Session Number:
Session Title:
Paper Number:
Session Organizer:
Discussant:

Paper Prepared for the 28th General Conference of
The International Association for Research in Income and Wealth
Cork, Ireland, August 22 – 28, 2004

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Inter-provincial wealth inequality in Canada

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1. Introduction

The amount of wealth held determines a family's long term ability to cope with a loss in income because of disability, death or retirement, or to meet unexpected expenditures. Wealth indicates potential command on future goods and services, and thus is a better measure of economic well-being than income, which determines command on current goods and services.

Information on individual or family income is commonly available in most countries, either from household surveys or income tax records. Information on family wealth, on the other hand, is more often not available. Canada is one of the few countries collecting data on assets held and debts owed by families. This survey, conducted periodically, not only compiles estimates of family wealth (or net worth, defined as total assets less total debt), but also provides details about how families save in different asset portfolios, who is more vulnerable to higher debt loads, who has adequate savings for retirement, who controls most of the wealth, and above all, how wealth is distributed.[2]

A family can increase its wealth by adding to its marketable assets – regular savings accounts, tax-deferred savings plans, stocks, bonds, mutual funds, real estate, or durable goods – or by paying down debt. Marketable assets are transferable between generations as well as between members within a family. Over time, the mix of such assets can be changed – depending on preferences or changes in financial markets and the national economy.

In addition, a family may have savings held in employer pension plans. These savings depend on the number of family members entitled to such plans, their years of pensionable service, the contributions made, and the plan's provisions. Contributions are usually made in terms of a portion of earnings deducted by the employer. This non-marketable asset is non-transferable and simply provides a flow of income to the retiree or a surviving spouse.

A family can accumulate wealth with any mix of net marketable and non-marketable assets. It is important to know this varying mix of wealth accumulated by families across

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[1] The paper represents the views of the author and does not necessarily reflect the opinions of Statistics Canada. The author would like to thank Mr. Ted Wannell, Assistant Director, Labour and Household Surveys Analysis Division, Mr. Henry Pold, Managing Editor, *Perspectives on Labour and Income*, and an anonymous reviewer, for their helpful suggestions on the paper. However, the author alone is responsible for all errors and omissions.

[2] Statistics Canada conducted the first of such survey in the spring of 1956 followed by surveys in 1959, 1964, 1970, 1977, 1984 and 1999. Information on assets and debts were captured as of the time of the survey whereas that on income received in the preceding calendar year.

provinces since it affects not only the amount of wealth held but also the inter-provincial wealth inequality. The higher this inequality, the greater the social and economic diversity experienced by families across provinces; the former may include the degree of social incoherence of a society or marginalization of some of its population, whereas the latter includes different levels of affluence, living standards, and incomes.

Several researchers have analyzed the inter-provincial differences in incomes of families (for example, see Alasia 2003, Finnie 1998, Melvin 1987, Wilkinson et al 2003, and Beach 1996). Differences in the holdings of wealth, on the other hand, have not been that well documented. This paper fills some of that void by examining the composition of wealth and its inequality for families across Canada.

2. Scope of the study

Since income and wealth are strongly associated,[3] it is hypothesized that varying incomes across provinces would result in varying amounts of wealth held by families. It is shown that even if the same distribution of income were to prevail in all provinces, wealth holdings would still vary because of different rates of home-ownership, values of homes, other real estate, vehicles and durables, ownership of business and its equity, coverage under employer pension plans and the resulting amount of accrued savings, and other personal holdings of net financial assets. Because of the multi-dimensional nature of the concept of family wealth, families in a province with the highest mean income may not necessarily have the highest mean wealth.

Do income and wealth inequality show similar patterns across provinces? Since individual components of wealth contribute to the overall wealth inequality, those that reduce inequality and those that increase it are identified. As wealth inequality also results from differences in the level of income, home ownership without or with a mortgage, and the life cycle, the contribution of each to overall inequality is quantified by province. Do these characteristics contribute equally to the inter-provincial wealth inequality in Canada? These questions are answered with the household wealth data collected by the Survey of Financial Security conducted by Statistics Canada in 1999 (see Appendix for details about this survey and other concepts used in this paper).

3. Provincial economies

Income is one of the key determinants of wealth. And in Canada, income is very much influenced by province, since provincial economies vary considerably. Overall, Canada's economy is largely service-producing. Nearly three-quarters of the 15.1 million employed persons in 2001 were in service producing industries and just one-quarter in goods producing. The eastern (Newfoundland , Prince Edward Island, Nova Scotia, and New Brunswick) and western provinces (Manitoba, Saskatchewan, Alberta and British Columbia) are relatively resource-rich in terms of agriculture, livestock, fisheries, forest

[3] Usually, the level of wealth rises with the level of income. However, since wealth is accumulated over the life cycle, one may find that families with lower incomes during retirement may have much larger holdings of wealth than their younger counterparts with relatively higher incomes.

products, oil and mining, whereas Quebec and Ontario are relatively more concentrated in manufacturing. These two central provinces (containing 62.4% of Canada's population of 32 million) accounted for about 62% of total GDP.

The varying sectoral mix of provinces implies different employment opportunities, occupations, and earnings, among other things. For example, in 1998, labour force participation ranged from 53.9% in Newfoundland to 72.5% in Alberta, with respective unemployment rates of 18.0% and 5.6%. Average weekly earnings (including overtime), on the other hand, were lowest in Prince Edward Island ($512.93) and highest in Ontario ($672.14). Since earnings are the major source of income for workers, any provincial variations would also result in varying family incomes. In 1998, for instance, average family (including unattached individuals) income ranged from $39,601 in Newfoundland to $55,431 in Ontario.

Some of the provincial differences in labour force participation, and average earnings or family income can be attributed in part to differences in the demographics of families. For instance, a little over one-third of all families in British Columbia and Quebec were unattached individuals compared with just one-fifth in Newfoundland. Alberta families were somewhat younger; the median age of the major income recipient was 42 compared with 45 in Ontario. One-quarter of families in the former owned a business or a professional practice. Ontario families, on the other hand, had the highest proportion (23.7%) of major income recipients with a university degree or certificate. Given the strong correlation between education and income, provinces like Ontario, British Columbia and Alberta with relatively higher proportions of major income recipients with post-secondary education are more likely to have higher levels of income as well. For example, the respective proportions of families with incomes of $100,000 or over were 11.9%, 9.7% and 9.8%.

The economic diversity of Canadian provinces may also contribute to the differences in holdings of wealth and its composition[4]. For instance, families in provinces with large farm, agriculture, livestock, gas and mining operations may not only have higher rates of business ownership but also may concentrate more on their business operations and increasing wealth in terms of business equity. On the other hand, those in British Columbia, with very high real estate values, may be raising their wealth in terms of equity in owned home by paying off high mortgages taken on high-priced homes. And, families in Ontario, with the largest manufacturing and service economy, may have a sizeable majority of well-paid white-collar occupations with coverage under employer pension plans, and may consequently have substantial savings in such plans as one of the major components of their wealth.

[4] Since changes in the cost of living do not vary much across provinces, they do not contribute much to the differences in wealth held by families; for instance, the all items Consumer Price Index showed that goods and services worth $1.00 in 1992 cost $1.11 for families in Ontario in 1999 compared with $1.10 in Newfoundland and $1.11 in British Columbia. Value of homes and other real estate, on the other hand, vary considerably between and within provinces.

4. Mean family wealth and its composition by province

Ontario, Quebec, Alberta and British Columbia accounted for 85.5% of the 12.2 million Canadian families, and accounted for 88.4% of $3,045 billion in household wealth. Ontario alone had 36.7% of families and 40.6% of wealth. Alberta and British Columbia also owned relatively more wealth than their respective shares of families. In all other provinces, the situation was reversed. A province with more wealth than its relative share of families will have higher mean wealth than a province with the relative shares the other way around.

Families in British Columbia had the highest mean wealth ($298,066), those in Newfoundland had the lowest ($125,383) and those in Ontario lay in-between ($276,224). What accounts for the inter-provincial difference in mean wealth holdings? The answer lies in the composition of wealth as well as the amounts in each portfolio held by families.

Table 2 shows that no common component of wealth is the largest in all provinces. In British Columbia, Ontario, Prince Edward Island, and Newfoundland, equity in an owned home constituted the major family wealth holding; in Alberta, Saskatchewan and Manitoba, it was net financial assets; and in Nova Scotia and New Brunswick, savings in employer pension plans were pivotal. In Quebec, on the other hand, employer pensions and net financial assets made up equal shares of wealth. As expected, in Prince Edward Island, Saskatchewan and Alberta, with their large farm, agriculture and livestock operations, business equity turned out to be another significant component – constituting between 21.1% and 19.7% of wealth. The four components – net financial assets, home equity, business equity and employer pension plans – accounted for 80% or more of total family wealth across provinces.

Families in Nova Scotia, New Brunswick, Quebec, Manitoba, and Saskatchewan had relatively more wealth in employer pension plans than in home equity. Such savings are neither marketable nor transferable, and cannot be used as collateral for a loan. They cease to be a component of family wealth with the death of a plan member or the surviving spouse of a member. Hence they are relevant only in terms of a source of income during retirement, and their importance as an integral part of a family's wealth should be interpreted with caution.[5]

[5] Usually household surveys collecting data on family wealth exclude this component primarily because respondents are unable to report how much have they saved in employer sponsored pension plans - especially if they had worked for several employers during their work life. Both the Survey of Consumer Finances conducted in the United States and the British Household Panel Survey (BHPS) in the U.K. do not collect data on this component of wealth (Banks, et al, 2002). The Canadian Survey of Financial Security did not collect it directly from respondents either but estimated it on the basis of information collected on respondents' work and current and potential pension benefits.

The sources of inter-provincial differences in mean family wealth can be derived from Table 2. For instance, the difference between British Columbia and Newfoundland was $172,683. Of this, 32.3% was attributable to home equity, 26.3% to net financial assets, 17.7% to business equity, 8.1% to employer pension plans and 15.2% by other components of wealth (like equity in other real estate, vehicles, durables and collectibles). Home equity was the predominant factor because of the extreme difference in mean home values – $225,202 in British Columbia compared with $66,440 in Newfoundland[6]. On the other hand, the difference between British Columbia and Ontario arose largely from both home and business equity.

5. Distribution of wealth by income decile and province

Since income and wealth are strongly associated, one would expect families with higher incomes to have higher holdings of wealth. How is total wealth distributed among families in different income strata? How much of it is owned by families at the top of the income ladder? Table 3 shows the distribution of family wealth by pre-tax income decile[7] for each province. Several similarities between provinces are apparent. First, families in the lowest decile had negative wealth[8]. These families were likely to be younger or older ones with lower incomes, or owned businesses with negative net incomes, or carrying more debts than assets. Families in the first two deciles held virtually no wealth.

Second, as expected, the relative share of wealth held by families rose as they moved up the income ladder. For example, those in the second and third deciles held between 2% and 4%, whereas those in the top decile held the most – ranging from 42.0% in Nova Scotia to 52.3% in Alberta.

In seven provinces, families in the top income decile had a mean wealth of more than one million dollars (the highest being $1.5 million in British Columbia).The gap in mean wealth between the top to the bottom income decile was largest ($1.6 million) in British Columbia – about 2.5 times that in Newfoundland. The gap in mean incomes of such families, on the other hand, was not that large; it ranged from $166,000 in Alberta to $108,000 in Newfoundland.

[6] Home equity is not only affected by the value of home but also by the amount of mortgage outstanding on it; in provinces with relatively high-priced homes, families had higher mortgages as well. For example, among debtors, the mean debt owed by families in British Columbia was $74,860 compared to $63,579 in Ontario and $29,332 in Newfoundland. Of this total debt, mortgage debt accounted for 81.5%, 79.2% and 52.6% respectively (Table 2).

[7] Since the Canadian tax laws allow tax exemptions based on a tax-payer's demographic situation like his/her marital status, age, number of dependents, business status and investments made, varying exemptions claimed in respect to federal and provincial taxes may affect the derived post-tax incomes of families across Canada. Pre-tax incomes, on the other hand, reflect what the family actually made in a given year and used for ranking families by decile groups.

[8] The province of Newfoundland, with the lowest mean income, had 9% of its families with negative or zero wealth compared to 6% in Ontario and Alberta – provinces with relatively higher levels of incomes (Table 1).

This shows that incomes were more equally distributed than wealth.[9] Theil's total (T) inequality coefficient shows that income inequality was between 32% and 42% of wealth inequality (Table 3). Wealth was much more unequally distributed among families in Alberta, British Columbia, and Quebec than in Ontario. Families in Nova Scotia, on the other hand, had the least unequal distribution of wealth[10].

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6. Decomposition of inequality of income and components of wealth

It is often desirable to decompose the total inequality of income or wealth into between-group and within-group inequality (Allison 1978) – here for example, between-province and within-province inequality in family wealth. Theil's entropy measure of inequality[11] was chosen because of its properties of decomposition, such as additivity. Moreover, it can be used for multilevel decomposition.

For total assets and wealth, 98% of the inequality was attributable to inequality within provinces because of the diversity of characteristics of families within provinces – not only their home and business ownership, coverage under employer pension plans (see Table 1), or the potential to save financial assets, but also the amounts held in different portfolios. To illustrate, home-owning families may have low-valued or more elite high-valued homes, those with a business may own a small store with low equity or a large non-farm enterprise with huge equity. Wealth is more unequally distributed than total assets because of the varying debt load carried by families – ranging from a small consumer debt or a student loan to a large mortgage.

Of the four major wealth components (with non-negative values), business equity was most unequally distributed followed by net financial assets, employer pension plans, and home equity. For each of the first three components, inequality within provinces constituted almost all of the total inequality. In the case of home equity, however, 13% was attributable to between-province inequality and 87% to within-province. Inequality between provinces in this case was largely due to the varying values of owned homes by

[9] Canada has a progressive income tax system; income tax and various government transfers available to the elderly or low income families help reduce inequality in the distribution of income. On the other hand, Canada has no wealth tax per se. It has no estate tax either, unlike the United States, United Kingdom, and New Zealand (Wolfe, 1996). However, Canadians pay income tax on certain components of wealth (interest, dividends and capital gains). And property tax is paid on an owned home or other real estate.
[10] In this paper, wealth inequality is studied using only Theil's coefficient. Other measures of inequality, including the Gini coefficient, log of variance of wealth, and coefficient of skewness were also used but for brevity the results are not included here. The summary table containing results of these measures is available from the author.
[11] See Chapter 4, Theil (1967), Allison (1978), and Bourguignon (1979) for details of this measure of inequality. For its illustrative use, see Schwarze (1996), Cardoso (1997), Zyblock and Tyrrell (1997), and Frick and Grabka (2003). Also see Cowell (1985) for multilevel decomposition of Theil's Index.

province, homeowners carrying mortgages, and ways in which homeowners had paid mortgages.

How do each of these major components affect wealth inequality? Table 4 shows Theil's indices of total wealth excluding each of these components. As with total wealth, within-province inequality accounted for almost all of the inequality for these re-defined concepts of wealth. These indices show that, *all other things being equal*, business equity increased wealth inequality whereas each of the other three components reduced it. Home equity had the most equalizing effect followed by employer pension plans[12].

As expected, total inequality of family pre-tax income was much lower than that of wealth. Almost all of it was from within-province inequality, which may in turn have resulted from differences in family members' employment opportunities, occupations, earnings, or other sources of income, or in the number of earners in a family.

In terms of provincial shares of total wealth inequality, Ontario, with 36.6% of all families and 40.6% of total household wealth, accounted for 40.6% followed by British Columbia (13.7% of families and 16.5% of wealth) at 22.3%. The shares for Quebec and Alberta were 17.4% and 12.9% respectively. These four provinces, with 85.5% of all families and 88.4% of total household wealth, accounted for 93.2% of wealth inequality.

7. Decomposition of wealth inequality by family characteristics

Besides the components of wealth, differences in socio-demographic characteristics of families also contribute to wealth inequality. Table 3 showed the variation in family income by province. Since income and wealth are strongly associated, a rising level of family income is likely to increase its holdings of wealth.[13] However, such holdings are likely to vary *between and within income groups*. For instance, the mean wealth gap between families with incomes under $25,000 and those with incomes of $100,000+ was $490,517 in Newfoundland (the province with the lowest mean wealth) compared with $764,207 in British Columbia (the province with the highest mean wealth). On the other hand, the inter-provincial range of mean wealth *within income*

[12] Similar results were shown by Gini coefficients as well; for example, the coefficient pertaining to total wealth was 0.674 compared with 0.724 for wealth less home equity, and 0.655 for wealth less business equity. Furthermore, the elasticities of Gini with respect to wealth components showed that for all provinces, business equity increased wealth inequality whereas home equity reduced it. Pension savings, on the other hand, had mixed effects; in six provinces, these savings reduced wealth inequality.

[13] Some of this high income - high wealth situation may be embedded in the diversity of provincial economies resulting in varying incomes for their residents. Compared to Ontario (100.0), the index of mean wealth varied between 45.6% (Newfoundland) and 107.9% (British Columbia) – a gap of 62.3 percentage points. However, when mean wealth of families across provinces was re-calculated on the assumption that the Ontario's distribution of income prevailed in all other provinces, the gap in indices of mean wealth fell to 52.5 percentage points. This shows that even if the distribution of income was the same across provinces, mean wealth of families in different provinces still varied.

groups was $67,710 for families with incomes under $25,000 and $340,400 for those with incomes of $100,000+ (Chart 1). The latter shows that family wealth across provinces is also affected by factors other than income, such as homeownership status (with or without mortgage), family type, and life-cycle stage.

The univariate percentage decomposition of wealth inequality by selected family characteristics (Table 5) shows that from 19.8% to 34.3% of the wealth inequality was explained by the variability in holdings *between income groups*, and from 15.9% to 35.2% by differences *between tenure groups* (i.e. renter, homeowner without a mortgage and homeowner with a mortgage). A family's level of income and tenure explained relatively more of wealth inequality than other characteristics such as business ownership, age of the major income recipient (used as proxy for life-cycle stage) or coverage by an employer pension plan.

Since there is a high correlation between family income, tenure, age of major income recipient, business ownership, and coverage under an employer pension plan – a high income family is more likely to have a major income recipient aged between 45 and 64, own a home, own a business, or be covered by a pension plan – the individual between-groups explanatory powers could not be added to measure their collective contribution to inequality. To do so, we needed to recalculate the explanatory powers of *between* and *within* groups by using three characteristics together: income, tenure, and business ownership (i.e. classifying families into 24 groups). The overall between-group explanatory power was then split between the explanatory powers of each characteristic and their interaction terms.[14]

Table 6 shows that 52.8% of the total wealth inequality in Ontario was explained by between-group inequality and 47.2% by within-group inequality. Because of this measure's additive property, the overall explanatory power of 52.8% of three characteristics could be decomposed into 14.9% for income group, 28.1% for tenure, 3.5% for business ownership, and 6.3% for their interaction. This decomposition shows that for families in Ontario, the variability in wealth by tenure explained more of the provincial wealth inequality than the variability by income group. A similar situation prevailed in Prince Edward Island, Nova Scotia, Manitoba, Saskatchewan, and British Columbia (Chart 2).

The variation by tenure may be attributed to differences not only in the rate of homeownership but also in the wealth holdings of renters, homeowners without a

[14] Even though the methodology allows a multi-level decomposition, one still has to restrict the number of characteristics that can be used at a time in order to maintain the statistical reliability of conclusions. The use of 5 characteristics would have meant classifying families in each of the province in 144 cells (=income (4), tenure (3), age of the MIR (3), own a business (2), and coverage under a pension plan (2). This would have meant splitting the sample of 15,933 families into 1,440 (=144x10) cells.

Although the results of (income*tenure*own business) are shown here, the outcomes in respect to other combinations can be made available upon request.

mortgage and homeowners with a mortgage. The holdings of the latter two may, in turn, be affected primarily by the home values (which are affected by varying rates of appreciation triggered by local real estate conditions). For the other four provinces (Newfoundland, New Brunswick, Quebec, and Alberta), the variability of holdings by income group was more important. Business ownership remained in third place – with explanatory power relatively higher for families in Alberta and Prince Edward Island.

With the ranking of family characteristics affecting wealth inequality across provinces established, one question remains unanswered: how is the total wealth inequality distributed by levels of these characteristics? For example, in Quebec, income turned out to be more important than tenure as an explanatory characteristic of provincial wealth inequality. Did holdings of families in different income strata share equally in this inequality? The statistical evidence in Table 7 shows that the variability in holdings of families with incomes under $25,000 accounted for less than 1% of the overall Quebec wealth inequality compared with 44.2% for those with incomes between $50,000 and $99,999 and 44.9% for those with incomes of $100,000+. The corresponding shares in Alberta were 1.3%, 49.1% and 45.9%. On the other hand, more than half of the total wealth inequality in Ontario and British Columbia was shared by families with incomes of $100,000+ (Table 7).

Across provinces, the relative share of total wealth inequality of families in rented dwellings was almost insignificant whereas the largest share was held by families living in mortgage-free homes. Similarly, families with the major income recipient aged 45 to 64 held the largest share of inequality, varying between 72.0% and 35.0% for eight provinces. The two provinces showing a different pattern were Newfoundland, where elderly families had the highest proportion (49.8%), and Alberta, where younger families (i.e. major income recipient under 45) accounted for 44.9%.

The relative shares of total inequality by business ownership showed quite a contrast. In Alberta, where families were found to have a higher rate of business ownership as well a higher proportion of wealth in terms of business equity, the variability in holdings of families with a business accounted for 89.7% of the total provincial wealth inequality – compared with 57.1% in Ontario.

On the other hand, the variability in holdings of families with coverage under an employer pension plan accounted for 71.6% of wealth inequality in Newfoundland compared with just 30.8% in British Columbia. The statistical evidence in Table 7 shows that among families in most of the eastern provinces, coverage under such plans plays an important role in accounting for wealth inequality, whereas for families in the western provinces, it is business ownership that is the driving force behind inequality.

8. Conclusion

The provincial economies differ considerably. These differences are in turn primarily responsible for the variation in family income across the country. The analysis has shown that the highest mean income provincially does not equate to the highest mean wealth as well. Besides income, other factors also influence family wealth. These include differences in rates of homeownership, home values, net financial assets, business ownership, other real estate, vehicles, coverage under employer pension plans, and other durable goods.

Across provinces, wealth was distributed more unequally than income. It was relatively concentrated among families in the top income decile. Just four components accounted for most of family wealth: net financial assets, home equity, business equity, and accrued savings in employer pension plans.

Wealth was relatively more unequally distributed in three provinces – Quebec, Alberta, and British Columbia. Business equity had the most unequalizing effect on the distribution of wealth; accrued savings in employer pension plans, the least.

Four provinces (Quebec, Ontario, Alberta and British Columbia) accounted for the 93.2% of overall wealth inequality in Canada. A multilevel decomposition of wealth inequality by family characteristics such as income, tenure and business ownership showed that in six provinces, tenure ranked higher than income in explaining inequality; whereas income led in the other four. Business ownership ranked third in all provinces.

The prevalence of income and wealth inequality is not something new. It happens in almost all countries. However, the approaches to redistribution vary. For instance, Canada has a progressive income tax system, which allows the use of taxes and government transfers to reduce income inequality. Intergenerational wealth transfers, however, are generally taxed as income for the recipients. Canada has no direct wealth tax but levies property taxes on homes and other real estate, and taxes business income as well as income earned on various financial assets. On the other hand, the Canadian tax system encourages personal savings and investment in a variety of tax-deferred savings plans[15].The objective of all such incentives is to encourage all families to save more for their short/long-term needs or retirement. However, families with higher incomes are more likely to use such tax deferred plans since they are able to put money aside for long-term investments[16]. Also such families with a better understanding of financial markets are likely to continue to accumulate more wealth than others. Although such incentives may increase wealth inequality, the associated investments must be converted into

[15] Like Registered Retirement Savings Plans to save income for retirement, Registered Retirement Income Funds for annuity income or Registered Home-ownership Savings Plan to save for purchasing a home, and Registered Education Savings Plan to save for children's education. Also, the system taxes at reduced rates the investment and dividend incomes and capital gains (after exhausting the life-time exemption of $100,000 and $500,000 for qualified small business corporations and qualified farm property).

[16] For example, of all tax filers aged 25-64, only 3.6% of those with incomes under $10,000 contributed to Registered Retirement Savings Plans in 1999 compared to 74.4% of those with incomes between $60,000-$79,999 and 78.0% with incomes of $80,000 and more.

income at a later date and would be subject to taxation at the recipient's highest marginal rate. This would seem to be a desirable stream of future income for governments with aging societies. The question of the optimal level of inequality in a market economy remains open.

Appendix: Data source and definitions

The analysis is based on the Survey of Financial Security (SFS), conducted by Statistics Canada between May and July 1999. The sample contained 23,000 dwellings from the 10 provinces – 21,000 from a regular area sample and 2,000 from "high income" geographic areas.[17] Excluded were persons living on Indian reserves, members of the armed forces, and those living in institutions such as prisons, hospitals, and homes for seniors. The SFS interview questionnaire (Catalogue no. 13F0026MIE-01001) is available free on the Statistics Canada Web-site at www.statcan.ca/cgi-bin/downpub/research.cgi. For more details about the survey, see *The assets and debts of Canadians: An overview of the results of the Survey of Financial Security* (Catalogue no. 13-595-XIE).

The survey collected socio-demographic and labour force characteristics of persons aged 15 years and over, and the assets and debts of their families as of the time of the survey. For 85% of survey respondents, income for 1998 was compiled from authorized linkage to tax records and for the remaining 15% was collected in person. Collection was by personal interview, although respondents could also complete the questionnaire themselves. Financial data were sought from the family member most knowledgeable about the family's finances. Proxy response was accepted The overall response rate was 75.7%.

With the exception of savings in employer pension plans, missing data on components of assets and debts used to compile wealth estimates were mostly imputed by a "hot deck" procedure. Accrued savings in pension plans, on the other hand, were estimated on termination valuation approach from the information collected on years in labour force, coverage under pension plan(s), contributions made, or benefits received from a particular pension plan, etc. A detailed description of the methodology used to estimate such savings can be found in the paper *Survey of Financial Security – Methodology for estimating the value of employer pension plan benefits,* available on the Statistics Canada Web-site (www.statcan.ca). Empirical data included in this paper are based on a sample of 15,933 families including 1,143 from the "high income" sample.

Family: Refers to economic families and unattached individuals. An economic family is a group of persons sharing a common dwelling and related by blood, marriage (including common law) or adoption. An unattached individual is a person living alone or with unrelated persons.

[17] A high-income household was one with total income of at least $200,000 or investment income of at least $50,000.

Major income recipient (MIR): The person in the family with the highest income before tax. If two persons had exactly the same income, the older was treated as the major income recipient.

Tenure: Refers to the home-ownership status of a family at the time of the survey; a family may be living in rented dwelling or in an owned dwelling with or without a mortgage.

Pre-tax family income: Sum of incomes from all sources received during the calendar year 1998 by family members aged 15 and over. Sources include wages and salaries, net income from self-employment, investment income, government transfers, retirement pension income, and alimony. Excluded are income in kind, tax refunds, and inheritances.

Financial assets: Sum of savings held in bank and fixed term deposits, Canada Savings Bonds, other bonds/debentures, stocks, mutual funds, shares in privately held companies, Registered Retirement Savings Plans, Registered Retirement Income Funds, Registered Homeownership Savings Plans, Registered Education Savings Plans, Deferred Profit Sharing Plans, trusts, mortgage-backed securities, mortgages held, loans to persons and businesses.

Net financial assets: Financial assets less all non-mortgage loans including amount owed on all credit cards, deferred payment accounts, student loans, lines of credit, other institutional loans and other unpaid bills and debts.

Total debt: Sum of mortgage and non-mortgage debt. Mortgage debt is the amount outstanding on the principal residence and all other real estate including vacation home, rental property, or land. Non-mortgage debt, on the other hand, is money owed on credit cards issued by banks, department stores, and oil companies, deferred/instalment accounts, loans on vehicles, student loan, lines of credit, other institutional loans and unpaid bills.

Equity in home: Market value of home less any mortgage outstanding.

Equity in other real estate: Market value of all real estate, other than home, less mortgage outstanding. This may include land, vacation home, rental property, etc.

Equity in vehicles: Market value of all vehicles owned (including sports and recreational vehicles) less any loan outstanding on these.

Equity in business: Market value of business(es) owned less book value of debt outstanding on these.

Durables and collectibles: Sum of the value of contents of principal residence, collectibles and other valuables.

Savings in employer pension plan(s): Accrued savings in employer sponsored pension plan(s).

Wealth: Sum of net financial assets, equity in home, equity in other real estate, equity in vehicles, equity in business, durables and collectibles, and savings in employer pension plan(s). The concept of family wealth used here excludes any future claims on publicly funded income security programs as well as potential returns on human capital (employment income or ability to generate investment income).

Since estimates of family wealth are compiled from a household survey, these are subject to both sampling and non-sampling errors.

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Table 1. Percentage distribution of families by province and selected characteristics, 1999

Characteristic	Newfound-land*	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskat-chewan	Alberta	British Columbia	Canada
	Percent										
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Type of family unit:											
Unattached individual	20.2	28.6	29.4	28.0	34.2	30.0	33.1	33.1	32.1	36.5	32.1
Family 2+	79.8	71.4	70.6	72.0	65.8	70.0	66.9	66.9	67.9	63.5	67.9
Age of MIR:**											
Under 45 years	50.0	47.6	44.2	47.1	50.0	49.7	48.5	49.9	55.0	50.8	50.2
45 - 64 years	31.7	34.3	34.6	32.6	32.1	31.9	29.6	28.0	30.3	31.0	31.6
65 years and over	18.3	18.1	21.3	20.2	17.9	18.4	21.9	22.1	14.7	18.2	18.3
Median age (years)	*45*	*45*	*48*	*46*	*44*	*45*	*45*	*45*	*42*	*44*	*44*
Education of MIR*:											
Less than high school	43.0	32.5	35.4	32.9	31.4	23.6	30.7	32.1	25.8	21.1	26.9
Graduated high school	16.4	25.3	17.0	20.4	20.1	24.9	23.5	25.8	24.2	26.9	23.4
Non-university post-secondary certificate	30.9	25.1	27.6	30.2	27.9	28.2	25.5	25.0	29.9	29.3	28.3
University degree or certificate	9.7	17.1	20.0	16.5	20.6	23.2	20.4	17.0	20.1	22.7	21.4
Pre-tax income size group:											
Under $25,000	37.0	37.4	37.4	36.2	35.7	25.8	34.0	35.2	28.1	31.8	30.8
$25,000 - $49,999	37.7	32.9	31.9	35.1	31.9	29.9	30.1	31.7	29.7	29.6	30.7
$50,000 - $99,999	20.9	23.3	26.2	24.9	26.1	32.4	29.0	27.0	32.4	28.9	29.4
$100,000 and over	4.4	6.5	4.5	3.8	6.3	11.9	6.9	6.1	9.8	9.7	9.0
Tenure:											
Renter	26.8	32.8	35.6	29.8	44.6	39.5	35.9	30.9	33.6	42.3	39.6
Home-owner without mortgage	48.9	36.7	34.1	38.6	25.5	26.4	32.9	40.0	28.3	24.3	27.7
Home-owner with mortgage	24.2	30.5	30.3	31.6	29.9	34.1	31.2	29.2	38.1	33.4	32.7
% Home owners with mortgage	33.1	45.4	47.0	45.1	54.0	56.4	48.7	42.2	57.4	57.9	54.1
% Families with:											
Stocks	3.2	7.2	8.0	4.5	7.4	11.8	8.2	8.6	13.7	11.5	10.1
Mutual funds	6.4	11.1	14.2	11.1	9.6	16.3	18.9	18.4	14.9	15.9	14.2
Registered Retirement Savings Plan (RRSP)	39.1	45.4	49.2	43.8	50.9	58.5	55.3	56.2	58.7	54.7	54.9
Canada Savings Bonds	12.4	16.9	16.7	13.7	10.1	15.9	16.4	16.3	15.0	14.5	14.1
Vehicles (including recreational)	75.6	83.4	76.0	79.6	71.9	76.3	78.4	84.0	83.7	77.9	76.5
Coverage under employer pension plan(s)	42.1	35.0	49.7	45.0	45.9	50.7	52.5	47.1	42.8	43.9	47.4
Business/farm/profes-sional activity	11.2	20.3	14.1	11.0	14.4	19.6	17.3	28.9	25.1	20.9	18.7
Debt	75.3	74.5	74.5	72.8	65.1	68.0	62.9	66.2	71.9	69.1	68.0
Negative or zero wealth	9.0	9.1	5.5	7.5	5.2	6.1	3.4	6.5	6.0	6.8	5.9

*Includes Labrador.
**MIR: Major income recipient.

Table 2. Percentage composition of wealth of families by province, 1999*

Component of wealth	Newfound-land*	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskat-chewan	Alberta	British Columbia	Canada
Mean wealth ($)	125,383	214,409	182,213	179,387	205,162	276,224	212,135	242,733	272,113	298,066	249,282
% Composition:											
Net financial assets	18.6	20.8	23.0	17.2	24.4	27.6	28.5	25.2	24.7	23.3	25.5
Equity in home	30.6	22.2	22.6	24.0	21.5	28.8	20.4	17.9	23.0	31.6	26.3
Equity in other real estate	4.6	4.7	4.5	5.0	6.0	6.2	4.0	6.1	5.9	6.7	6.0
Equity in vehicles	4.0	3.5	3.4	4.0	3.2	2.8	3.7	4.0	3.8	3.2	3.2
Equity in business	5.1	19.7	6.6	11.9	13.1	7.7	13.7	21.1	21.0	12.4	11.6
Durables & collectibles	11.0	8.9	10.4	8.8	7.6	7.1	8.3	7.6	8.3	7.1	7.5
Savings in employer pension plan(s)	26.1	20.2	29.6	29.1	24.4	20.0	21.5	18.1	13.3	15.7	19.9
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Mean debt ($)											
All families	22,075	23,731	25,718	22,433	27,516	43,239	23,640	25,450	42,026	51,699	37,499
Debtors only	29,332	31,853	34,523	30,796	42,297	63,579	37,604	38,418	58,441	74,860	55,155
Debt/income ratio (%):											
All families	55.7	56.5	62.1	55.4	61.4	78.0	51.3	59.0	78.2	106.3	75.4
Debtors only	67.0	72.0	64.6	69.3	83.9	106.0	72.2	77.4	100.6	136.3	100.4
% Composition of debt (debtors):											
Mortgage debt	52.6	66.2	65.2	60.1	77.7	79.2	71.5	58.5	76.2	81.5	77.5
Non-mortgage debt	47.4	33.8	34.8	39.9	22.3	20.8	28.5	41.5	23.8	18.5	22.5

*See appendix for definitions of components of wealth.

Table 3. Percentage share of total wealth held by families by income decile groups and province, 1999

Income decile group	Newfound-land*	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskat-chewan	Alberta	British Columbia	Canada
						percent					
First	-1.2	-0.3	-0.2	-0.4	-0.3	-0.2	-0.2	-0.3	-0.2	-0.2	-0.3
Second	0.2	0.2	0.3	0.2	0.2	0.2	0.3	0.3	0.2	0.1	0.2
Third	1.5	0.8	1.3	1.1	0.7	0.9	1.1	1.2	0.9	0.5	0.8
Fourth	2.9	1.9	2.8	2.4	1.8	2.1	2.4	2.5	2.1	1.5	2.0
Fifth	4.3	3.5	4.5	3.9	3.2	3.8	4.0	4.4	3.6	3.1	3.4
Sixth	6.0	5.3	6.6	5.6	5.1	5.8	6.3	6.5	5.4	5.5	5.5
Seventh	8.5	7.9	9.3	7.9	7.9	8.6	8.9	9.0	7.6	8.2	8.1
Eighth	11.6	12.5	13.7	11.8	11.5	12.9	12.4	13.3	10.8	12.2	12.1
Nineth	17.7	19.9	19.7	18.7	18.3	19.1	18.6	20.1	17.3	18.3	18.8
Tenth	48.5	48.3	42.0	48.8	51.6	46.8	46.2	43.0	52.3	50.8	49.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Mean wealth ($):											
First decile	-15,134	-5,893	-4,250	-6,911	-9,287	-6,245	-5,534	-6,195	-4,341	-7,648	-6,676
Tenth decile	611,462	1,029,346	845,896	846,006	1,184,795	1,386,689	1,084,051	1,067,015	1,422,796	1,542,578	1,320,852
Mean income ($):											
First decile	6,912	7,952	6,329	6,909	5,745	7,595	7,630	4,979	6,229	4,034	6,164
Tenth decile	115,004	121,520	118,988	106,184	137,046	163,528	134,086	126,324	172,716	146,290	151,214
% Distribution by province of:											
Number of families	1.6	0.4	3.1	2.5	25.5	36.7	3.7	3.3	9.5	13.8	100.0
Total wealth	0.8	0.4	2.3	1.8	21.0	40.6	3.1	3.2	10.3	16.5	100.0
Total income	1.3	0.4	2.6	2.0	23.0	40.9	3.4	2.9	10.2	13.5	100.0
Mean wealth ($)	*125,383*	*214,409*	*182,213*	*179,387*	*205,162*	*276,224*	*212,135*	*242,733*	*272,113*	*298,066*	*249,282*
Median wealth ($)	*65,294*	*90,500*	*100,278*	*84,856*	*79,535*	*132,900*	*106,524*	*131,419*	*121,976*	*127,190*	*109,183*
Mean income ($)	*39,601*	*42,020*	*41,445*	*40,464*	*44,823*	*55,431*	*46,114*	*43,164*	*53,730*	*48,622*	*49,766*
Median income ($)	*32,335*	*33,024*	*34,039*	*32,316*	*35,279*	*45,134*	*37,290*	*34,402*	*43,542*	*40,077*	*39,618*
Theil's T (total):											
Wealth	0.748	0.755	0.634	0.767	0.918	0.761	0.826	0.647	0.990	0.984	0.865
Pre-tax income	0.266	0.269	0.272	0.240	0.334	0.301	0.283	0.277	0.325	0.308	0.314

Table 4 . Percentage decomposition of Theil's T coefficient for income and selected components of wealth

Component	Values			% Decomposition		
	Between provinces	Within provinces	Total	Between provinces	Within provinces	Total
Wealth	0.015	0.850	0.865	1.7	98.3	100.0
Total assets	0.016	0.776	0.792	2.0	98.0	100.0
Total debt	0.032	0.604	0.636	5.0	95.0	100.0
Net financial assets	0.017	1.232	1.249	1.4	98.6	100.0
Equity in home	0.050	0.340	0.391	12.9	87.1	100.0
Equity in business	0.043	1.947	1.990	2.2	97.8	100.0
Savings in employer pension plans	0.004	0.705	0.709	0.5	99.5	100.0
Wealth less net financial assets	0.013	0.882	0.895	1.4	98.6	100.0
Wealth less equity in home	0.009	1.029	1.038	0.9	99.1	100.0
Wealth less business equity	0.017	0.737	0.754	2.3	97.7	100.0
Wealth less savings in employer pension plan	0.023	0.953	0.976	2.3	97.7	100.0
Income before tax	0.006	0.308	0.314	1.8	98.2	100.0

*Excludes families with zero or negative amounts.

Table 5 . Percentage decomposition of wealth inequality by selected family characteristics by province*

Characteristic	Newfound-land*	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskat-chewan	Alberta	British Columbia	Canada
Theil's T: Total wealth inequality	0.748	0.755	0.634	0.767	0.918	0.761	0.826	0.647	0.990	0.984	0.865
Pre-tax income:											
Between groups	34.3	27.7	23.8	23.7	29.2	21.2	26.4	23.5	20.4	19.8	23.4
Within groups	65.7	72.3	76.2	76.3	70.8	78.8	73.6	76.5	79.6	80.2	76.6
Tenure:											
Between groups	15.9	35.2	17.1	21.8	27.4	37.5	30.0	29.8	19.6	30.5	29.0
Within groups	84.1	64.8	82.9	78.2	72.6	62.5	70.0	70.2	80.4	69.5	71.0
Age of MIR:											
Between groups	6.5	8.3	11.7	10.7	11.7	13.0	6.5	8.4	5.0	11.9	10.5
Within groups	93.5	91.7	88.3	89.3	88.3	87.0	93.5	91.6	95.0	88.1	89.5
Coverage under employer pension plans:											
Between groups	11.4	5.0	10.2	10.1	4.5	6.1	2.3	2.3	3.6	1.1	4.2
Within groups	88.6	95.0	89.8	89.9	95.5	93.9	97.7	97.7	96.4	98.9	95.8
Own busines:											
Between groups	6.5	16.1	7.8	18.7	13.8	6.6	9.6	14.1	16.8	9.8	10.5
Within groups	93.5	83.9	92.2	81.3	86.2	93.4	90.4	85.9	83.2	90.2	89.5

*Excludes families with negative or zero wealth.

Table 6. Percentage decomposition of wealth inequality by three key family characteristics by province*

Characteristics	Newfound-land*	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskat-chewan	Alberta	British Columbia	Canada
Total inequality (Theil's index)	0.748	0.755	0.634	0.767	0.918	0.761	0.826	0.647	0.990	0.984	0.865
Between groups:	**49.2**	**65.9**	**41.8**	**51.0**	**54.7**	**52.8**	**53.4**	**54.2**	**45.6**	**51.5**	**49.0**
Income	46.5	17.8	10.4	20.7	21.3	14.9	16.8	14.5	16.5	11.7	18.0
Tenure	11.2	27.9	13.9	18.5	17.2	28.1	21.5	22.9	13.7	24.5	20.5
Own business	3.7	10.4	4.2	8.9	8.3	3.5	5.5	7.9	11.5	7.2	5.1
Interaction term**	-12.2	9.8	13.3	2.9	7.9	6.3	9.6	8.9	3.9	8.1	5.4
Within groups	**50.8**	**34.1**	**58.2**	**49.0**	**45.3**	**47.2**	**46.6**	**45.8**	**54.4**	**48.5**	**51.0**
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

* Excludes families with negative or zero wealth.
**Sum of interaction terms (income*tenure*own business) and (income*tenure).

Table 7. Percentage share of total wealth inequality by province and selected socio-economic characteristics of families, 1999*

Characteristic	Newfound-land*	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskat-chewan	Alberta	British Columbia	Canada
		Island								Columbia	
Total wealth inequality	0.1	0.3	0.8	0.9	17.4	40.6	2.3	2.3	12.9	22.3	100.0
Size of pre-tax income group											
Under $25,000	-5.8	3.1	6.5	-25.8	0.6	1.6	-3.3	0.7	1.3	4.8	1.8
$25,000 - $49,999	5.0	17.2	11.5	32.7	10.3	7.0	8.1	17.5	3.7	8.4	8.3
$50,000 - $99,999	59.1	24.8	45.5	38.9	44.2	34.0	56.6	42.6	49.1	33.1	39.1
$100,000 and over	41.8	54.9	36.5	31.1	44.9	57.4	38.6	39.2	45.9	53.7	50.9
Tenure											
Renter	-3.5	-4.8	8.6	0.1	5.7	-5.2	-2.1	-5.8	1.3	0.5	-0.5
Home-owner without mortgage	81.1	103.3	74.1	87.2	76.2	84.8	91.7	91.4	53.9	84.0	78.8
Home-owner with mortgage	22.5	1.4	17.3	12.8	18.0	20.4	10.4	14.4	44.8	15.5	21.7
Age of MIR											
Under 45 years	7.4	9.4	1.2	16.5	12.8	7.1	31.4	17.9	44.9	16.9	16.0
45 - 64 years	42.8	64.7	67.2	68.0	72.0	63.5	44.8	56.8	35.0	61.8	60.6
65 years and over	49.8	25.9	31.6	15.4	15.1	29.4	23.8	25.3	20.1	21.3	23.4
Coverage under employer pension plan(s)											
Without coverage	28.5	50.8	28.7	30.9	47.3	30.9	52.0	44.8	38.6	69.2	43.9
With coverage	71.6	49.2	71.3	69.1	52.7	69.1	48.0	55.2	61.4	30.8	56.1
Status of business equity											
Without business equity	62.1	26.0	55.7	33.5	32.9	42.9	35.0	25.8	10.3	27.0	33.2
with business equity	37.9	74.0	44.4	66.5	67.1	57.1	65.0	74.2	89.7	73.0	66.8

*Excludes families with negative or zero wealth.

Chart 1. Mean wealth of families by province and income size group, Canada, 1999

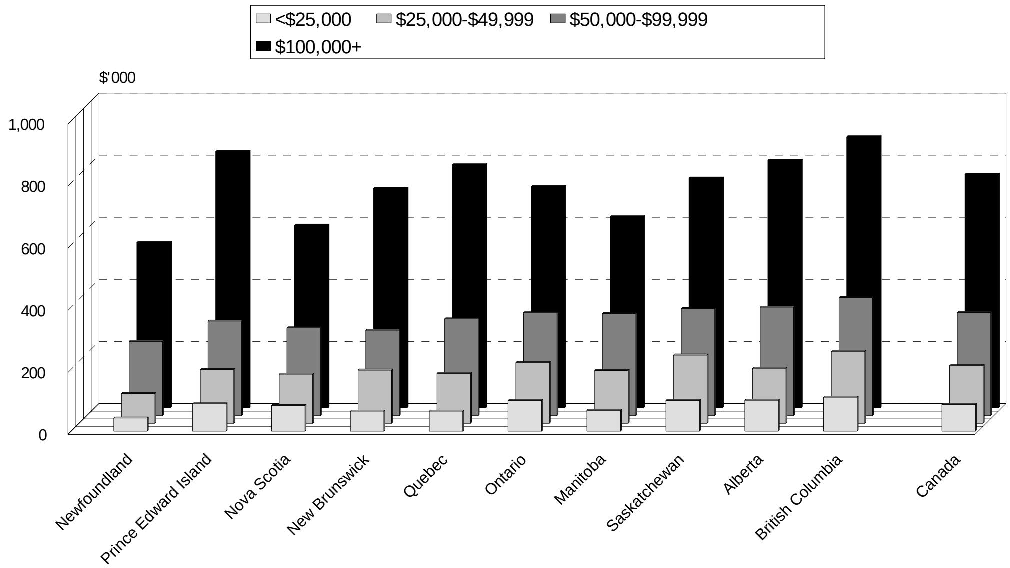

Chart 2. Percentage decomposition of family wealth inequality by province in terms of income, tenure and own business, Canada, 1999