among the older women living alone, as well as among older immigrants

<sup>&</sup>lt;sup>7</sup> Mo (2005) examined the privatization of the sources of revenue of elderly persons aged 65 years and older in Canada by calculating another measure of the phenomenon, according to which the CPP/QPP are not considered as a private source in view of the fact that they include government transfers. Using this measure, a different conclusion is reached, resulting in privatization that only affects older people in the second and third quintiles in 1980-2002. When it comes to privatization for all older persons, it is only observed during the period 1985-2000. This shows, concretely, the sensitivity of the results concerning the emergence and intensity of privatization to the choice of the measures of the phenomenon.

during the period from 1980 to 2002. The proportion of income arising from private sources reached 76.0% in 2002 among older women living alone and 92.1% among the older immigrants (Table 21.1).

If one adopts another indicator, namely the proportion of private pensions, the privatization of the sources of income of the elderly is shown more clearly. There is also a new phenomenon – the proportion of private pensions has grown sharply, from 2.5% in 1980 to 32.0% in 2002. While the proportion of income coming from the private sources increased 13.0% from 1980 to 2002, the proportion of private pensions increased far more rapidly, the increase reaching 56.2% during the same period. Whatever is the chosen indicator between the two proposed measures, the privatization of sources of income has been stronger among the older women living alone and among the older immigrants than is the case among the totality of the elderly.

Table 21.1: Two indicators measuring the privatization of the sources of income for persons aged 65 and over, for all elderly persons and for two specific groups, Canada 1980 to 2002

	1980	1985	1990	1996	2000	2002	Increase 1980 to 2002
	Shar	e of inc	ome tha	at come	s from p	private s	ources (%)
All elderly persons Women living	78.3	75.4	81.9	85.4	89.7	88.5	13.0
alone Immigrants	59.7 79.4	59.2 77.0	63.9 86.9	72.1 87.9	74.0 92.6	76.0 92.1	27.3 16.0
			Share c	of private	e pensio	ons (%)	
All elderly persons Women living	12.5	14.3	18.6	26.8	30.5	32.0	156.2
alone Immigrants	11.5 8.9	11.5 10.6	14.2 15.0	24.0 24.2	28.8 24.7	32.8 26.3	184.4 193.9

Source : Data compiled by the authors from the SCF (1980, 1985, 1990, 1996) and the SLID (1996, 2000, 2002) micro-data files of Statistics Canada.

#### Discussion

How can retirement systems remain viable in the future without putting in peril the security of the income of the retired? According to a recent study of OECD (2001), among many policy issues related to this subject, the following three are crucial: (1) how to encourage delayed departures to retirement, (2) how to better balance resources related to retirement, and (3) how to ensure an adequate income to the elderly, including those in vulnerable sub-groups.

As a key solution to the economic problems arising from demographic aging, the World Bank extolled in 1994 an approach of multiple pillars for systems of retirement income: a non-funded and obligatory pillar, a funded obligatory pillar, and an optional and private pillar (World Bank 1994). Other international organizations, such as International Labour Organization (Gillion et al. 2000) and International Social Security Association (Hoskens et al. 2001) have participated in debates on this proposal. Despite divergences of view in the beginning, opinions have converged and, in practice, the tendency to a system of multiple pillars has characterized the reform of retirement systems since the 1990s (Queisser 2000, World Bank 2001).

OECD considers, from its perspective, that the diversification of the sources of income at the time of retirement is an important objective to be achieved in order to ensure the security of income of the retired. Supplementary earnings obtained by working until a more advanced age can be an element of this diversification. The increased recourse to private pensions and to programs of individual retirement savings is another. To diversify sources of retirement income, there is a need to modify the combination of the elements of the systems of retirement income, by establishing a balancing between the public and private pensions, between pay-as-you-go and funded systems, between the defined benefit and defined contribution systems. If the proposal of the World Bank emphasizes the concept of regimes, that of OECD is centered on the combination of the sources of income of the retired. The two envisage the same goal – diversify sources of income of the retired by establishing a network of regimes to guarantee retirement income.

In decades to come, systems of retirement income will be exposed to many risks. The most threatened are persons who have had an incomplete professional career (and who thus have an insufficiently long period of paying contributions to retirement income systems); for example, persons that have been intermittent wage earners, that have been hired through atypical contracts, that have temporarily been self-employed, who have experienced long-duration unemployment, or who have never worked. The appearance of the new vulnerable groups is not the only problem. There exists among the retired subgroups that have always been in a precarious situation, for example, the very aged persons, especially women, living alone. According to recent estimates, the number of the elderly aged 80 years and more (even that of centenaries) will rise sharply in the coming decades (United Nations 2003), while the fraction of women who will age as divorced or single persons will increase considerably (Smeeding 2001).

The security of income at the time of retirement has been examined by many studies, and has been at the core of the reform of retirement income systems. Nevertheless, important gaps in knowledge persist. More analysis of the long-term perspective is needed. Because the full effect of the reform of retirement systems can be felt only in the distant future, such a long-term perspective is indispensable to reduce the risk of putting in place policies that could become impracticable politically or unbearable financially (Bichot 1999, OECD 2001, Wolff 2002).

#### Conclusion

The present study confirms the major evolution of the composition of income of the Canadian elderly during period 1980 to 2002. While Canada's success in improving the adequacy of retirement income is important and recognized, our study shows that this success is associated with a major evolution of the distribution of sources of retirement income.

Elderly Canadians have been found at the end of this period with radical changes in the distribution of their income by source. Their main source is no longer income from work. That place has been taken by income coming from the private pension regimes. In the beginning of the 1980s, the elderly counted mainly on income from work and from investments, but now they rely mainly on pensions and governmental transfers.

The diversification and the privatization of the sources of income, two trends that characterize the evolution of the composition of income at the time of retirement, have happened in all the quintiles of income, and among both older women living alone and older immigrants; although the intensity of the phenomenon varies from one group to the other.

As a result of these trends, public pensions and especially private pensions have increased in importance, and the dependence on governmental transfers has been reduced. In sum, the elderly count today on improved balance among various sources of income.

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