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Trends in Well-Being in Canada and the Provinces Through the Lens of the Index of Economic Well-Being

1981-2023

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Trends in Well-Being in Canada and the Provinces Through the Lens of the Index of Economic Well-Being, 1981-2023

Abstract

This report presents estimates for the Index of Economic Well-being (IEWB) for Canada for the 1981-2023 period. The IEWB is a composite measure developed by the Centre for the Study of Living Standards that assesses the economic well-being of Canadians through the lens of consumption flows, stocks of wealth, economic equality, and economic security. The report finds that the IEWB increased in Canada at a compound annual growth rate of 0.62 per cent between 1981 and 2023, well below that of GDP per capita (1.12 per cent). Growth in the index was driven by increased consumption and stocks of wealth, while declines in economic equality, and especially economic security, hindered overall progress.

Trends in Well-Being in Canada and the Provinces Through the Lens of the Index of Economic Well-Being, 1981-2023

Executive Summary

Since the release of the Stiglitz-Sen-Fitoussi Commission report *The Measurement of Economic Performance and Social Progress* in 2009, commissioned by French President Nicholas Sarkozy, there has been a flurry of interest in going beyond GDP to assess economic performance and well-being. Well over two decades ago, the Centre for the Study of Living Standards (CSLS) developed a multi-dimensional framework called the Index of Economic Well-being (IEWB) to assess the economic well-being of a population. The IEWB, with its conceptual framework and empirical estimates, has become an important tool for developing policies to improve economic well-being in Canada.

This report tracks the 28 indicators comprising the IEWB over a 42-year period (1981-2023), providing insights on developments in economic well-being in Canada and the provinces, in absolute terms and compared to each other. This information helps to benchmark performance, identifying strengths — and importantly weaknesses — in national and provincial well-being to guide policy development.

This report's basic hypothesis is that a society's economic well-being depends on more than just consumption and accumulating wealth. Inequality and insecurity surrounding the distribution of resources play just as large a role in the overall health of society. The components making up these four domains of economic well-being are highlighted below:

- **effective per capita consumption flows** – includes consumption of marketed goods and services, government expenditures, household economies of scale, unpaid work, regrettable expenditures, and life expectancy;

- **accumulation of per capita stocks of wealth** – includes physical capital, natural resources, net international investment position, human capital, and environmental degradation;

- **income distribution** – includes the intensity of poverty (both incidence and depth) and the inequality of income;

- **economic security** – includes the financial risks imposed by unemployment, illness, family breakup, and poverty in old age.

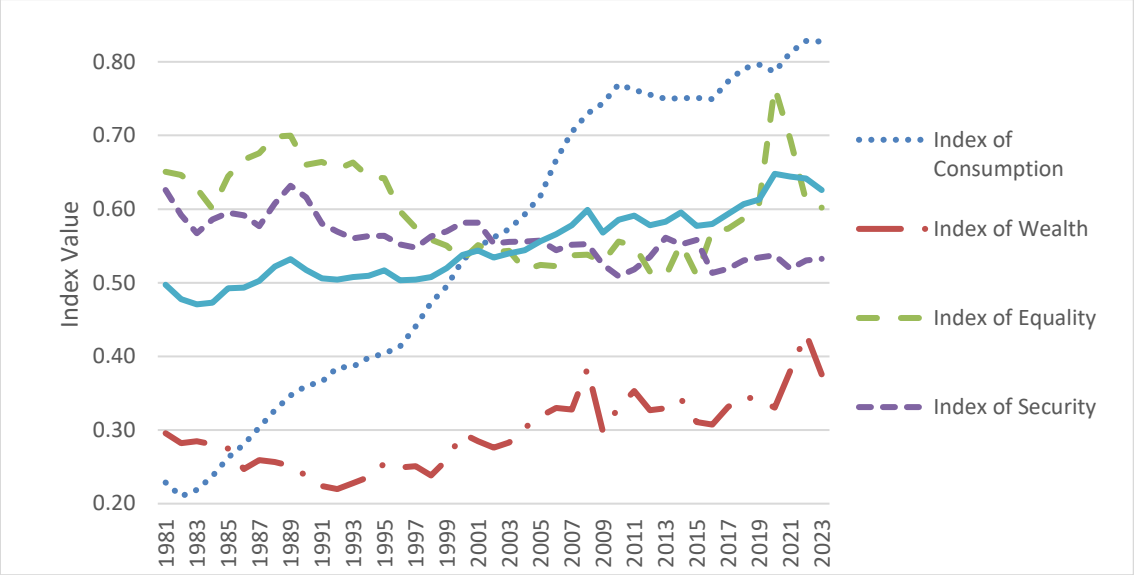
To isolate structural trends in well-being from temporary swings in the business cycle, this report focuses on growth of well-being between cyclical peaks (namely, 1981-2000, 2000-2008, 2008-2019, and 2019-2023).

We find that Canada's IEWB rose across every business cycle since 1981, with gains driven mostly by stronger consumption and, more recently, wealth. By contrast, economic equality and economic security have been persistent drags.

The overall increase in the IEWB between 1981 and 2023 was largely due to growth in **consumption**, which enjoyed the largest increase of any domain (corresponding to a compound annual growth rate, CAGR, of 3.11 per cent). Historically, the drivers of this domain were increases in personal consumption, government expenditure, unpaid work, and life expectancy. More recently, growth in this domain has slowed (to a CAGR of 0.96 in 2019-2023), reflecting a stagnation in personal consumption and a contraction in life expectancy. At the same time, household sizes, and thus economies of scale, continued to shrink, imposing greater costs on individuals and further slowing growth.

The **wealth** domain has also contributed positively to the index between 1981-2023, with a CAGR of 0.57 per cent. This domain experienced severe swings in its growth between periods, contributing significantly in 2000-2008 and 2019-2023 but detracting from overall growth in 1981-2000 and 2008-2019. Historically, improvements in wealth have come from increases in the stocks of human capital, physical capital, and natural resources — with much of its volatility and recent growth owing to this last component. Additionally, an increasing net international investment position (as Canadians increase their ownership of foreign assets relative to foreign ownership of Canadian assets) has also generally aided growth. In contrast, the burden imposed by greenhouse gas emissions has increased, reducing overall wealth.

Index of Economic Well-being Components for Canada, 1981 to 2023



Source: Appendix Table 9.

The **economic equality** domain sustained downwards growth, decreasing at a CAGR of -0.18 per cent over 1981-2023. This was driven by a jump in inequality, as measured by both the after-tax Gini coefficient and the after-tax share of income received by the top 1 per cent. While inequality has increased, the poverty intensity measure, as of 2023, has remained largely unchanged compared to its value in 1981, leading to a negligible contribution. Even though growth in both the Gini coefficient and the top 1 percent's share of income measures have peaked (in 2004 and 2007 respectively) recent growth in 2019-2023 has been negative, owing to renewed growth in the top 1 percent's share of income.

The **economic security** domain declined at a CAGR of -0.38 per cent over the 1981-2023 period, largely due to the increased financial risk associated with ill health. This relates to the disproportionate increase in out-of-pocket private health expenditure compared to disposable income. The remaining components of this domain (security from unemployment, lone-parent poverty, and poverty in old age) saw substantial improvements. Regardless, the economic security domain has fallen in every period since 1981.

The IEWB grew through every economic cycle between 1981 and 2023. From 1981-2000, improvements in the index were bolstered by consumption while wealth, equality, and security all detracted from growth. The 2000-2008 interval saw the largest jump, propped up by strong gains in consumption and wealth alongside tepid improvements in equality. Security, in contrast, suffered its steepest fall during this period. Throughout 2008-2019, overall growth returned to first-period levels, owing to weaker consumption and drops in wealth and security—but sustained by sizeable gains in equality. Finally, from 2019-2023, the index grew slightly faster than in the previous period. Wealth and consumption grew while security and equality suffered losses. In sum, the IEWB's increase spanning 1981 to 2023 was primarily driven by heightened consumption and, to a lesser extent, wealth. Meanwhile, equality and security impeded growth.

Index of Economic Well-Being and Components compound annual growth for Canada, 1981 to 2023

Period	Index of Consumption	Index of Wealth	Index of Economic Equality	Index of Economic Security	Index of Economic Well-Being
1981-2000	4.53	-0.01	-1.06	-0.38	0.39
2000-2008	4.80	3.33	0.17	-0.65	1.62
2008-2019	0.80	-1.05	1.10	-0.30	0.31
2019-2023	0.96	2.42	-0.22	-0.08	0.63
1981-2023	3.11	0.57	-0.18	-0.38	0.62

Source: Appendix Table 9.

The following tables rank the provinces from best- to worst-performing in the four IEWB domains by levels and growth rates. This allows comparisons between the provinces in their current well-being and their propensity to converge. The national average (denoted by *Canada*) is added for comparison. When evaluating the ranks of those provinces which fall below the national average, subtract a rank from the one denoted by the *Rank* column.

Index of Economic Well-being and Components Rankings for Canada and the Provinces, 2023

Levels in 2023					
Rank	**Index of Economic Well-being**	**Index of Consumption**	**Index of Wealth**	**Index of Economic Equality**	**Index of Economic Security**
1	British Columbia	British Columbia	Newfoundland and Labrador	Alberta	Alberta
2	Newfoundland and Labrador	Alberta	British Columbia	Quebec	Manitoba
3	Quebec	Ontario	**Canada**	Manitoba	Saskatchewan
4	**Canada**	**Canada**	Quebec	**Canada**	Prince Edward Island
5	Ontario	Nova Scotia	Ontario	Prince Edward Island	Quebec
6	Alberta	Manitoba	Manitoba	Ontario	Ontario
7	Manitoba	Quebec	Prince Edward Island	British Columbia	**Canada**
8	Prince Edward Island	Newfoundland and Labrador	New Brunswick	Newfoundland and Labrador	Newfoundland and Labrador
9	Nova Scotia	Saskatchewan	Alberta	New Brunswick	British Columbia
10	New Brunswick	Prince Edward Island	Nova Scotia	Nova Scotia	New Brunswick
11	Saskatchewan	New Brunswick	Saskatchewan	Saskatchewan	Nova Scotia

Source: Appendix Table 11

Index of Economic Well-being and Components Growth Rankings for Canada and the Provinces, 1981 to 2023 (compound annual growth rates)

Compound Annual Growth Rates, 1981-2023					
Rank	**Index of Economic Well-being**	**Index of Consumption**	**Index of Wealth**	**Index of Economic Equality**	**Index of Economic Security**
1	Newfoundland and Labrador	Newfoundland and Labrador	Prince Edward Island	New Brunswick	Newfoundland and Labrador
2	Prince Edward Island	New Brunswick	Newfoundland and Labrador	Prince Edward Island	Prince Edward Island
3	New Brunswick	Quebec	Quebec	Newfoundland and Labrador	Manitoba
4	Quebec	Manitoba	British Columbia	Saskatchewan	Quebec
5	Manitoba	Ontario	Ontario	Quebec	New Brunswick
6	British Columbia	**Canada**	**Canada**	Manitoba	British Columbia
7	**Canada**	Prince Edward Island	Manitoba	Nova Scotia	**Canada**
8	Nova Scotia	Nova Scotia	Nova Scotia	Alberta	Alberta
9	Ontario	Saskatchewan	New Brunswick	**Canada**	Ontario
10	Saskatchewan	British Columbia	Saskatchewan	British Columbia	Saskatchewan
11	Alberta	Alberta	Alberta	Ontario	Nova Scotia

Source: Appendix Table 11

In conclusion, this report provides a comprehensive analysis of trends in socio-economic indicators in Canada from 1981 to 2023 through the lens of the Index of Economic Well-being. The bottom line is that the landscape for economic well-being in Canada in 2023 is mixed. While all provinces have seen increases in their consumption domains, many have seen decreases in their wealth, equality, and security domains relative to 1981. There is much that can be done, especially in addressing the components of these three domains, to improve the economic well-being of Canadian citizens.

Trends in Well-Being in Canada and the Provinces Through the Lens of the Index of Economic Well-Being, 1981-2023

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I. The Index of Economic Well-being: Motivation and Framework

A. Introduction[1]

Since the release of the Stiglitz-Sen-Fitoussi Commission report *The Measurement of Economic Performance and Social Progress* in 2009, commissioned by French President Nicholas Sarkozy,[2] there has been a flurry of interest in going beyond GDP in the assessment of economic performance and well-being. Indeed, more than two thirds of OECD countries have developed national frameworks, development plans or surveys with a multi-dimensional well-being focus (OECD, 2023:4).

The recent OECD report *Economic Policy Making to Pursue Economic Welfare* prepared for the May 2023 meeting of G7 Finance Minister and Central Bank Governors has highlighted uses of well-being frameworks to inform policy processes. The report notes that there is of course "no one-size-fits all' method for well-being policy implementation and countries are experimenting with a variety of approaches. According to the OECD

> Multidimensional well-being evidence has been used to refocus policies towards the outcomes that matter to people now and for future generations, to redesign policy content from a more multidimensional perspective, to realign policy practice across government silos, and to reconnect with people through strengthened democratic dialogue, transparency and government accountability (OECD, 2023:5)

The Centre for the Study of Living Standards (CSLS) well over two decades ago developed a multi-dimensional framework called the Index of Economic Well-being (IEWB) for assessing the economic well-being of a population. The framework has been applied to Canada (Osberg and Sharpe, 1998 and 2001), to the Canadian provinces (Osberg and Sharpe, 2011; Thomas and Uguccioni, 2016), to OECD countries (Osberg and Sharpe, 2002; Thomas and Uguccioni, 2016), to Newfoundland and Labrador (Wong, Stephens and Sharpe, 2020), and to New Brunswick (Sharpe, 2021).

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[1] This paper was prepared by Paul Pietraru (CSLS co-op student, University of Ottawa) together with Andrew Sharpe (Executive Director, CSLS). On May 30, 2025, it was presented at the CSLS session "Perspectives on Productivity" at the annual meeting of the Canadian Economics Association at UQAM in Montreal. We thank Ritisha Chittoor and Adriana Suuronen for their previous work and comments on the IEWB. We also thank Aled Ab Iorwerth (CMHC) for his comments as discussant. Email: andrew.sharpe@CSLS.ca.

[2] The report is available at https://ec.europa.eu/eurostat/documents/8131721/8131772/Stiglitz-Sen-Fitoussi-Commission-report.pdf.

The IEWB is not fixed in time. It evolves as better methodologies are identified and implemented, more relevant indicators emerge and are adopted by the Index, and new data sources for the indicators are found and used. This version of the IEWB includes a number of changes that have improved the index.[3]

This report, which tracks the 28 indicators comprising the IEWB over a 42-year period (1981-2023), provides a large amount of information on developments related to economic well-being in both Canada and the provinces. This information can be used to track material trends and compare performance across provinces, highlighting strengths and, more importantly, weaknesses. This will allow the development of policies to address areas of underperformance. Section I explains why GDP alone is insufficient to measure well-being and introduces the IEWB, outlining its four domains (consumption, wealth, equality, security) and their respective indicators. Sections II through V then examine each domain in detail, summarizing the main measures and key adjustments used in the creation of each index. Section VI brings the domains together to trace Canada's overall trend
across cycles and closes with a brief provincial comparison to highlight the strengths, gaps, and potential policy levers.

B. The Index of Economic Well-being

The literature on social indicators commonly, and correctly, asserts that there is more to 'well-being' than material prosperity. The Index of Economic Well-being (IEWB) agrees and argues, furthermore, that although access to economic resources plays a key role in overall well-being, there is more to economic well-being than money income. Although money income—specifically, real Gross Domestic Product (GDP) per capita—is the statistic most commonly used to indicate economic progress, it is an inadequate measure of economic well-being. Our calculation of the IEWB is intended to provide a more accurate measure of trends in economic well-being by broadening the definition of economic well-being.

The compilers of the national accounts have long protested that their attempt to measure in GDP the aggregate money value of marketed economic output was never intended as a full measure of economic well-being. Nevertheless, GDP has often been used as such, despite the fact that GDP accounting omits important aspects of individuals' command over resources (for example, leisure time and longevity of life) and ignores the sustainability of aggregate consumption and the inequality and insecurity which individuals experience. In this report, our calculation of the IEWB demonstrates that an alternative measure of "access to economic resources" is possible, plausible, and capable of making a difference.

[3] All data, sources, and calculations used in the construction of the IEWB can be found in the data appendix on the CSLS website.

However, we emphasize that in focusing on purely economic aspects of well-being, we do not intend to downplay the importance of non-economic dimensions of life for "well-being," more broadly conceived. On the contrary, we think that some non-economic dimensions of life are too important to be combined with economic variables in an overall index. We see, for example, political liberties such as freedom of speech and assembly as crucial for a broader conception of well-being. However, including non-economic issues in an aggregate well-being index along with economic variables would build in the implicit trade-off assumption that a little more income can always offset a little less in non-economic goods—and we reject that perspective. We hope instead to provide a better measure of "access to resources needed for a decent standard of living." To this end, we place particular emphasis on sustainability and the sensitivity of measures of aggregate "command over resources" to the omission or inclusion of measures of income distribution and economic security.

In our view, indices of societal well-being are calculated in the hope that they can help guide social decision-making. No individual needs any indices of societal well-being to evaluate the impact of a public policy decision on their own personal well-being. However, civil servants and politicians are called upon daily to answer questions such as "Would public policy X make Canada better off?" Less frequently, voters also have to think about the same issues. As long as some individuals care, some of the time, about societal well-being as well as caring about their own personal well-being, indices of societal well-being can be useful guides for decision-making.

In developing the Index of Economic Well-Being, based on four dimensions of economic well-being (consumption, wealth accumulation, economic equality, and economic security), this report attempts to construct more accurate measures of effective consumption, economic security, and societal accumulation. However, unlike other indices, we do not argue that the weights assigned to these dimensions of economic well-being are unique and that "Canada's economic well-being" is a single, objective number. As individuals differ in their values, in our view it is not possible to define an objective index of societal well-being independent of the preferences of individuals. Because societal well-being has multiple dimensions and because individuals differ in their subjective valuation of each dimension's relative importance, individuals differ in their evaluations of social states. When well-informed groups are asked for their personal assessment of the relative importance of each of these four dimensions of well-being, the central tendency of the distribution of weights is reasonably close to our "base case" of equal weighting, but there is a large range of value preferences on each dimension.

Hence, one should think of each individual member of society as subjectively evaluating the objective data available to them and then coming to a personal conclusion about society's well-being. Many public policies have outcomes that cannot be measured in directly comparable units, as a practical matter, individuals often have to come to a summative decision in order to decide between policies—that is, have a way of "adding everything up" across conceptually dissimilar

domains. Since individuals, particularly in democracies, participate in decisions that will affect the collectivity, they face the problem of coming to a subjective evaluation of social states. The motivation for constructing the IEWB is that individuals need organized, objective data to effectively evaluate economic well-being.

Indices of social well-being can best help individuals to come to reasonable answers about social choices if information is presented in a way that highlights the objective trends in major dimensions of well-being and thereby helps individuals to come to summative judgments, without assuming that they all share exactly the same values. In our perspective, the purpose of index construction should be to assist individuals—e.g., as voters in elections and as bureaucrats in policy making—to think systematically about public policy, regardless of their personal value positions.

The logic of our identification of four components of well-being is that it recognizes both trends in average outcomes and in the diversity of outcomes, both now and in the future.

When an average income flow variable like GDP per capita or average personal income is used as a summative index of well-being, the analyst is implicitly stopping in the first quadrant (Figure 1). They are assuming that the experience of a representative agent can summarize the well-being of society and that the measured income flow optimally weighs consumption and savings, so that one need not explicitly distinguish between present consumption flows and the accumulation of asset stocks which will enable future consumption flows.

Figure 1: The Four Quadrants of the Index of Economic Well-being

Concept	Present	Future
"Typical Citizen"	Average Flow of Effective Current Consumption	Aggregate Accumulation of Productive Stocks
Diversity of Population	Distribution of Current Income: - Poverty and Inequality	Insecurity of Future Income

However, society is composed of diverse individuals living in an uncertain world who typically "live in the present, anticipating the future." Each individual's estimate of societal economic well-being depends on both current consumption and on the importance they assign to future consumption—i.e., the proportion of national income saved for the future. GDP is a measure

of the aggregate market income of a society. It does not reveal the savings rate, and there is little reason to believe that the national savings rate is automatically optimal. Indeed, if citizens have differing rates of time preference, any given savings rate will only be "optimal" from some persons' points of view. Hence, a better estimate of the well-being of society should enable citizens to apply their differing values and allow analysts to distinguish between current consumption and the accumulation of productive assets which determines the sustainability of current levels of consumption.

Some individuals may also be concerned about the degree to which all citizens will share in prosperity—there is a long tradition in economics that "social welfare" depends on both average incomes and the degree of inequality and poverty in the distribution of incomes. Because the future is uncertain, and complete insurance is unobtainable (either privately or through the welfare state), individuals also care about the degree to which the economic future is secure for themselves and others.

If the objective of index construction is to assist public policy discussion, one must recognize that discussion can easily be overwhelmed by complexity when too many categories have to be considered simultaneously. We, therefore, do not adopt the strategy of simply presenting a large battery of indicators. However, as reasonable people may disagree in the relative weight they would assign to each dimension (e.g. some will argue that inequality in income distribution is highly important while others will argue the opposite), the IEWB is explicit and open about the relative weights assigned to components of well-being, rather than leaving them implicit and hidden. As well, for policy purposes it is not particularly useful to know only that well-being has gone "up" or "down", without also learning which aspect of well-being has improved or deteriorated. We specify explicit weights to the components of well-being and test the sensitivity of aggregate trends to changes in those weights, in order to enable others to assess whether, based on their own personal values about what is important in economic well-being, they would agree with an overall assessment of trends in the economy.

This report's basic hypothesis—that a society's economic well-being depends on total consumption and accumulation and on the individual inequality and insecurity that surround the distribution of resources—is consistent with a variety of theoretical perspectives. We, therefore, do not present here a specific, formal model. In a series of papers (Osberg, 1985, Osberg and Sharpe, 1998, 2002, and 2005) we have already described the details of the calculation of the four components or dimensions of economic well-being:

- effective per capita consumption flows – includes consumption of marketed goods and services, government expenditures, household economies of scale, unpaid work, regrettable expenditures, and life expectancy;

- accumulation of per capita stocks of wealth – includes physical capital, natural resources, net international investment position, human capital, and environmental degradation;

- income distribution – includes the intensity of poverty (both incidence and depth) and the inequality of income;

- economic security – includes the financial risks imposed by unemployment, illness, family breakup, and poverty in old age.

The four domains each represent a cell in a quadrant where the axes are time (present and future) and the level of disaggregation, whether the typical citizen or the diversity in the population (Figure 1). Consumption flows capture the present for the typical citizen. Stocks of wealth capture the future for the typical citizen in terms of the sustainability of aggregate productive stocks. Inequality represents diversity related to inequality of income in the present. Economic insecurity is forward- or future-looking and reflects the insecurity of future income for different groups.

Each domain of economic well-being is itself an aggregation of many underlying variables, on which the existing data can be of uncertain quality. By contrast, the System of National Accounts has had many years of development effort by international agencies (particularly the UN and the IMF) and has produced an accounting system for GDP that is rigorously standardized across countries. However, using GDP per capita as a measure of "command over resources" would implicitly:

(1) assume that the aggregate share of income devoted to accumulation (including net changes in the public capital stock, human capital, research and development and the value of unpriced environmental assets) is always optimal, and

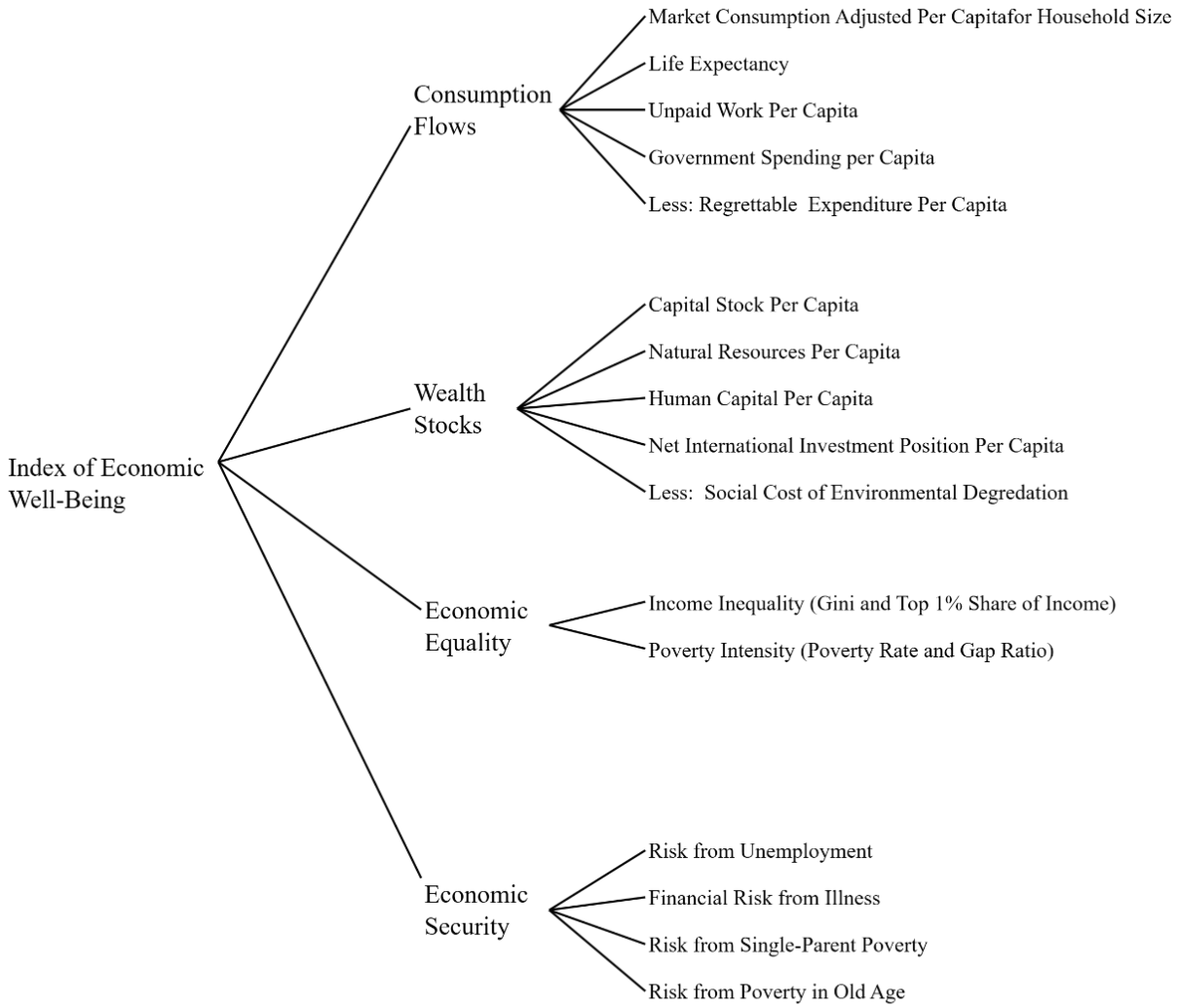
(2) set the weight of income distribution and economic insecurity to zero, by ignoring entirely their influence.

These assumptions do not seem justifiable, and they are not innocuous.

Exhibit 1 illustrates the indicators that are used in our estimates of the Index of Economic Well-being for Canada and the provinces, based on the four domains outlined above.

The next four sections will look at each domain in depth, analyzing developments in the components and subcomponents of the IEWB. We examine these variables across cyclically neutral peak-to-peak business cycles. Specifically, we look at the following periods: 1981-2000, 2000-2008, 2008-2019, and 2019-2023.

Exhibit 1: CSLS Index of Economic Well-being, Component Tree for Canada and the Provinces

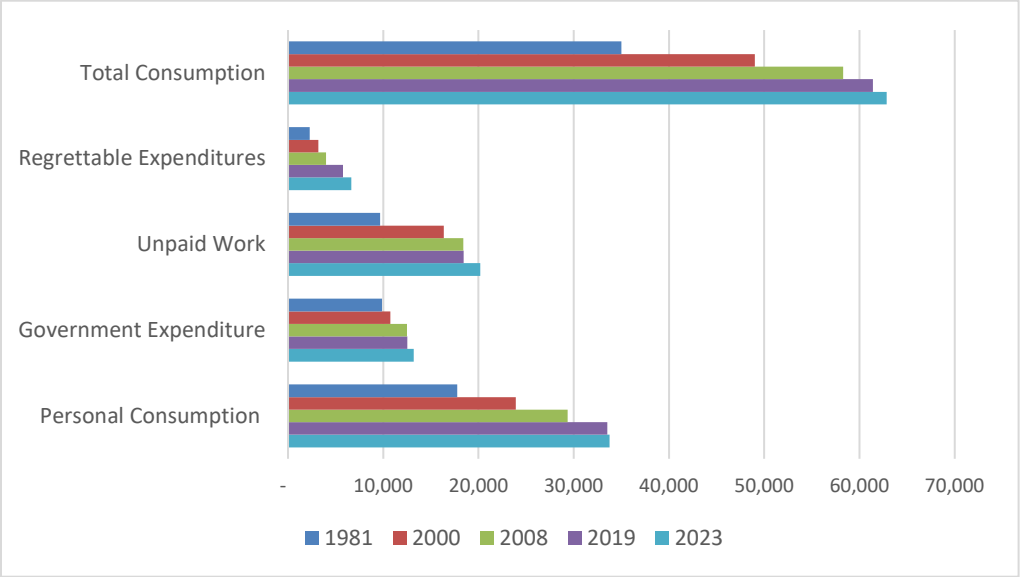


Source: CSLS

II. Trends in the Consumption Flows Domain

This section examines the various parts of the consumption flows domain. This includes three components: personal consumption, government expenditure, and unpaid work. Additionally, the consumption domain is adjusted by three factors. First, personal consumption expenditures are adjusted for family size to account for the economies of scale that exist in private household consumption. Second, regrettable expenditures — those that do not increase well-being—are subtracted from total consumption flows. Lastly, the total consumption flow is adjusted for the percentage increase in life expectancy to capture its positive impact on consumption. Chart 1 shows the value of each component before the adjustments of family size and life expectancy are applied.

Chart 1: Consumption Flow Components per Capita in Canada, Constant 2017 Dollars, Select Years Between 1981 and 2023



Source: Appendix Table 1.

The next six sub-sections will look at each of the six components and adjustments of the consumption domain. The last subsection will examine trends in total consumption flows in Canada over the 1981 to 2023 period.[4]

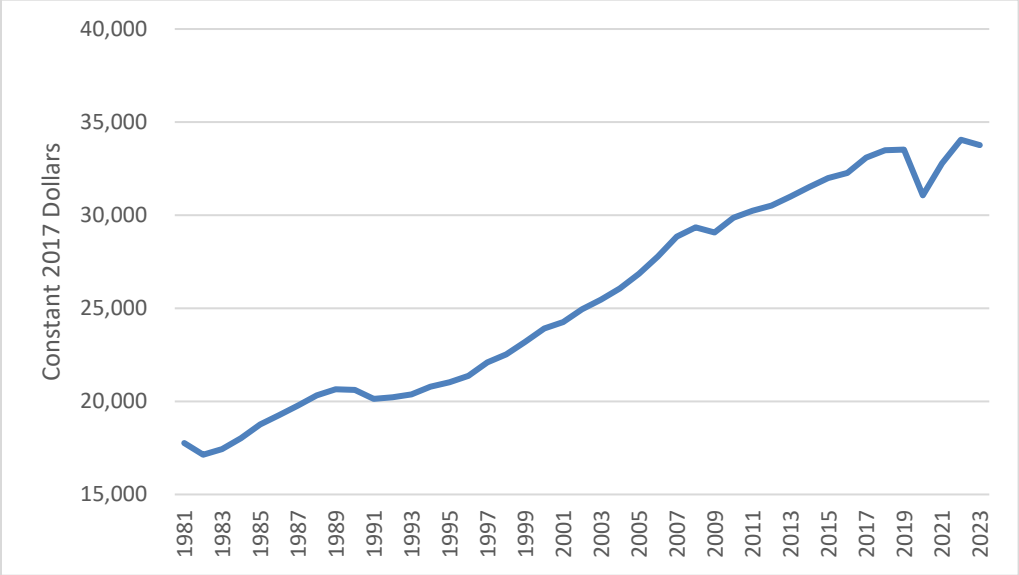
A. Personal Consumption

Personal consumption is defined as the total market value of all goods and services purchased by resident households for their own use. Between 1981 and 2023, Canada experienced a roughly 97 per cent increase in its personal consumption per capita (Chart 2). Additionally, as

[4] Note that all dollar amounts in the consumption flows domain are given in 2017 constant dollars unless otherwise stated.

illustrated in Table 1, personal consumption per capita saw growth between each cyclical peak, slowing down from a high of 2.59 per cent in 2000-2008 to a low of 0.19 per cent in 2019-2023. In 2020, consumption per capita experienced its largest one-year fall—a 7.3 per cent dip compared to the previous year. Other than that, growth was steady, only stalling slightly in 1982, 1991 and 2009. By 2022, the economy rebounded, and personal consumption once again surpassed its previous high. Since then, consumption per capita has begun to decline again, most likely due to the massive population growth seen in recent years.

Chart 2: Personal Consumption per Capita in Canada, 1981 to 2023



Source: Appendix Table a1.

Table 1: Personal Consumption CAGR in Canada, 1981 to 2023

Period	Personal Consumption per Capita
1981-2000	1.58
2000-2008	2.59
2008-2019	1.21
2019-2023	0.19
1981-2023	1.54

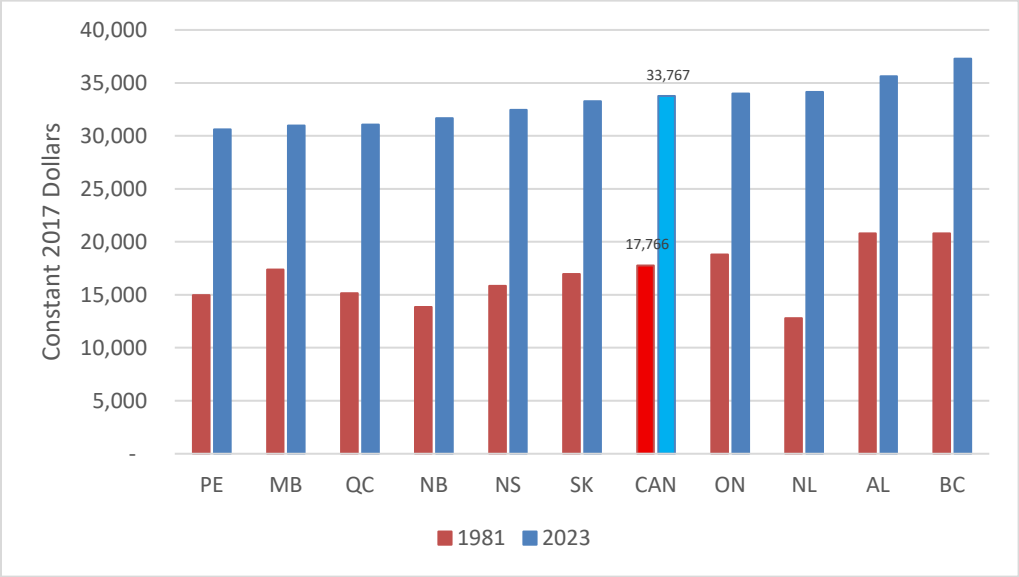
Source: Appendix Table a1.

From 1981 through 2023, every province saw a large positive increase in their personal consumption per capita (Chart 3).[5] In 2023 British Columbia and Alberta came in first and second, switching places from second and first in 1981, respectively. Prince Edward Island ranked last—down from eighth in 1981. The Maritime provinces and Quebec each saw increases over 100 per

[5] Provincial personal consumption values were computed using provincial CPIs.

cent of their 1981 value but still ranked in the bottom five both years. Newfoundland and Labrador recorded the largest change (166 per cent) and moved up from tenth in 1981 to third in 2023.

Chart 3: Personal Consumption Per Capita by Province, 1981 and 2023



Source: Appendix Table a1.

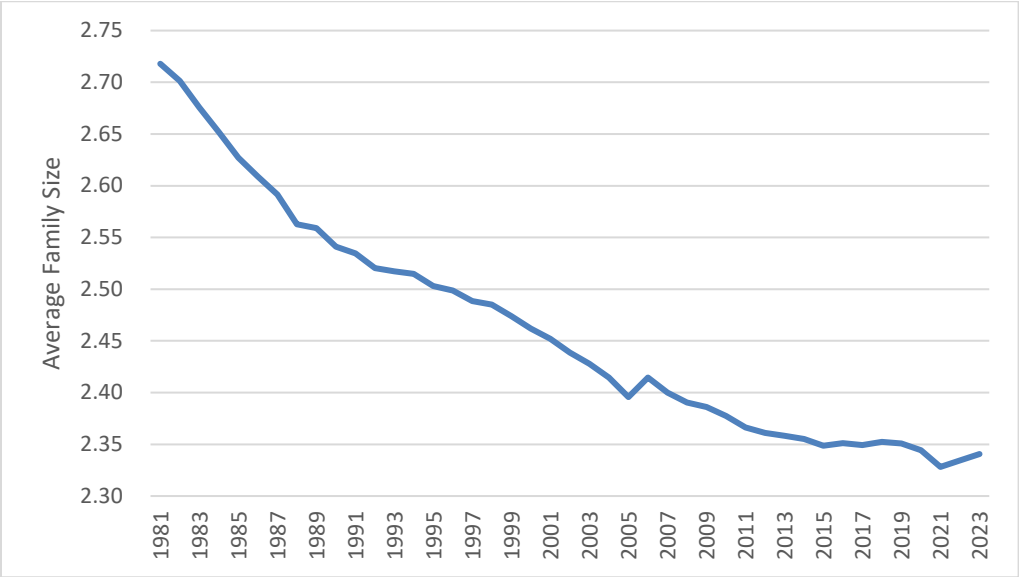
B. Family Size

As noted previously, personal consumption must be adjusted for family size to reflect the economies of scale in household consumption. People living together, as opposed to individually, can achieve greater effective consumption. This is because many goods and services can be shared or have fixed costs that do not rise in proportion to the number of people in a household.[6] To account for this issue, we use the Luxembourg Income Study equivalence scale which converts disposable incomes to an equivalized income, allowing us to directly compare standards of living across individuals regardless of household size. This works by dividing pooled household disposable income by an equivalence factor—the square root of the household size. The resulting number is said to be the equivalized disposable income enjoyed by each member of the household. So, people living together will have higher standards of living than their incomes would suggest while the disposable income of people living alone remains the same (because the square root of one is one).

[6] "Family" is categorized into two types: 'economic families', which are groups of two or more persons related by blood, marriage, common-law, or adoption and living in the same dwelling, and 'unattached individuals,' which are persons either living alone or sharing a dwelling with persons to whom they are unrelated. It should be noted that unattached individuals living together (i.e. roommates) enjoy many benefits of economies of scale in household consumption. However, as the data used in this report considers roommates as separate families, our adjustment for family size does not capture these benefits.

Between 1981 and 2023, the average family size fell. In 2023, the size of the average family in Canada was 2.34 persons, down from 2.72 persons in 1981—a decrease of roughly 14 per cent. As shown in Table 2, family size has decreased in each period, but the size of the decrease has slowed over time.

Chart 4: Average Family Size in Canada, 1981 to 2023



Source: Appendix Table a2.

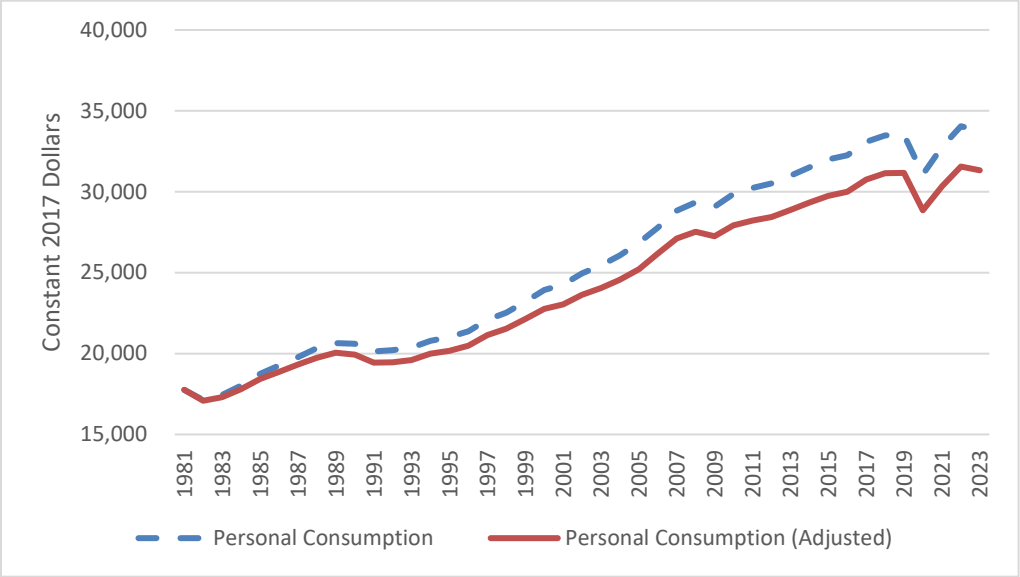
The decline across the country was likely driven by two main factors. The first being the rise in single individuals living alone. Nowadays, people are getting married older and living alone for longer before starting a family. Furthermore, Canada's population is aging, meaning that there are more widows and widowers than there were in previous years. The second factor contributing to this decline is the falling birth rate. It follows directly that if couples have fewer children, there will be fewer blood-related individuals living together. In contrast, the higher costs of living in some provinces may offset this trend by making it difficult to live alone, causing young adults remain living with their parents when they would otherwise leave. This may partially explain the recent increase in average family size observed following 2021 (Chart 4).

Table 2: Family Size CAGR in Canada, 1981 to 2023

Period	Family Size
1981-2000	-0.52
2000-2008	-0.37
2008-2019	-0.15
2019-2023	-0.11
1981-2023	-0.36

Source: Appendix Table a2.

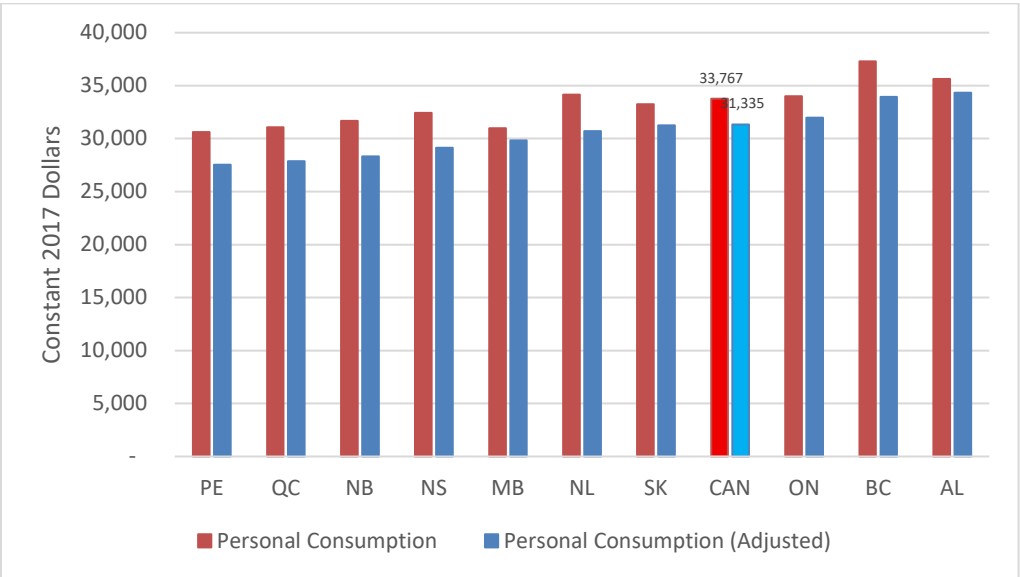
Chart 5: Personal Consumption per Capita Adjusted for Family Size in Canada, 1981 to 2023



Source: Appendix Table 1. Multiply 'personal consumption per capita' and 'index square root of family size' for adjusted personal consumption.

To adjust personal consumption flows we index the square root of Canada's family size in each year relative to the family size in 1981—our base year. We take the product of personal consumption per capita with this index to obtain our adjusted consumption per capita value. Chart 5 shows that the adjusted personal consumption line is lower than it otherwise would have been, reflecting the reality that it is more expensive to live alone. In 2023, adjusted personal consumption per capita was 7.2 per cent less than the unadjusted value because of a lower family size.

Chart 6: Personal Consumption per Capita Adjusted for Family Size by Province, 2023



Source: Appendix Table 1. Multiply 'personal consumption per capita' and 'index square root of family size' for adjusted personal consumption.

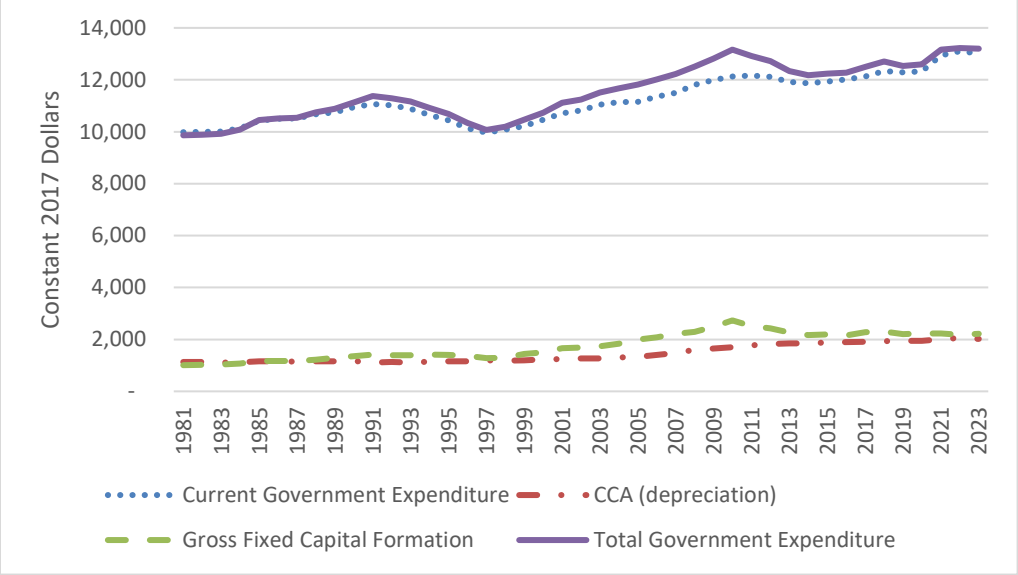
Now turning to the provinces, we see (in Chart 6) that some were disproportionately affected by this adjustment. Those which faced a large decrease in average family size were more impacted by the adjustment compared to those who maintained their family size. Equally large decreases in personal consumption per capita (about 10 per cent) were seen in the Atlantic provinces and Quebec. British Columbia fell to second place, now behind Alberta after experiencing a drop of roughly 9 per cent. The Prairie provinces and Ontario experienced much smaller drops between 3 and 6 per cent.

C. Government Expenditures

In the IEWB, per capita government expenditure covers current outlays by all levels of government. This amount includes spending on goods and services, plus spending on fixed capital formation and inventories, less capital consumption allowances (also known as depreciation). We exclude inventories because they account for less than one per cent of total government expenditure. Note that transfer payments are not included.

In 2023, government expenditures per capita in Canada were up roughly 34 per cent compared to 1981 (Chart 7). Government expenditure per capita grew fastest during the 2000-2008 period and slowest during 2008-2019. Over the entire period, every component of government expenditure saw growth (Table 3). Gross fixed capital formation per capita peaked in 2010 and has since decreased. Even so, it still exhibited the fastest average annual growth, followed by CCA and current government expenditure, respectively. Because capital formation and capital consumption were always relatively close in value, the trend of total government expenditure mostly followed that of current government expenditure.

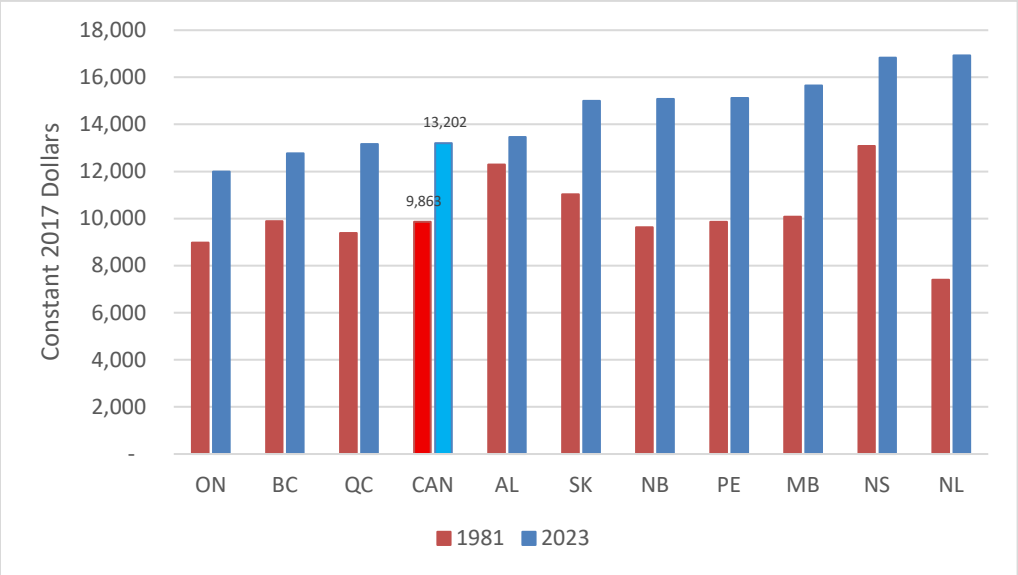
Chart 7: Government Expenditure and Its Sub-Components per Capita in Canada, 1981 to 2023



Source: Appendix Table a6.

During this timeframe, each province saw a rise in its government outlays (Chart 8). In 2023, the Atlantic provinces had relatively high levels of government expenditure per capita while Ontario, British Columbia, and Quebec had the lowest—the Prairie provinces ranked in the middle. Newfoundland and Labrador exhibited the largest change (129 per cent), moving up from tenth in 1981 to first in 2023. Nova Scotia and Alberta, which were ranked first and second in 1981, experienced the smallest increases and fell to second and sixth in 2023, respectively.

Chart 8: Government Expenditure per capita by Province, 1981 and 2023



Source: Appendix Table a6.

Table 3: Government Expenditure and Components CAGR in Canada, 2017 Constant Dollars, 1981 to 2023

Period	Current Government Expenditure per Capita	Gross Fixed Capital Formation per Capita	Capital Consumption Allowances per Capita	Total Government Expenditure per Capita
1981-2000	0.25	2.10	0.42	0.45
2000-2008	1.52	5.47	3.32	1.93
2008-2019	0.36	-0.37	1.83	0.02
2019-2023	1.44	0.13	0.90	1.30
1981-2023	0.63	1.89	1.38	0.70

Source: Appendix Table a6. Components of total government expenditure are divided by population from Table a1 before computing CAGR.

D. Unpaid Work

Statistics Canada (1995) defines unpaid work as the contribution of labour to activity that is outside the production boundary defined by the System of National Accounts. Doing this work does not receive any monetary compensation.

Statistics Canada classifies unpaid work into five major categories:

1) Domestic work, including meal preparation, cleaning, clothing care, repairs and maintenance, and other domestic work

2) Help and care for children and adults

3) Management and shopping

4) Transportation and travel

5) Volunteer work

As data are not available on the value of unpaid work for all years, we calculate the monetary value of this component based on several assumptions. First, the number of hours of unpaid work performed by working-aged persons (persons 15 years of age or older) in the years 1981, 1986, 1992 are taken from Statistics Canada (1995), and from Statistics Canada's General Social Survey (GSS) in 1998, 2005, 2010, 2015, and 2022 (Table 4).[7] We interpolate the hours worked in any given year between our collected data using the average growth rate between data points. As the limited sample size of the GSS precludes reliable estimates at the provincial level, hours of unpaid work per person per day after 1992 are assumed the same across the provinces. This number is then multiplied by the working-age population and the number of days of the year, resulting in the total hours of unpaid work.

Table 4: Hours of Daily Unpaid Work per Capita in Canada for Available Years

Year	Hours Worked
1981	3.11
1986	2.93
1992	3.15
1998	3.60
2005	3.40
2010	3.60
2015	3.10
2022	3.40

Source: Appendix Table a5-1. For years before 1998, hours of unpaid work per person per day are calculated by dividing the total hours of unpaid work by the working age population (15+) and by 365.

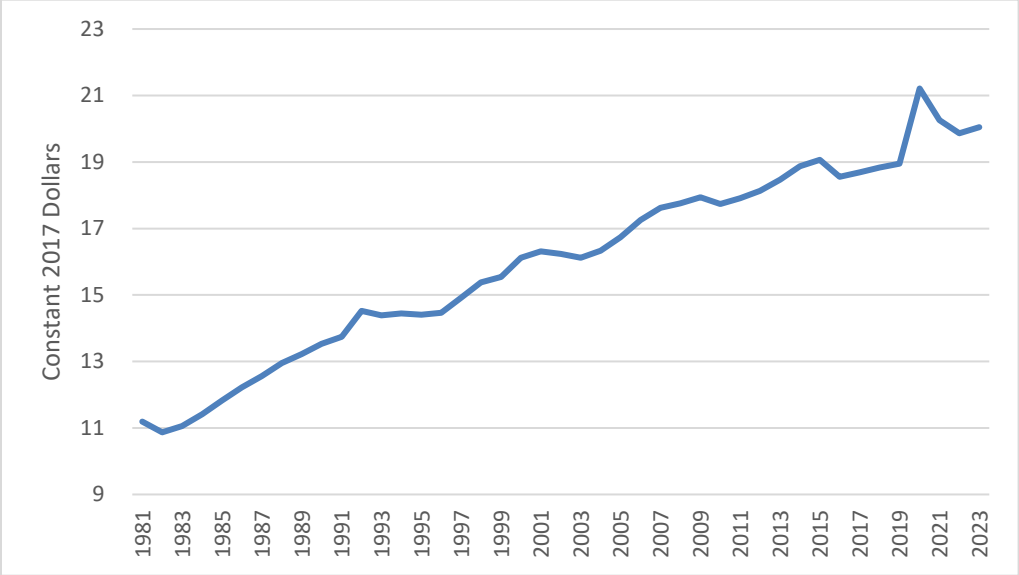
To estimate the value of unpaid work, we use the total nominal value of unpaid work from Statistics Canada (1995) for the years 1981, 1986, and 1992, which values unpaid work at a generalist replacement wage. To calculate the values of unpaid work after 1992, we took the generalist replacement wage, converted it to constant 2017 dollars using the CPI, and extrapolated its growth using the growth in hourly labour compensation. [8] We then multiplied the hours of unpaid work by this wage to obtain the total value of unpaid work each year.

[7] Values taken from the GSS only count time spent towards categories one, two, three, and five.

[8] Hourly wages for years after 1992 were calculated with data from Statistics Canada by using a business sector nominal wage index. We stripped the index of inflation using the CPI, calculated annual growth rates, and used them to extrapolate the real wage of unpaid work.

The real unpaid wage rate in 2023 grew by 79 per cent—from $11.20 in 1981 to $20.52 in 2023 (Chart 9). Although wages exhibited an upwards trend throughout this period, there was some stagnation beginning in the years 1992, 2001, 2009, 2015, and 2020. One must be careful not to assume that an increase in the average real wage reflects a real increase in value for all types of labour. For example, the spike in 2020 occurred partly due to a change in the composition of labour. During the pandemic, lower wage workers lost their jobs disproportionately which led to an increase in average hourly compensation.

Chart 9: Unpaid Work Wage Rate in Canada, 1981 to 2023



Source: Appendix Table a5-1.

Table 5: Value of Unpaid Work and Components CAGR for Canada, Constant 2017 Dollars, 1981 to 2023

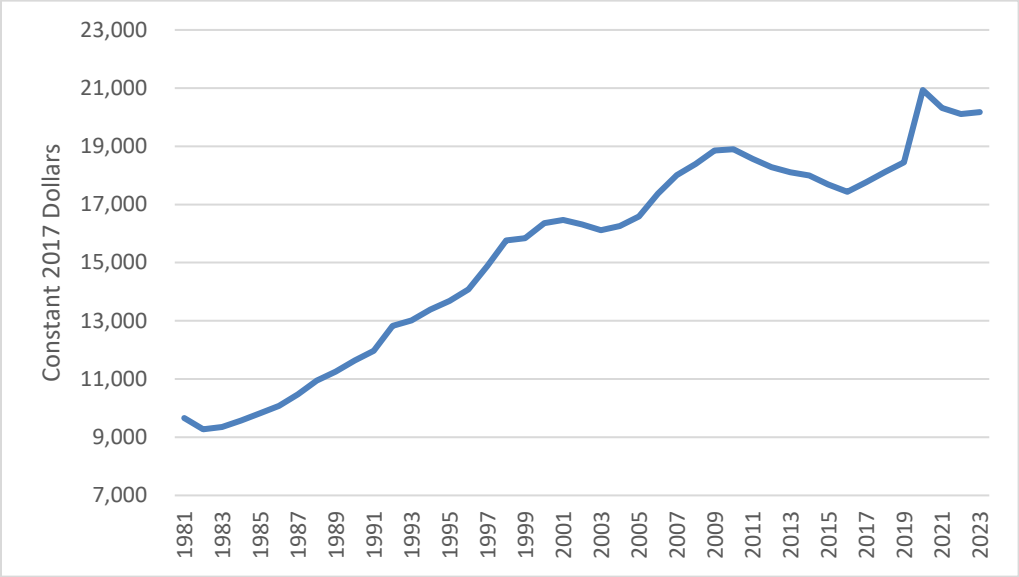
Period	Average Hours of Unpaid Work	Working Age Population 15+	Total Hours of Unpaid Work	Unpaid Work Wage Rate	Total Population	Value of Unpaid Work per Capita
1981-2000	0.68	1.31	2.00	1.94	1.12	2.81
2000-2008	-0.08	1.35	1.27	1.22	1.01	1.48
2008-2019	-0.67	1.23	0.56	0.59	1.13	0.02
2019-2023	0.99	1.44	2.45	1.41	1.60	2.26
1981-2023	0.21	1.31	1.52	1.40	1.15	1.77

Source: Appendix Table a5-1.

In 2023, Canada's value of unpaid work per capita was 109 per cent higher than its value in 1981 (Chart 10). Since the number of hours of unpaid work per person per day has not shown major changes, the long-term increase in the value of unpaid work arose primarily from increases in the unpaid-work wage rate. As seen in Table 5, the value of unpaid work grew fastest in 1981-2000 due to both large increases in the wage rate and hours of unpaid work. In contrast, the 2008-

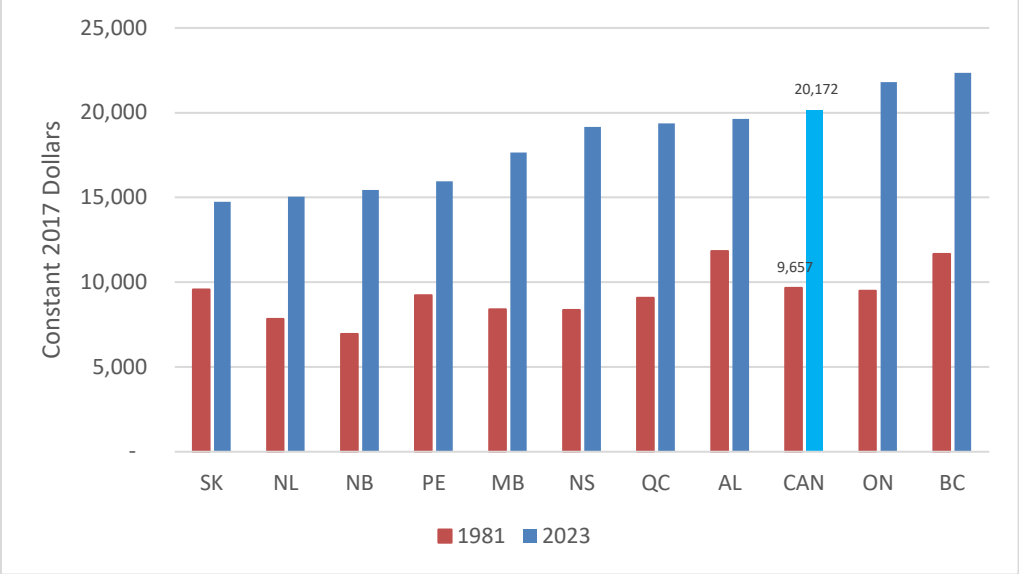
2019 period observed stagnation. The drop in hours of unpaid work following 2010 (Table 4), combined with slow growth in the wage rate, was to blame.

Chart 10: Value of Unpaid Work per Capita in Canada, 1981 to 2023



Source: Appendix Table a5-1.

Chart 11: Value of Unpaid Work per capita by Province, 1981 and 2023



Source: Appendix Table a5.

The provinces, seen in Chart 11, experienced a similar trend as each of them saw increases in their unpaid work per capita. British Columbia ranked first, up from second in 1981. Ontario experienced the largest increase in its value of unpaid work (129 per cent) moving from fourth in

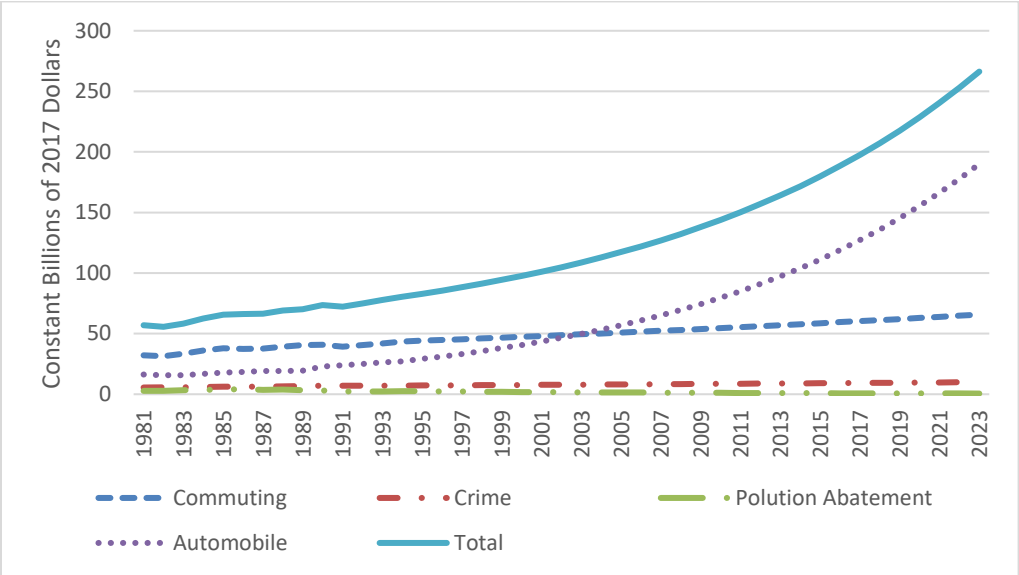
1981 to second in 2023. Saskatchewan experienced the smallest change (54 per cent) and fell to last place, down from fourth in 1981.

E. Regrettable Expenditures

The Genuine Progress Indicator (2006) defines regrettable expenditures as necessary costs that offset past negative economic externalities or prevent future negative outcomes. As people would be better off if such expenditures were not necessary, these expenditures represent a reduction in well-being. The IEWB counts regrettable expenditures such as the cost of commuting (including travelling and time costs), crime (such as security measures and repairing damaged property), household pollution abatement (including expenses on devices to improve air and water quality in the home), and automobile accidents (including repair, medical, and legal costs). As the sum of these costs does not contribute to or may actively detract from well-being, regrettable expenditures are subtracted from total consumption flows.

Between 1981 and 1994, Statistics Canada used the GPI methodology to develop experimental estimates of regrettable expenditures in Canada. After 1994 the IEWB uses the average annual growth rate during this period to estimate regrettable expenditure. Between 1981 and 1994 the real average annual growth rate of automobile accidents was the highest of the regrettable expenditure components, at 4.03 per cent. During this same period, the cost of commuting, crime, and household pollution abatement increased at average annual rates of 2.35, 1.95, and 0.57 per cent, respectively.[9]

Chart 12: Cost Components of Regrettable Expenditures in Canada, 1981 to 2023

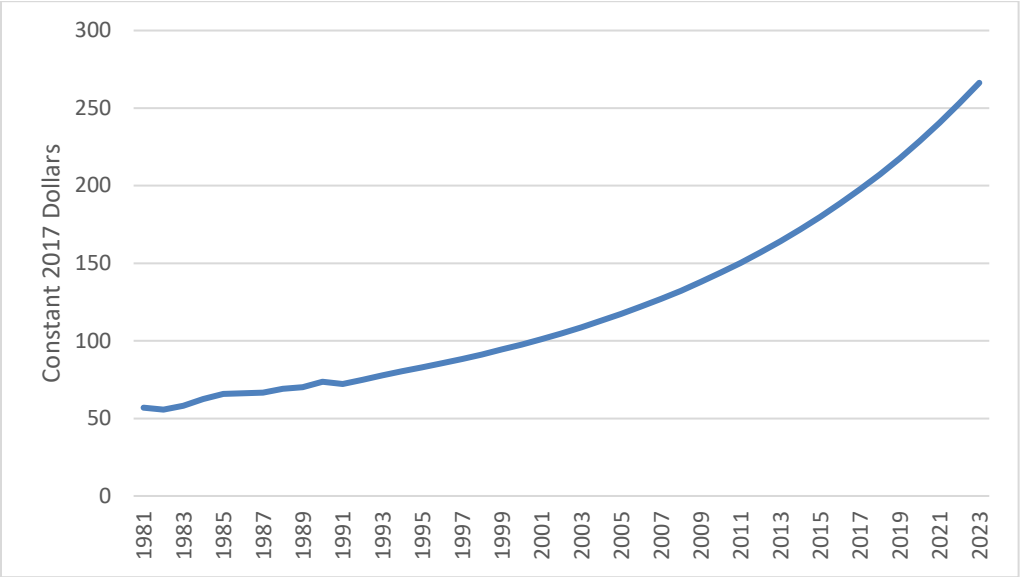


Source: Appendix Table a4. Components are converted to 2017 constant dollars using CPI from Table a0.

[9] We note that the use of the 1981-1994 growth rate to extrapolate the cost of commuting is particularly problematic. Following 2019, the prevalence of remote and hybrid work increased dramatically, lowering the cost of commuting.

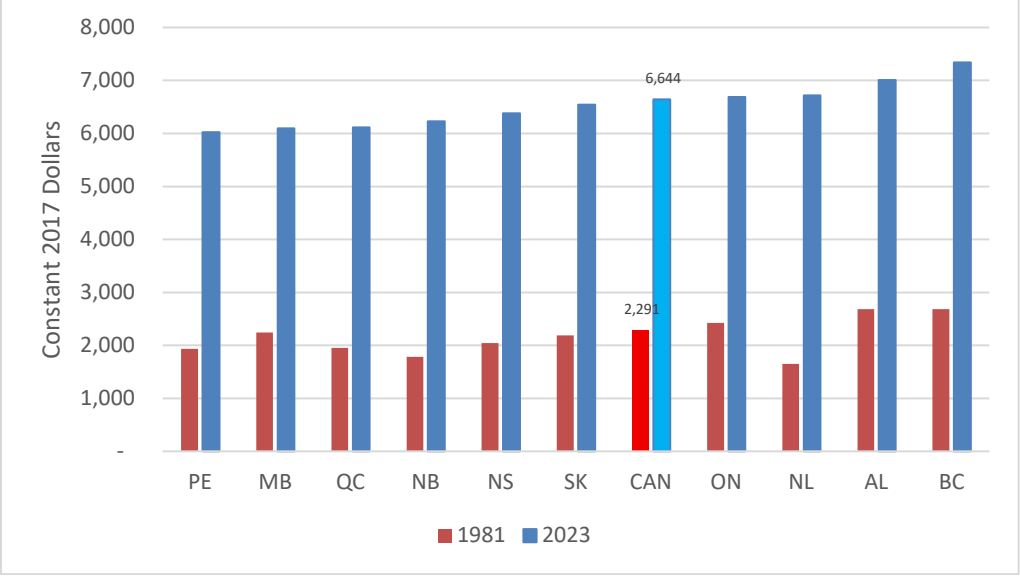
In 1981, the highest value of any regrettable expenditure was the cost of commuting, at 56.6 per cent of total regrettable expenditures. The relative costs of automobile accidents, crime, and pollution abatement were 28.7, 9.8, and 4.9 per cent, respectively. Over time, the importance of automobile accidents increased, while the importance of all other factors decreased (Chart 12). In 2023, regrettable expenditure broke down as follows: automobile accidents (71.4 per cent), commuting (24.6 per cent), crime (3.7 per cent), and pollution abatement (0.2 per cent). It is important to keep in mind that post 1994 values are based on extrapolation.

Chart 13: Regrettable Expenditures per Capita in Canada, 1981-2023



Source: Appendix Table a4.

Chart 14: Regrettable Expenditures per Capita by Province, 1981 & 2023



Source: Appendix Table a4.

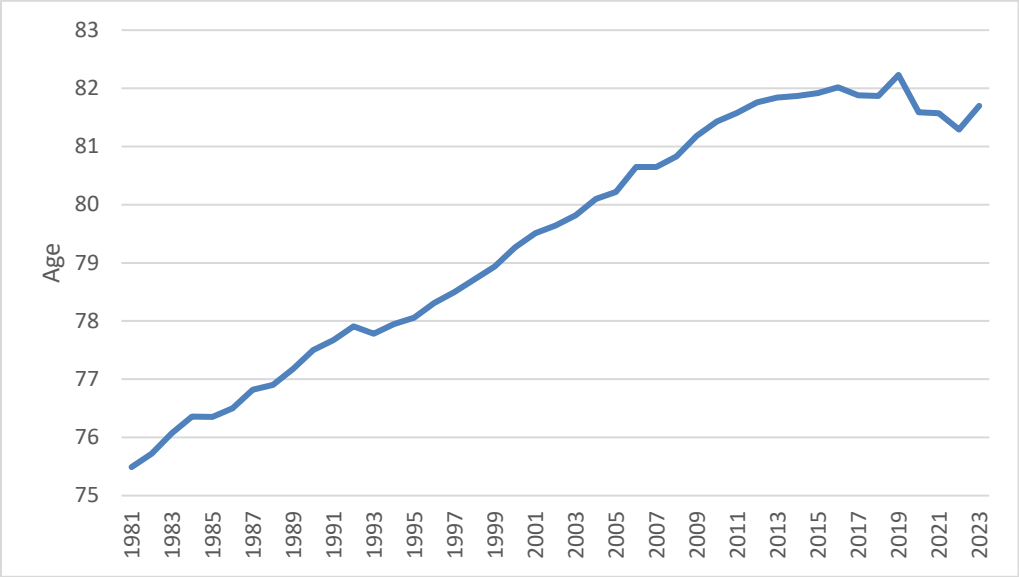
The data between 1981 and 1994 is only available for Canada, not the provinces. To calculate the provincial regrettable expenditures, two values are used: provincial household expenditure per capita and national regrettable expenditure as a fraction of national household expenditure. To calculate the second value, national household expenditure is divided by national regrettable expenditure for the year. The first value is then multiplied by the second to achieve the provincial regrettable expenditures. No further analysis is conducted as the values do not closely reflect real world trends. The values seen in Charts 13 and 14 are provided as reference for the values used in the IEWB.

F. Life Expectancy

Life expectancy is the final adjustment to consumption. The IEWB builds an index of life expectancy and uses it to adjust the value achieved by summing the rest of the consumption components. When adjusted, total consumption should change in the same direction as life expectancy.

In 2023, Canada had a life expectancy of 81.7 years, up from 75.4 in 1981. The long-term trend indicates that life expectancy increased, but at a decreasing rate, from 1981 up until 2019 where it peaked at an expected age of 82.2 years (Chart 15). Table 6 shows that life expectancy has even decreased in recent years, with Canada showing an average annual decline of 0.16 per cent from 2019 to 2023.

Chart 15: Life Expectancy in Canada, 1981 to 2023

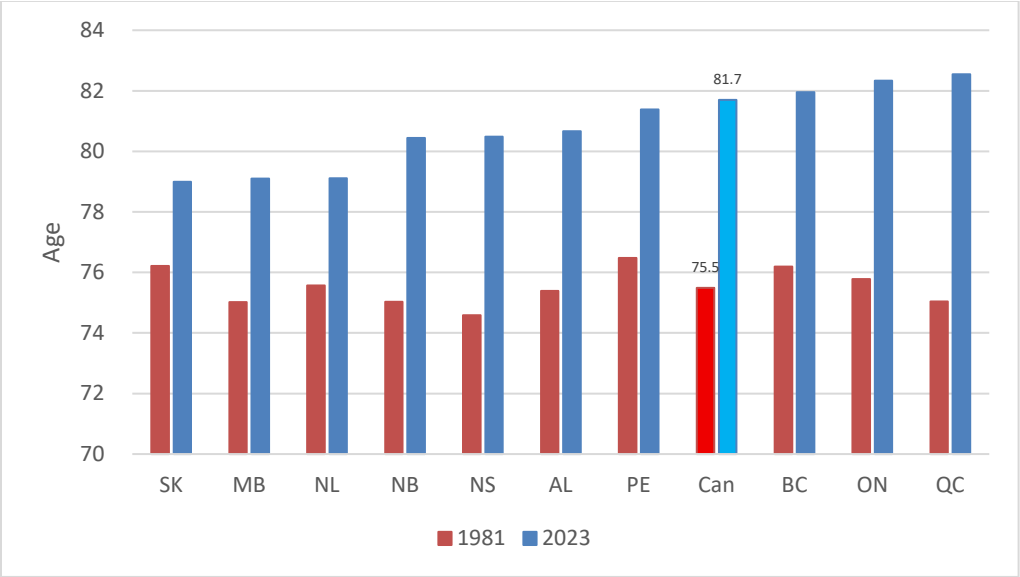


Source: Appendix Table a3.

Between 1981 and 2023, every province, especially those in Central Canada, saw an increase in their life expectancy (Chart 16). Quebec and Ontario saw respective increases of 6.6 and 7.5 years, going from fourth and seventh in 1981 to first and second with average life

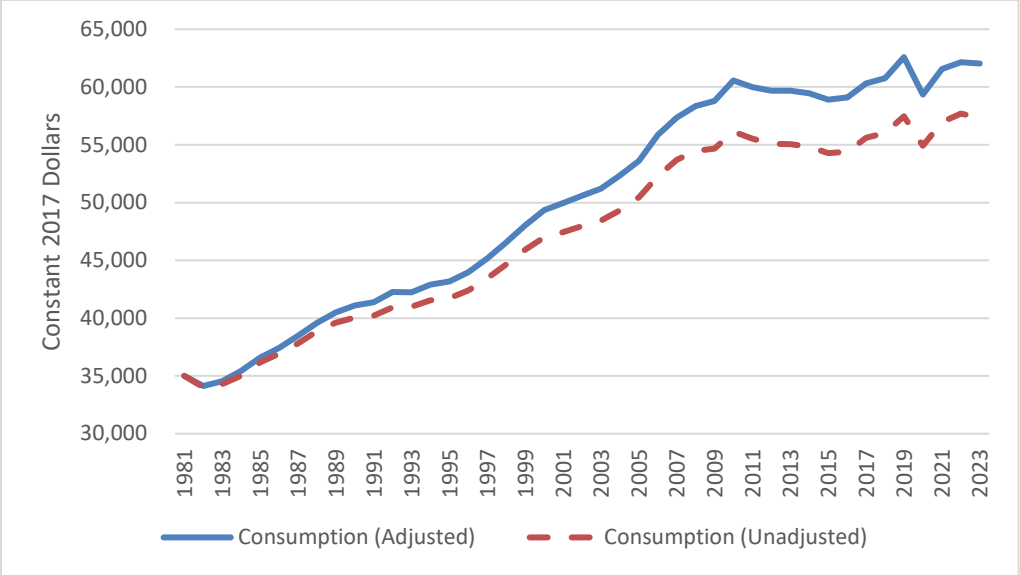
expectancies of 82.3 and 83.6, respectively. In 2023, Saskatchewan ranked last with an average life expectancy of 78.9, falling from second in 1981. This was because it had the smallest increase of all the provinces (only 2.8 years).

Chart 16: Life Expectancy by Province, 1981 and 2023



Source: Appendix Table a3.

Chart 17: Total Consumption Flows Per capita Adjusted for Life Expectancy in Canada, 1981 to 2023



Source: Appendix Table 1. Total consumption flows per capita are compared before and after multiplying by the index of life expectancy.

Life expectancy is indexed by dividing the life expectancy in the current year by the life expectancy in Canada in 1981. This index is then multiplied by the combined (after adjustment) components of consumption. If Canada's increasing life expectancy was not considered, total

consumption flows (as calculated in the next subsection) would have been 7.6 per cent lower in 2023 (Chart 17).

Table 6: Life Expectancy CAGR for Canada, 1981 to 2023

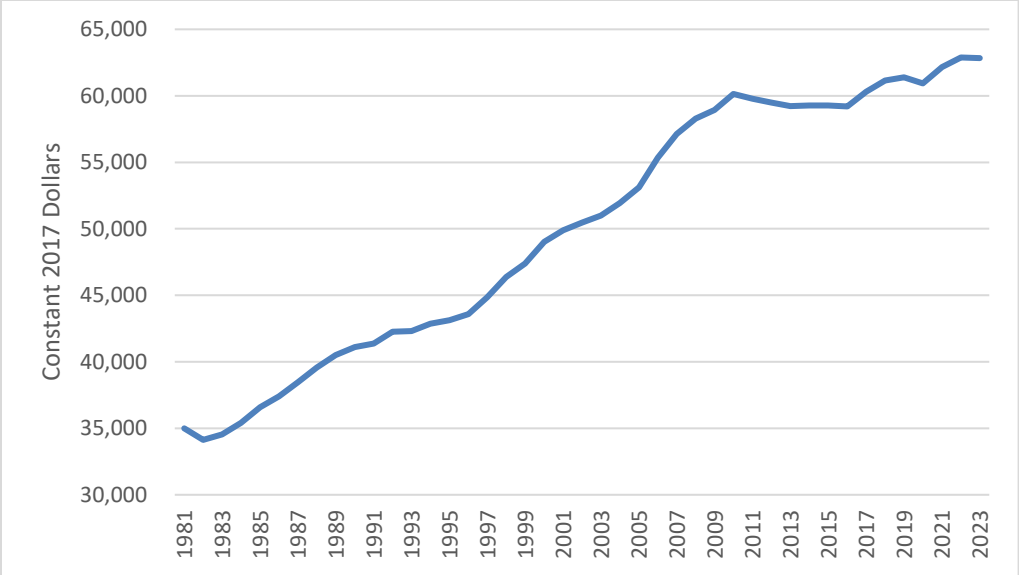
Period	Life Expectancy
1981-2000	0.26
2000-2008	0.24
2008-2019	0.16
2019-2023	-0.16
1981-2023	0.19

Source: Appendix Table a3.

G. Total Consumption Flows

To calculate total per-capita consumption, we first sum family-size-adjusted personal consumption, government expenditures on goods and services, and unpaid work. Next, we subtract regrettable expenditures. Finally, we adjust the result for the increase in life expectancy using the index of life expectancy.

Chart 18: Total per Capita Consumption, 1981 to 2023



Source: Appendix Table 1.

Total consumption flows increased by roughly 82 per cent between 1981 and 2023. Increases in personal consumption, government expenditures, unpaid work, and life expectancy were responsible for the growth seen in this domain. Meanwhile, growth in regrettable expenditure and smaller family sizes hindered growth. Total consumption flows per capita grew steadily until around 2010, after which growth slowed down substantially (Table 7). This stagnation could be

attributed to low growth in government expenditure, unpaid work, and life expectancy; decreases in average family size; and large increases in regrettable expenditure.

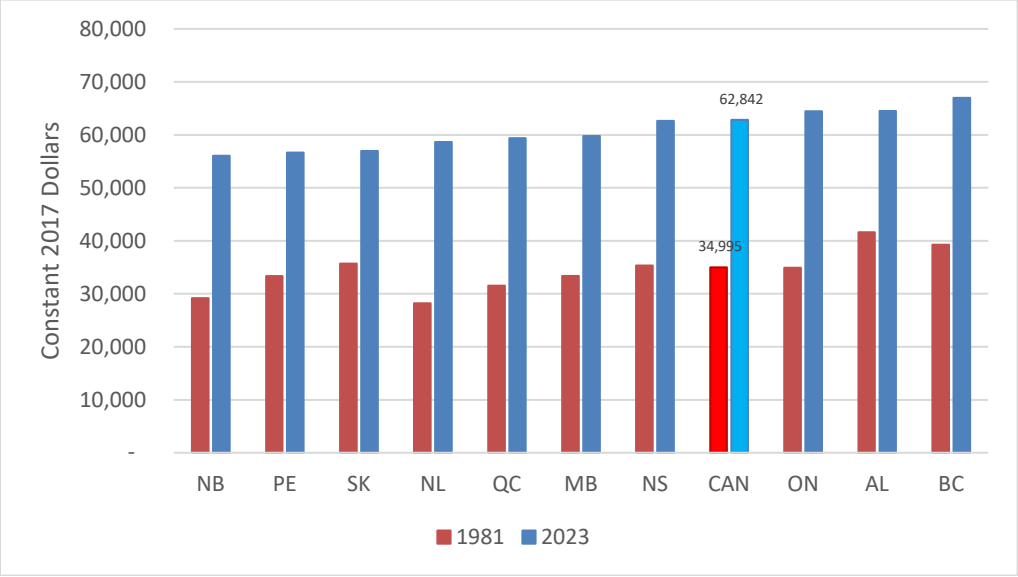
Table 7: Consumption and Components in Canada CAGR, 2017 Constant Dollars, 1981 to 2023

Period	Total Consumption per Capita	Personal Consumption per Capita	Government Expenditure per Capita	Unpaid Work per Capita	Regrettable Expenditure per Capita	Family Size	Life Expectancy
1981-2000	1.79	1.58	0.45	2.81	1.75	-0.52	0.26
2000-2008	2.19	2.59	1.93	1.48	2.83	-0.37	0.24
2008-2019	0.47	1.21	0.02	0.02	3.46	-0.15	0.16
2019-2023	0.58	0.19	1.30	2.26	3.51	-0.11	-0.16
1981-2023	1.40	1.54	0.70	1.77	2.57	-0.36	0.19

Source: Appendix Table 1.

Every province saw an increase in their consumption flow compared to 1981. In 2023, British Columbia led the rankings after overtaking Alberta, which had held first place in 1981. Alberta experienced a relative improvement of 55 per cent, the smallest of any province, causing it to fall to second place in 2023. Newfoundland and Labrador saw the largest gain (roughly 108 per cent), which lifted it from last place in 1981 to seventh in 2023.

Chart 19: Total Consumption Flows per Capita by Province, 1981 and 2023

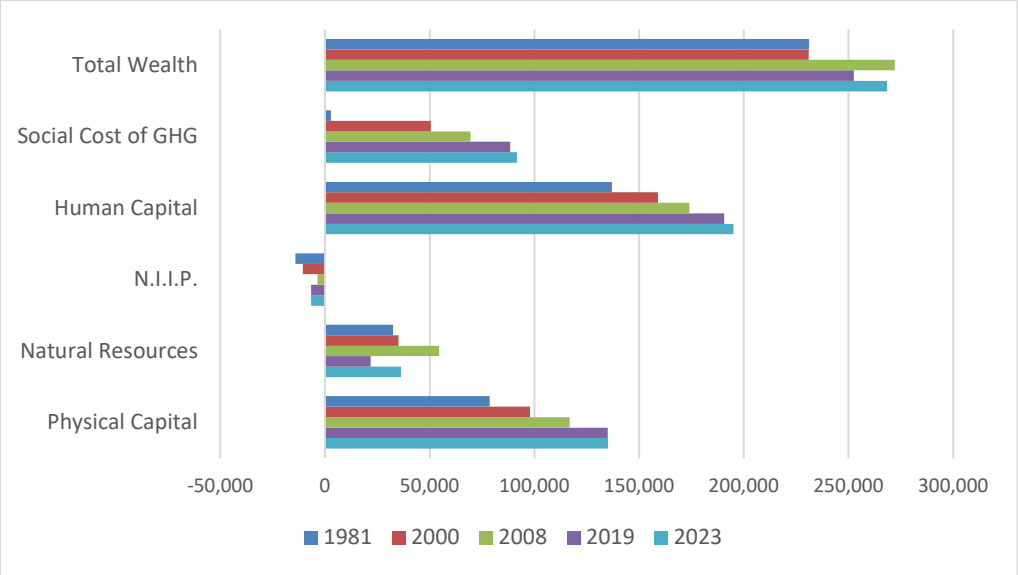


Source: Appendix Table 1

III. Trends in the Stock of Wealth Domain

Society's stocks of wealth, both human-made and natural, determine the sustainability of its current level of consumption. For this reason, the wealth domain could also be referred to as the sustainability domain. This section examines the following four main components: physical capital, natural resources, net international position, and human capital. Additionally, the sum of the four components is adjusted to account for the social costs of environmental degradation by subtracting the estimated cost of greenhouse gas emissions from the total stock of wealth. Chart 20 shows the component values used in the construction of the stocks of wealth index.

Chart 20: Stocks of Wealth Components per Capita in Canada, Constant 2017 Dollars, Select Years Between 1981 and 2023



Source: Appendix Table 2.

The next five-sections will look at each component of the wealth domain with the sixth examining trends in Canada's total wealth.[10]

A. Physical Capital

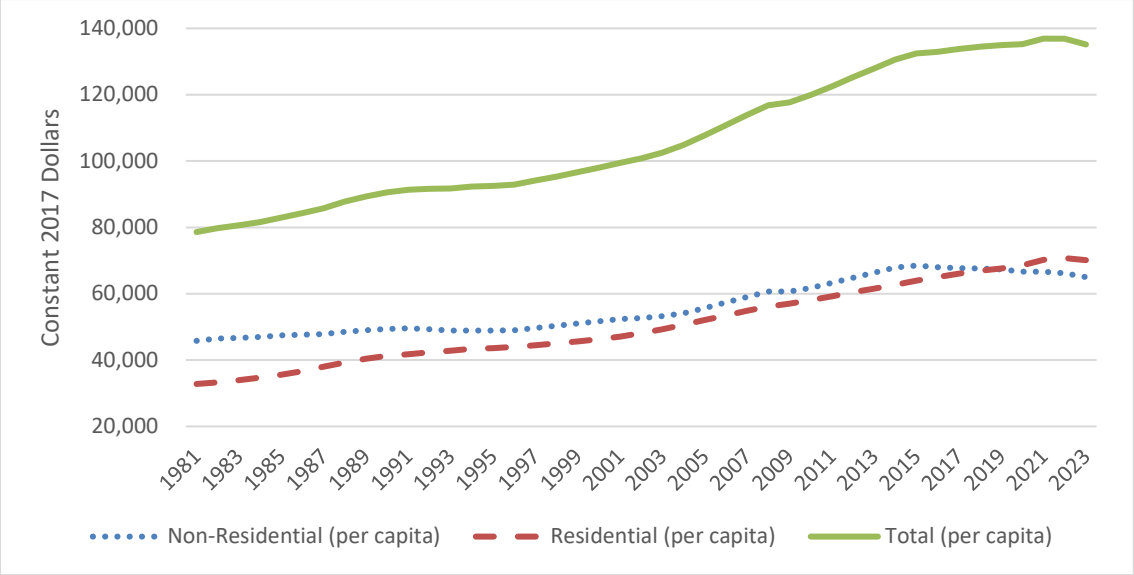
The IEWB defines net capital stock (physical capital) as residential and non-residential capital stock in both business and government based on geometric depreciation. The residential capital stock includes new construction, renovations, and ownership transfers. The non-residential capital stock includes non-residential buildings, engineering construction, machinery/equipment and intellectual property products. Whereas in previous versions of the IEWB research and

[10] Note that all dollar amounts in the stocks of wealth domain are in 2017 constant dollars unless otherwise stated.

development had been its own component, it is now counted in non-residential capital under intellectual property products (IPP).[11]

From 1981 until about 2021, physical stock per capita in Canada steadily increased. Its growth slowed down after 2015 and even began declined in 2022 and 2023 (Chart 21). Over this period and between each cyclical peak, residential stock per capita grew much faster than non-residential stock. For each period in Table 8, the residential stock per capita had higher growth and less variation compared to the non-residential stock per capita. Non-residential stock experienced a boom in the 2000-2008 period but quickly decreased back to its prior rate of change in the 2008-2019 period. From 2019 to 2023, non-residential stock per capita decreased, partly from the large increase in population but also due to low levels of investment. This indicates that the business cycle is a larger factor in investment decisions regarding non-residential capital compared to residential capital.

Chart 21: Net Capital Stock per Capita and Components, 1981 to 2023

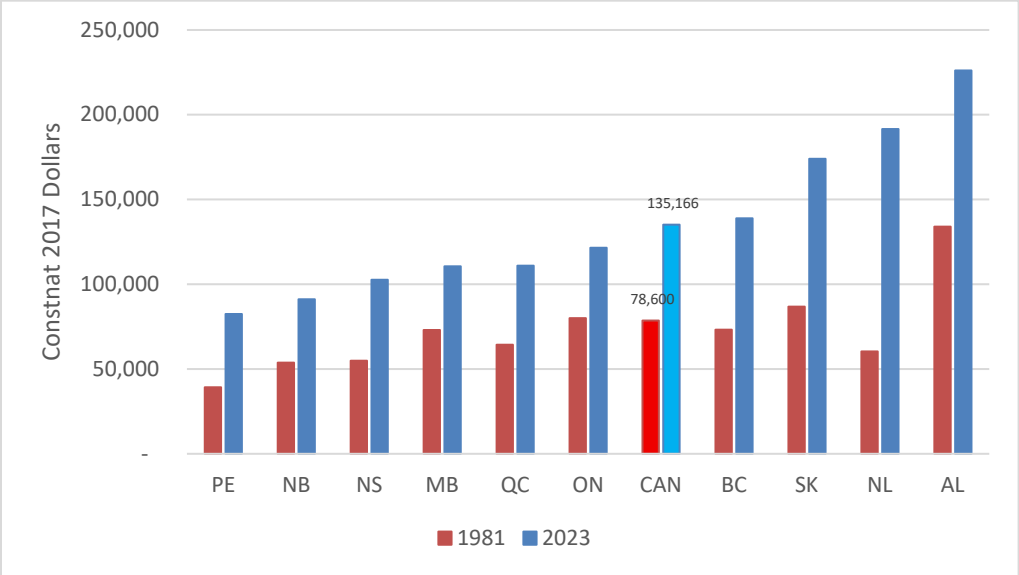


Source: Appendix Table a7.

In both 1981 and 2023, Alberta ranked first in physical capital per capita, exhibiting a relative improvement of 69 per cent (Chart 22). Newfoundland and Labrador had the largest relative change in physical capital by a wide margin, increasing its stock by 217 per cent. This moved it up the ranks from seventh in 1981 to second in 2023. In contrast, the neighboring maritime provinces ranked bottom three in both years.

[11] Statistics Canada defines IPP as the combined stocks of mineral exploration, research and development, and software. The present stock of IPP is computed using the perpetual inventory method.

Chart 22: Total Physical Capital per Capita by Province, 1981 and 2023



Source: Appendix Table a7.

Table 8: Physical Capital and Components CAGR in Canada, Constant 2017 Dollars, 1981 to 2023

Years	Non-Residential per Capita	Residential per Capita	Total Capital per Capita
1981-2000	0.64	1.83	1.17
2000-2008	2.02	2.44	2.22
2008-2019	0.96	1.71	1.33
2019-2023	-0.89	0.92	0.03
1981-2023	0.84	1.83	1.30

Source: Appendix Table a7. Capital components are first divided by population from Table a1 before computing CAGR.

B. Natural Resources

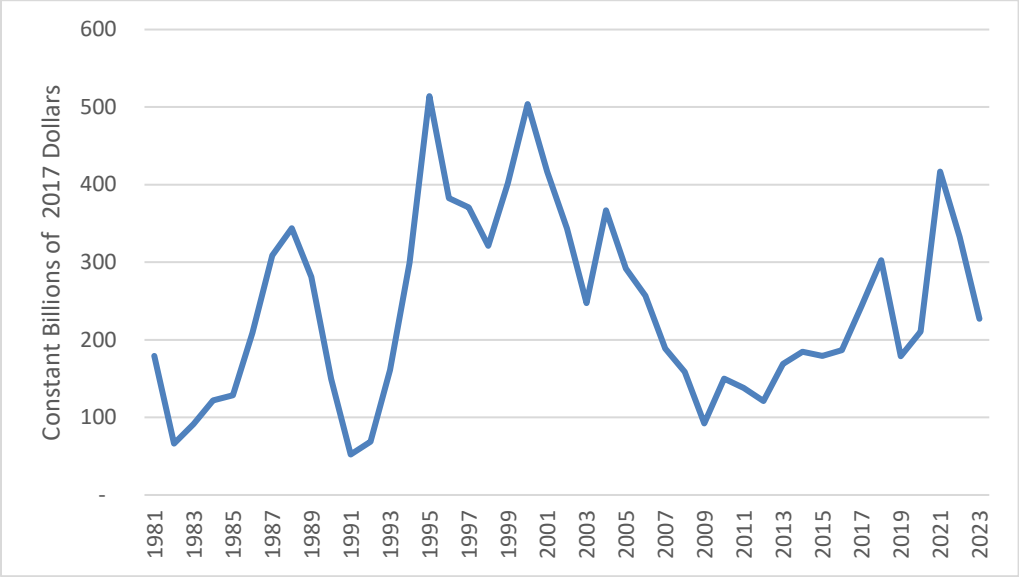
Statistics Canada provides estimates of the current value of different natural resources, including the value of mineral, energy, and timber stocks. The IEWB uses these estimates to calculate the value of natural resources by adding these three stocks together. It is important to note that these statistics are not a complete representation of natural resource value across Canada. Many resources are not included in Statistics Canada's estimates, like land, fish, and hydroelectricity. Other natural resources are difficult to put a monetary value on, like the sun and the wind. Additionally, there are several missing values in the provincial resource valuation data, although, the national-level data is complete from 1990-2023.[12]

[12] For example, we extrapolate the provincial present value of timber stocks after 1997 using the growth rate in the national timber stock as Statistics Canada does not provide these values. There are also significant data missing for provincial energy resources and even for national energy resources before 1990. Finally, there is no data on provincial mineral resources, so we use each province's share in mining (except oil and gas) output and apply it to national amounts to calculate provincial estimates.

Statistics Canada values natural resource asset stocks at their estimated market value. This estimated market value is based on the stock's economic rent. The rent is the difference between the expected revenue collected from a resource and the expected cost of extraction plus the normal return to capital. The total value is calculated using the present value of the future rents that the stock is expected to generate, discounted using the average of past government of Canada bond yields (Statistics Canada, 2022b). Because the revenue collected from the resource each year is the product of the quantity sold and price in the current year, annual changes in the price of the resource can have a large impact on the estimated present value.

The volatility of these statistics results predominantly from changes in the current prices of natural resources. However, the overall value of natural resources is also somewhat endogenous as it is also affected by the quantity of proven and probable reserves in two separate ways. First, when commodity prices rise, firms ramp up their exploration efforts to find new deposits. Additionally, known lower-grade deposits become economically viable and are reclassified as proven and probable.

Chart 23: Valuation of Timber Stocks in Canada, 1981 to 2023

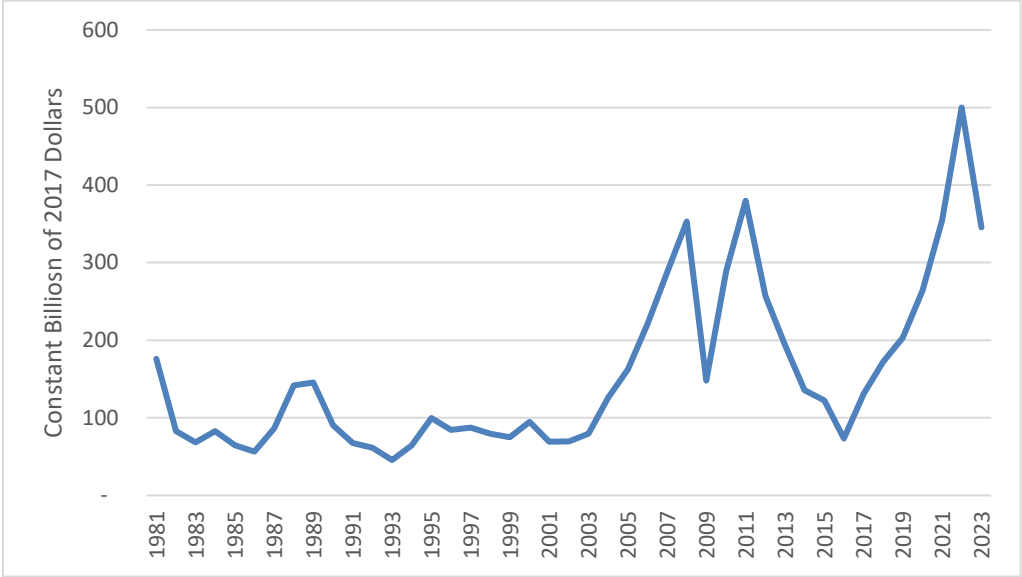


Source: Appendix Table a10.

We deflate the nominal value of resources provided by Statistics Canada using the GDP deflator to obtain the value of natural resources in terms of its real purchasing power. In 2023, Canada's timber stocks were valued at $227 billion, representing a 27 per cent increase compared to 1981 (Chart 23). The valuation of timber has been highly volatile, dipping to a low of $52 billion in 1991 and surging to a peak of $514 billion in 1995. Timber prices seem to be highly influenced by the business cycle, with prices dropping to relative lows in years when the Canadian economy was in recession. The price increase in 1988 and 1995 may be explained by the implementation of

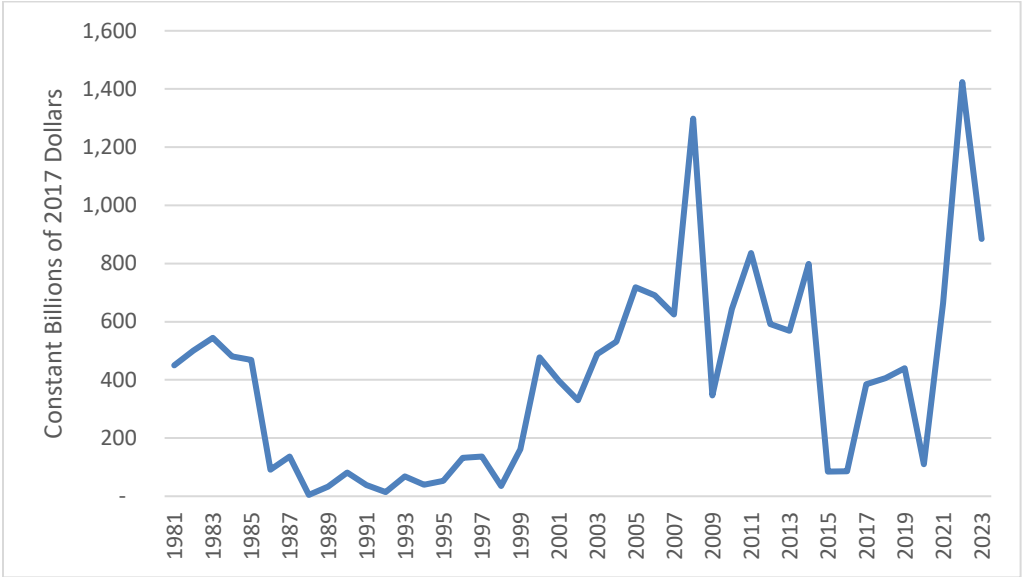
two important agreements, namely the Softwood Lumber Agreement (1986) and NAFTA (1994). Moreover, the surges in 2000 and 2021 may be partially explained by housing booms.

Chart 24: Valuation of Mineral Resources in Canada, 1981 to 2023



Source: Appendix Table a12.

Chart 25: Valuation of Energy Resources in Canada, 1981 to 2023



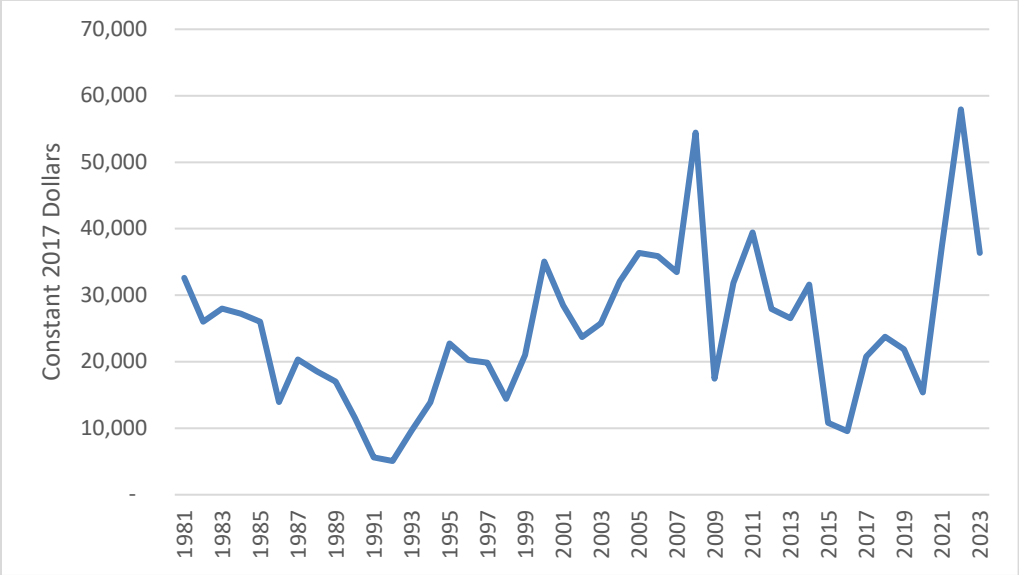
Source: Appendix Table a11.

In 2023, Canada's mineral and energy resources were $346 billion and $885 billion respectively, coming down from peaks of $500 billion and $1.4 trillion the year prior (Charts 24 and 25). Both resource categories showed increases of around 97 per cent and exhibited similar trends throughout this period. The peaks seen in 2022 for both mineral and energy resources

occurred in response to the Russia-Ukraine conflict which shocked global energy supply chains. This caused the price of energy resources in the global markets, and thus Canada, to increase.

Between 1981 and 2023, Canada's total natural resources per capita grew by roughly 11 per cent (Chart 26). Its important to note that due to its volatility, the growth rates measuring the valuation of the natural resources do not necessarily represent an underlying trend. However, total natural resources per capita saw large increases in 2000-2008 and especially in 2019-2023 (Table 9). Growth in mineral and energy resources contributed largely in both periods; meanwhile, the timber valuation contracted significantly during the former period and grew modestly during the latter. Total natural resources per capita saw its largest fall between 2008 and 2019, predominantly due to a fall in the valuation of energy resources.

Chart 26: Valuation of Natural Resources per Capita in Canada, 1981 to 2023



Source: Appendix Table a13.

Table 9: Total Natural Resources Valuation and Components CAGR in Canada, Constant 2017 Dollars, 1981 to 2023

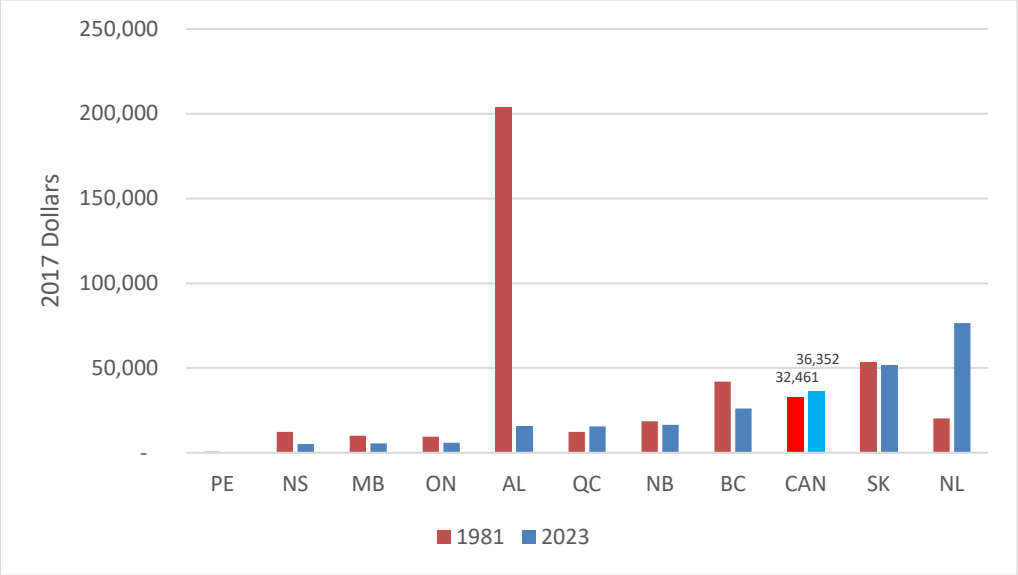
Period	Timber Resources per Capita	Mineral Resources per Capita	Energy Resources per Capita	Total Resources per Capita
1981-2000	4.41	-4.28	-0.81	0.41
2000-2008	-14.31	16.68	12.20	5.66
2008-2019	-0.03	-5.95	-10.38	-7.96
2019-2023	4.46	12.36	17.19	13.55
1981-2023	-0.58	0.46	0.47	0.27

Source: Appendix Tables a10 to a13. Components of total natural resources are divided by the population in Table a1 before computing CAGR.

Even though eight out of ten provinces measured a decrease in their natural resource valuation per capita between 1981 and 2023, Canada still reported an increase (Chart 27). This is

because Statistics Canada natural resource estimates for the provinces are incomplete. In 2023 Newfoundland and Labrador ranked first in natural resources per capita, showing an exceptional increase of 279 per cent compared to its 1981 valuation. Prince Edward Island ranked last (due to having no timber resources and lack of data in other areas). The largest decrease over this period, by far, occurred in Alberta, whose natural resource value dropped by 92 per cent. The main cause for this was the decline in Alberta's aggregate value of crude oil and natural gas reserves which were valued at $457 billion in 1981 but fell to $56 billion in 2023. Difficult to extract resources, in conjunction with lower energy prices and heightened regulatory fees, may have pushed resource extraction costs above economic rents, decreasing Albertas economically viable natural resource reserves and valuation substantially.

Chart 27: Natural Resources per Capita by Province, 1981 and 2023



Source: Appendix Table a13.

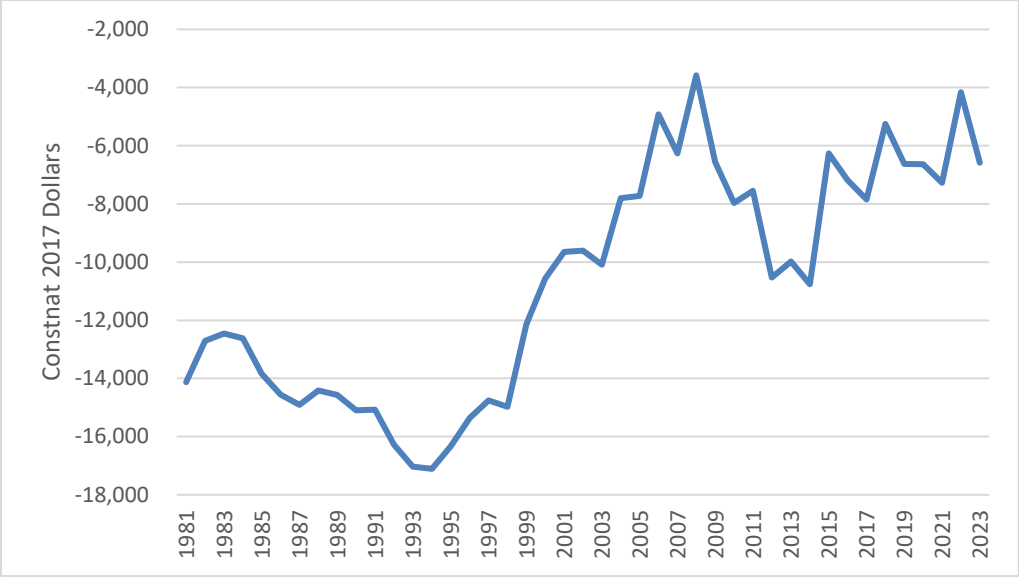
C. Net International Investment Position

Statistics Canada provides data on Canada's net international investment position (NIIP). This is the net value of Canada's financial assets and liabilities with non-residents. A negative NIIP means that Canada's liabilities owed to foreign agents exceeds foreign agents' liabilities to Canada. This means that in the future, money will flow out of Canada to service foreign-held claims. To accurately represent living standards, the future drag on income from these liabilities must be incorporated into the wealth stock. Canada's financial assets comprise of direct investment assets, portfolio investments, international reserves, and other smaller Canadian investments categories. Canada's financial liabilities comprise of direct investment liabilities, foreign portfolio investment, and other smaller foreign investment categories.

In 2023, Canada's net international position was valued at a total -$264 billion.[13] We present the composition of this number as reported by Statistics Canada. Canadians had direct investment assets of $691 billion more in foreign assets than foreigners had in Canadian assets. In contrast, they had portfolio investments and other investments of $835 billion and $246 billion less in foreign assets than foreigners held in Canadian assets. Lastly, Canadians had international reserves of $137 billion. Thus, portfolio investments and other investments were the reason why Canada still had a negative NIIP in 2023, however; it was up from its value of -$351 billion in 1981.

Over this period, Canadian assets have grown significantly faster than liabilities (Table 10). Per capita, NIIP grew from -$14,132 in 1981 to -$6576 in 2023—an increase of 53 per cent. In 1994, NIIP per capita hit bottomed out and began its trend upwards until it hit its peak in 2008 (Chart 28). The main causes for this change were the large increases in Canadian portfolio investments and direct investments in foreign countries relative to foreign portfolio investments and direct investments in Canada. Other investments, both foreign and Canadian, roughly increased by the same amount over this period, resulting in a roughly net zero effect on NIIP.

Chart 28: Net International Investment Position per Capita in Canada, 1981 to 2023



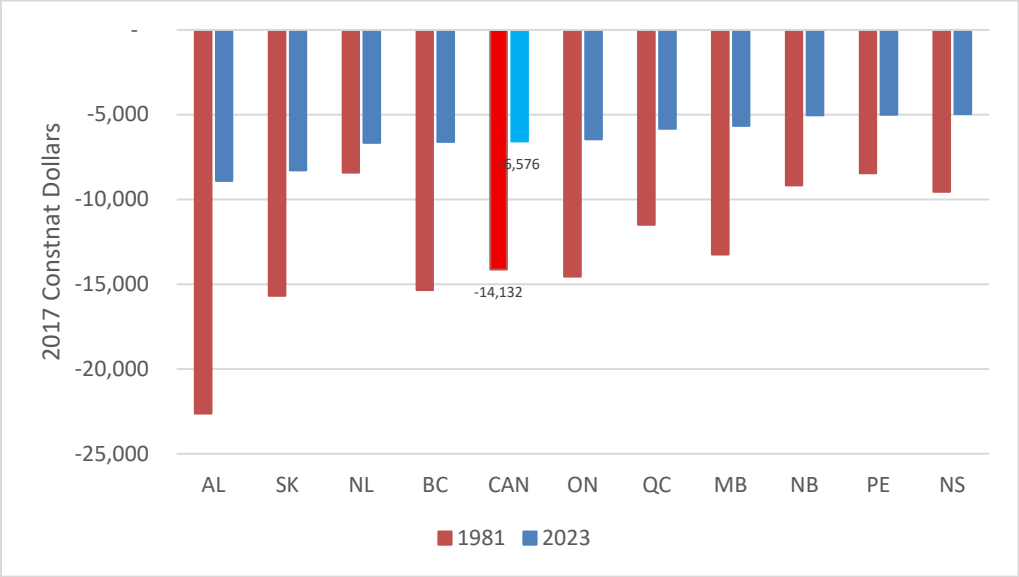
Source: Appendix Table a16.

Statistics Canada does not produce estimates of the provincial net international investment positions. The IEWB estimates these values using the province's nominal share of national GDP each year. This share is multiplied by the national net international investment position to estimate the provincial value (Chart 29). Therefore, provinces with a higher GDP per capita will rank lower

[13] As a reminder, these dollar amounts are constant 2017 dollars.

in net international investment position due to the negative value. The following chart is provided as reference for the values used in the IEWB, but no further analysis is conducted.

Chart 29: Net International Investment per Capita by Province, 1981 and 2023



Source: Appendix Table a16.

Table 10: Net International Investment Position and Components CAGR in Canada, per Capita, 2017 Dollars, 1981 to 2023[14]

Period	Assets	Liabilities	NIIP
1981-2000	5.35	2.83	-1.52
2000-2008	4.76	2.32	-12.65
2008-2019	7.05	6.97	5.76
2019-2023	2.04	1.92	-0.20
1981-2023	5.36	3.71	-1.81

Source: Appendix Table a16 and Statistics Canada Table 36-10-0474-01. Components of NIIP were deflated using the GDP deflators in Table a30-2 and then divided by the population in Table a1 before computing CAGR.

D. Human Capital

The Index of Economic Well-being defines human capital as the accumulated private and public expenditure on education. We first split levels of education into six categories: elementary, some secondary, high school, some post-secondary, post-secondary certification, and University. We divide total public and private expenditure at a given level of education by the total enrolment at that level of education to calculate the cost per student in a given year. Enrollment and expenditure figures are used from 2009 to calculate the cost per student with varying levels of education. These costs, together with the population by educational attainment in that year, are

[14] Be careful when interpreting average annual rates of change between two negative numbers. A negative rate here means the value of NIIP approached 0, and so, got larger.

then used in every past and subsequent year to calculate the total stock of human capital. Table 11 shows the average cost per student at a given level of educational attainment used to valuate human capital.

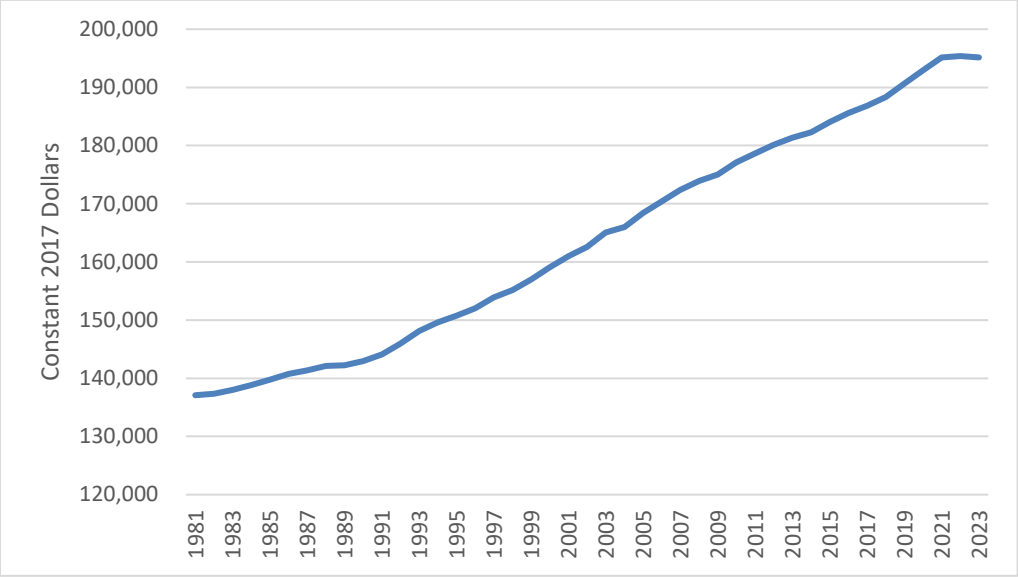
Table 11: Total Cost per Student Estimates by Level of Education Attainment for Canada, 2017 Constant Dollars, 2009

Educational Attainment Level	Cost per Student
Elementary	111,930
Some Secondary	139,912
High School	167,894
Some Post-Secondary	197,588
Post-Secondary Certification	196,235
University Degree	393,984

Source: Appendix Table a14.

In 2023, Canada's value of human capital per capita had increased roughly 42 per cent compared to 1981 (Chart 30). This change reflects both an increase in the percentage of the national population attaining education and a shift towards higher education in general. Over this period, the portion of the population with elementary, high school, and uncompleted post-secondary education as their highest level of attainment decreased dramatically. At the same time, every other category increased, with the highest growth occurring in the attainment of university degrees (Table 12).

Chart 30: Human Capital per Capita in Canada, 1981 to 2023

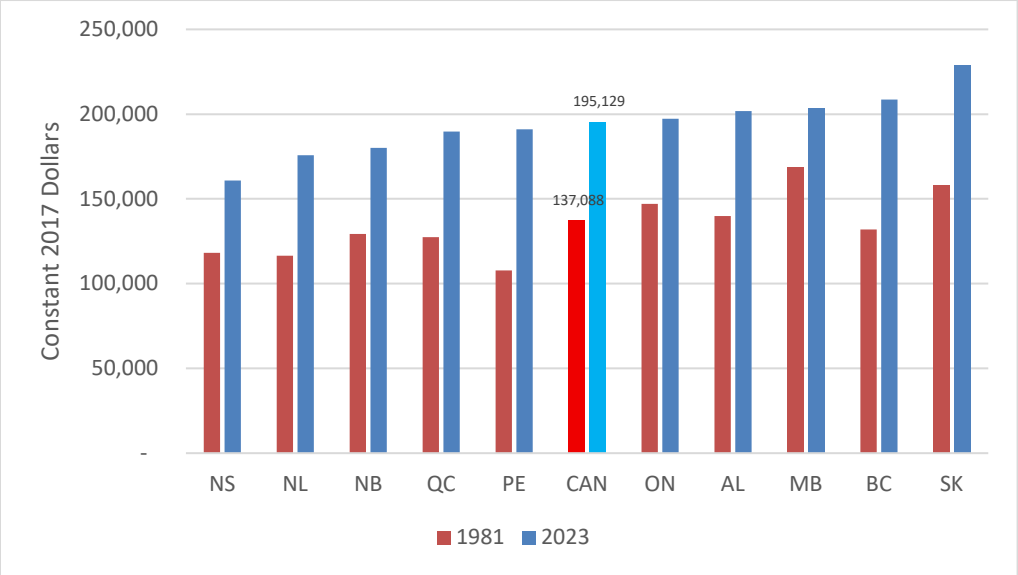


Source: Appendix Table a15.

In 2023, Saskatchewan ranked first, up from second in 1981—an improvement of 45 per cent (Chart 31). While Saskatchewan saw large increases in its educational attainment, the main

reason for its high ranking is its cost per student, especially for university which was 58 per cent above the national average. Prince Edward Island saw the largest increase in human capital per capita (77 per cent), moving up from tenth to sixth. Manitoba, which ranked first in 1981, saw the smallest increase in its human capital (21 per cent) and fell to third in 2023. In general, the Atlantic provinces lagged Central Canada, which in turn trailed the Prairie provinces and British Columbia.

Chart 31: Human Capital per Capita by Province, 1981 and 2023



Source: Appendix Table a15.

Table 12: Human Capital and Population by Educational Attainment CAGR for Canada, 1981 to 2023

Periods	Elementary Attainment per Capita	Some Secondary Attainment per Capita	High School Attainment per Capita	Some Post-Secondary Attainment per Capita	Post-Secondary Certification Attainment per Capita	University Degree Attainment per Capita	Human Capital per Capita
1981-2000	-3.09	-2.40	-0.55	0.5	2.82	4.01	0.79
2000-2008	-3.86	-2.26	0.34	-1.01	1.69	3.46	1.12
2008-2019	-4.01	-2.69	0.08	-2.37	0.60	2.87	0.84
2019-2023	-6.59	-1.96	-0.67	-3.55	0.04	2.37	0.58
1981-2023	-3.82	-2.41	-0.23	-0.94	1.75	3.45	0.84

Source: Appendix Table a15. Population by educational attainment is divided by total population from Table a1 before computing CAGR.

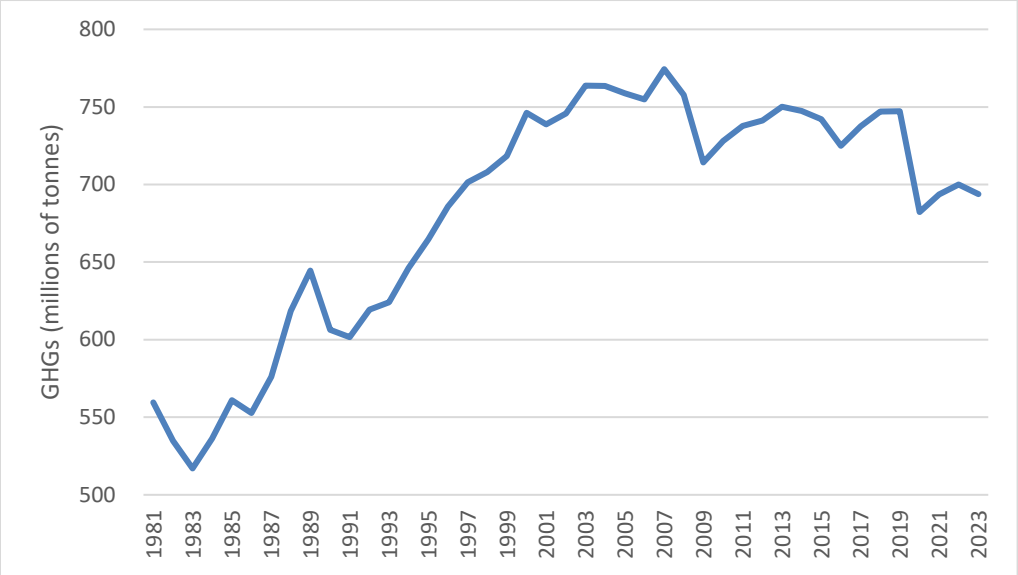
Note once again that the cost per student is only determined for 2009 and applied to all other years. Thus, changes over time in the stock of human capital reflect only changes in the number of people attaining a higher level of education. Changes in the stock of human capital per capita reflect only changes in the percentage of the population achieving a higher level of education. Cost per student does not necessarily correlate with a higher level of educational quality received by each student. Even if we assumed it did, the numbers here would only reflect the quality of education that students received in 2009, and so, changes over time do not reflect shifts in educational quality. Further effort is required to aptly compute the stock of human capital. Other

methodologies, such as a present value of future incomes-based approach, may better reflect the actual stock of human capital.

E. Social Cost of Environmental Degradation

Environmental degradation negatively affects the sustainability of stocks of wealth. Although placing a value on the environment is controversial, the Index of Economic Well-being includes estimates of the social costs of greenhouse gases (GHG) to highlight the importance of the environment to economic well-being. To adjust for environmental degradation, we subtract the estimated social costs of GHG emissions from total wealth. We treat the amount of GHGs in the atmosphere as a stock. The social cost of emissions each year is derived by multiplying the amount of greenhouse gas emissions accumulated to that date by an assumed social cost of $125 per tonne (measured in constant 2017 dollars). This amount is a middle ground between current social costs of carbon which are estimated to be about $230 (in constant 2017 dollars) per tonne and estimates of social costs in the past which were much lower (ECCC, 2023). This way, even though previous emissions are weighed more heavily, newer emissions are weighed more lightly.

Chart 32: Annual GHG Emissions in Canada, 1981-2023



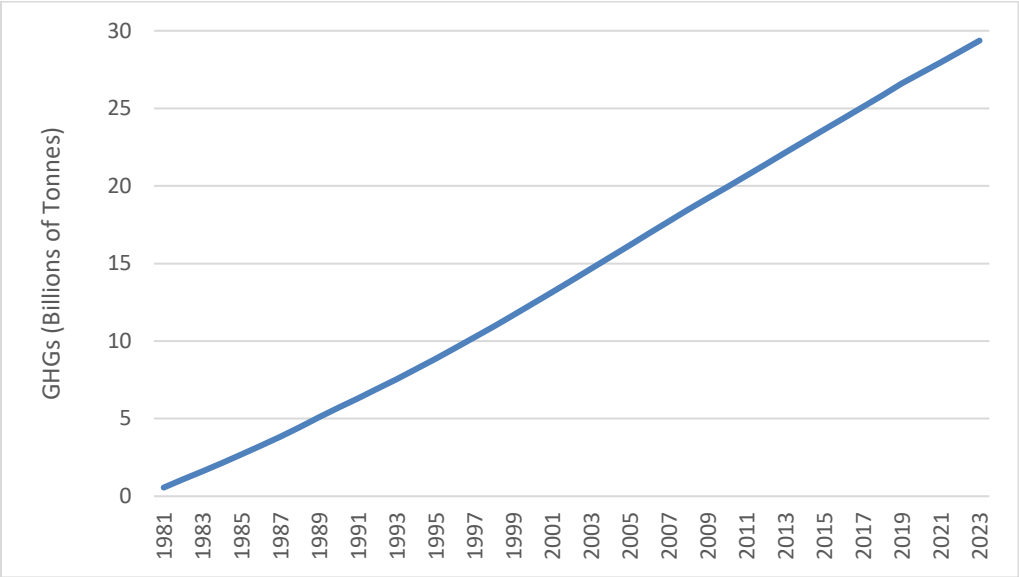
Source: Appendix Table a9.

Social cost values often represent the present value of future global social harm caused per tonne of GHG emitted in the year of analysis. The social cost per tonne of GHG released in future years tends to increase as the marginal harm increases. By using an unchanged dollar amount to value the stock of atmospheric GHG, we assign the same social cost to every tonne of GHG, whether released in the past or present. Over time, some of the social harm caused by GHG will be realized and thus should not be counted in the current stock. Additionally, emissions from a particular geographic location need not necessarily impact that location's habitants proportionally.

Part of the harm represented in the social cost may be felt by people in other provinces or even other countries. Further research is required to properly valuate the current stock of carbon and carbon equivalents.

Using data from Canada's Official Greenhouse Gas Inventory, we examine trends in Canada's GHG emissions (Chart 32). Throughout this period, Canada has seen an increase of roughly 24 per cent in its annual GHG emissions. In 2023, Canada emitted 694 million tonnes of GHG, up from 560 tonnes in 1981. Annual emissions peaked in 2007 at 774 tonnes and have slowly decreased since. Over this period, Canada has emitted an estimated total of 29 billion tonnes of GHG emissions combined. Note that carbon decay or sequestration is not included in these numbers, so a positive slope for Chart 33 is to be expected.

Chart 33: Accumulated GHG Emissions in Canada, 1981-2023



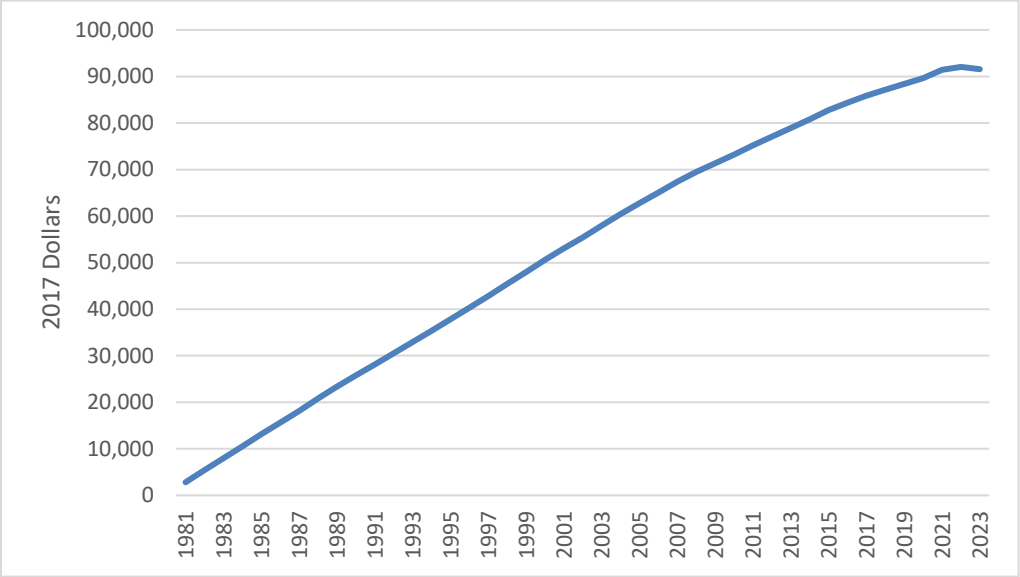
Source: Appendix Table a9.

National social cost per capita increased almost linearly from 1981 to 2000, after which it increased at a decreasing rate, reflecting the contraction in emissions (Chart 34). Since our methodology does not consider carbon sequestration, the only way for social cost per capita to flatten is if the population increases at a faster rate than social cost per year or if marginal emissions approach 0. In the years following 2019, social cost per capita tapered off. While marginal emissions did decrease slightly, this change was mostly a factor of the large increase in national population during this period.

Chart 35 shows the absolute emissions by province. Quebec, Manitoba, Saskatchewan, Alberta, and British Columbia had increased GHG emissions in 2023 compared to their 1981 levels. Saskatchewan showed a 60 per cent increase in emissions, the largest of any province. Meanwhile, Alberta had the largest absolute change with an increase of 100 million tonnes. Since

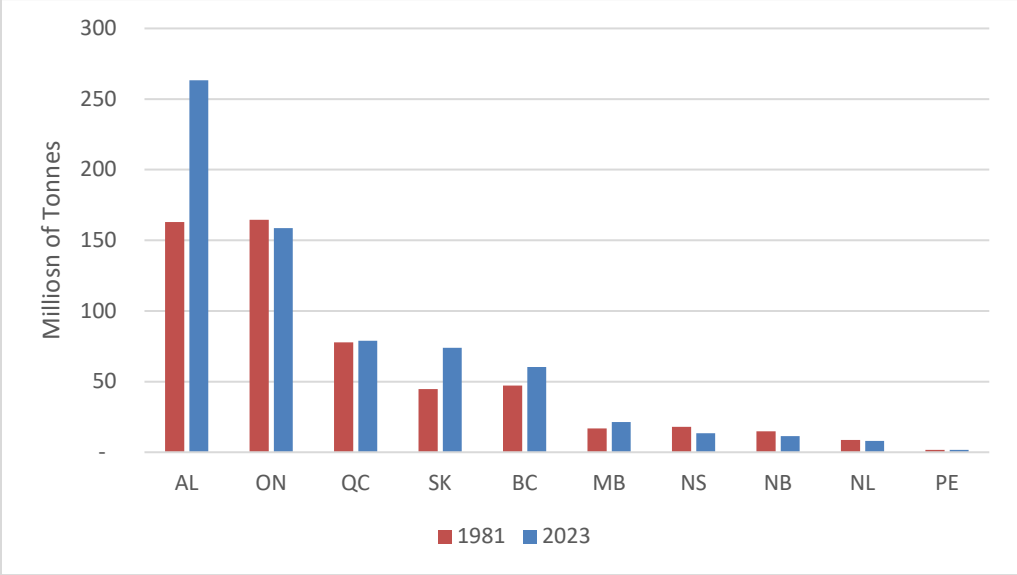
we use a constant dollar amount, the only remaining variable to determine the provincial rankings by social cost is each province's population. As shown in Chart 36, Saskatchewan ranked last because of its small population relative to its emissions, while Quebec ranked last due to its large population relative to its emissions.

Chart 34: Social Cost per Capita in Canada, 1981 to 2023



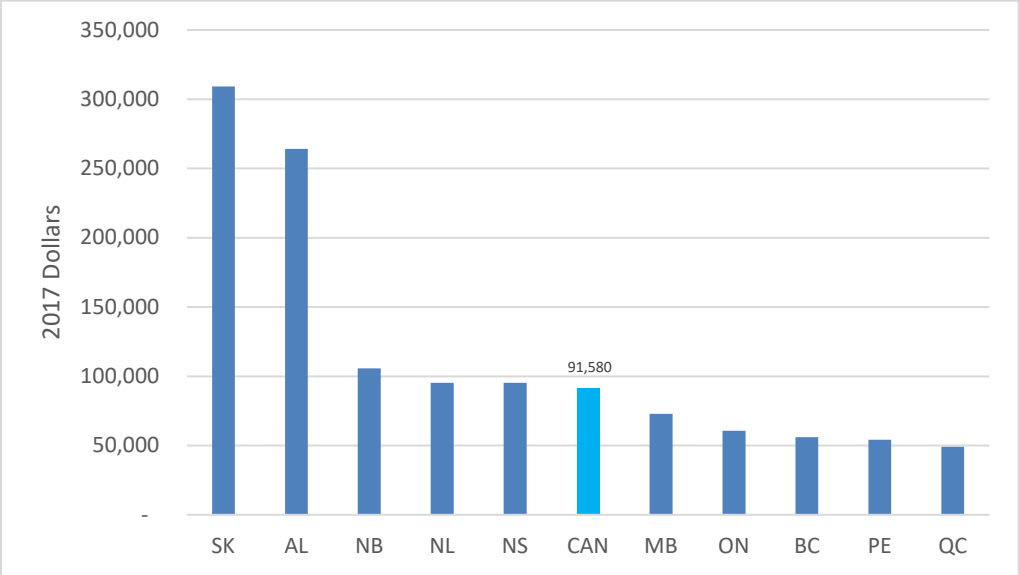
Source: Appendix Table a9.

Chart 35: Emissions of GHG by Province, 1981 and 2023



Source: Appendix Table a9.

Chart 36: Social Cost per Capita by Province, 2023



Source: Appendix Table a9.

F. Total Wealth Stock

To estimate the total stock of wealth per capita, we sum up the four components and subtract the social cost of greenhouse gases. Between 1981 and 2023, Canada saw an increase in wealth per capita of roughly 16 per cent (Chart 37). Growth was observed in both the 2000-2008 and 2019-2023 periods, while a contraction was observed in the remaining two periods (Table 13). Because of some of the underlying components (mainly natural resources), this valuation exhibited considerable volatility. Even so, total wealth per capita showed an increasing trend from 1992 onwards. Additionally, social costs heavily weighed down growth in this domain; without them, this domain would have grown 36 per cent—an improvement of 20 percentage points.

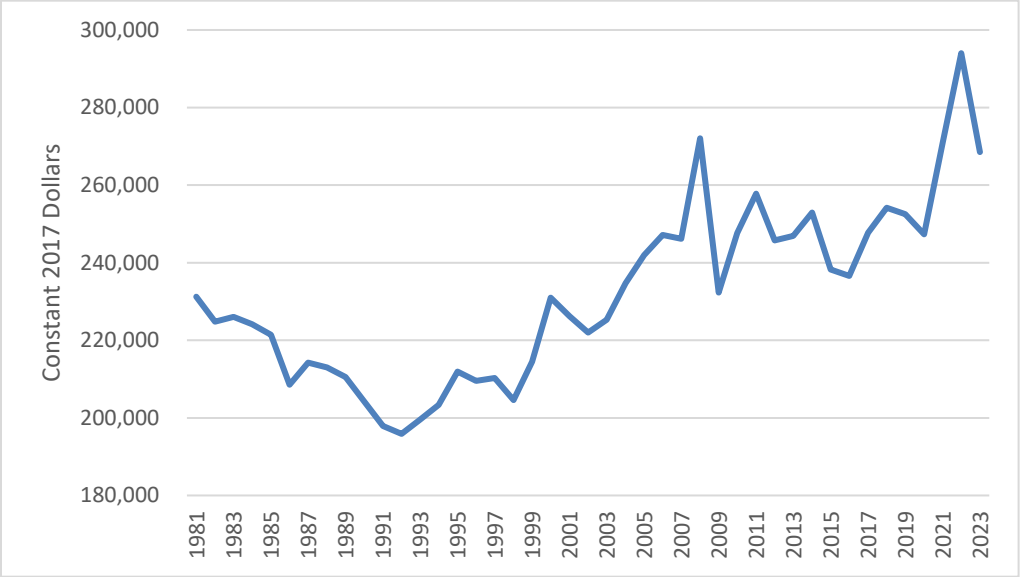
Table 13: Total Stocks of Wealth and Components CAGR for Canada, 2017 Dollars, 1981 to 2023[15]

Period	Physical Capital per Capita	Natural Resources per Capita	NIIP per Capita	Human Capital per Capita	Social Costs per Capita	Total Wealth per Capita
1981-2000	1.17	0.41	-1.52	0.79	16.42	-0.01
2000-2008	2.22	5.66	-12.65	1.12	4.04	2.07
2008-2019	1.33	-7.96	5.76	0.84	2.21	-0.68
2019-2023	0.03	13.55	-0.20	0.58	0.89	1.54
1981-2023	1.30	0.27	-1.81	0.84	8.64	0.36

Source: Appendix Table 2.

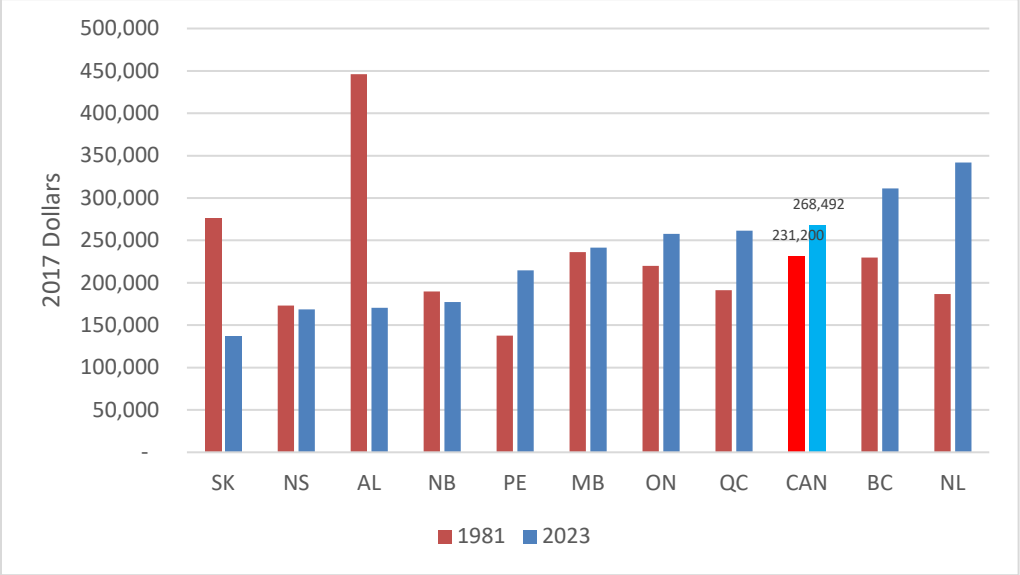
[15] Keep in mind that since the CAGR for NIIP was computed between two negative numbers, a negative sign contributes positively towards the index of wealth, while a positive sign contributes negatively.

Chart 37: Total Wealth per Capita in Canada, 1981 to 2023



Source: Appendix Table 2.

Chart 38: Total Wealth per Capita by Province, 1981 and 2023



Source: Appendix Table 2.

During the 1981 to 2023 period, Newfoundland and Labrador, Prince Edward Island, Quebec, British Columbia, Ontario, and Manitoba pulled Canada's stock of wealth upward. Alberta, Saskatchewan, New Brunswick, and Nova Scotia pulled Canada's stock of total wealth downwards (Chart 38). Newfoundland and Labrador had the largest change in total per capita wealth (83 per cent) due to its increase in physical capital and natural resource valuation. This placed it first, up from eighth in 1981. Alberta, which ranked first in 1981, saw the largest decrease in wealth (62 per cent) and fell to eight. This decrease was mainly the cause of the decline in its

natural resource valuation and increased social costs. Similarly, Saskatchewan ranked last, down from second, mainly due to the increase in its social costs.

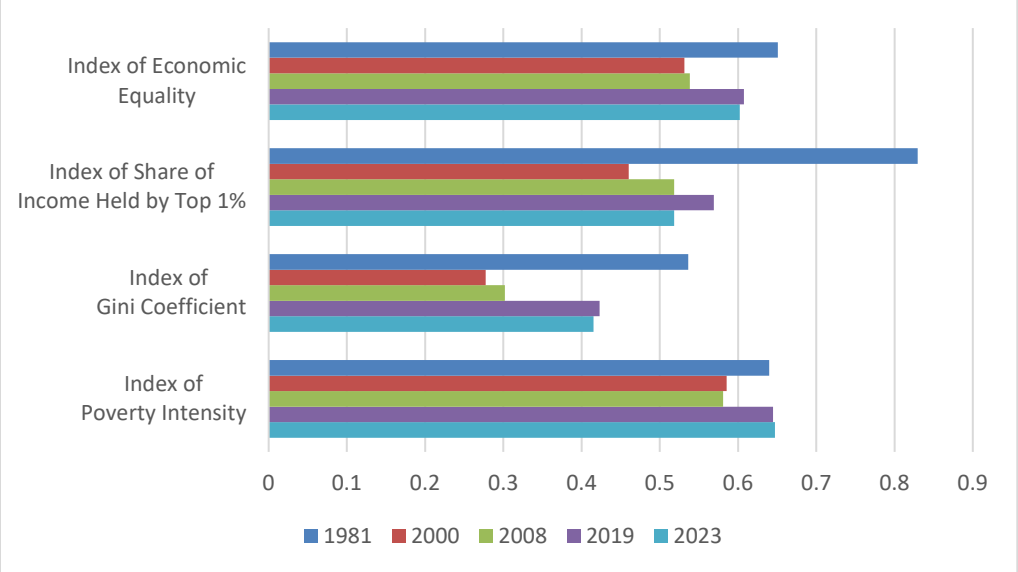
Throughout this section we have detailed several limitations with valuating the current stocks of wealth. First, when valuating the social cost of the current GHG stock, we did not account for the realization of social harm from past emissions. Such costs have already been incurred and should thus not be included in the current stock of environmental degradation. Second, the valuation of human capital had the similar problem of using a fixed cost per student. This caused the stock to reflect only quantity as opposed to both the quantity and quality of education. Lastly, using the present value of natural resources led to an inherently volatile measurement. Such measurements depend on the selling of natural resources at current prices forever (or until resource depletion), causing large year to year changes in wealth. Further effort is required to properly reflect the stocks of wealth for Canada and the provinces.

IV. Trends in the Economic Equality Domain

The literature consistently reports that higher levels of inequality are correlated with lower well-being. One such example is the United States. Even though it has seen increases in income in recent decades, the gains have not been equally distributed. The United States has more physical and mental health issues, a shorter life expectancy, more homicides, and more people in prison (on a relative basis) than any other developed country (Wilkinson and Pickett, 2009). Inequality affects the way people feel about their position in society. Greater income inequality may make people feel resentful and inadequate, leading to a greater number of social maladies (Payne, 2017).

This section examines the two main components of economic inequality: income inequality and poverty intensity. We measure poverty intensity by using the product of the poverty rate and the poverty gap ratio. We measure income equality by using both the Gini coefficient and the percentage of after-tax income (including capital gains) received by the top 1 per cent of tax filers. Unlike the domains of consumption and wealth, there are no dollar values to compare, so we directly compare indicator values (Chart 39). Dollar amounts from the previous two sections (consumption and wealth) will also be used to create indices when we construct our overall index in the final section.

Chart 39: Index of Equality Scaled Index Components, 1981 to 2023



Source: Appendix Table a3 and a17.

In the following section, when we refer to an index we are referring to either a scaled value (of an indicator) or a composite value comprised of various scaled values—each given a separate weight. In the min-max scaling procedure, each value in the time series is rescaled by either subtracting the minimum value from it, or by subtracting it from the maximum value, and then

dividing by the range (maximum less minimum).[16] This linear transformation maintains relative order and distance between the data points while mapping them all in an interval between zero and one. To avoid exact zero or one endpoints, we first expand the range by 10 per cent on each side by subtracting 10 per cent of the original range from the minimum and adding 10 per cent to the maximum before scaling.

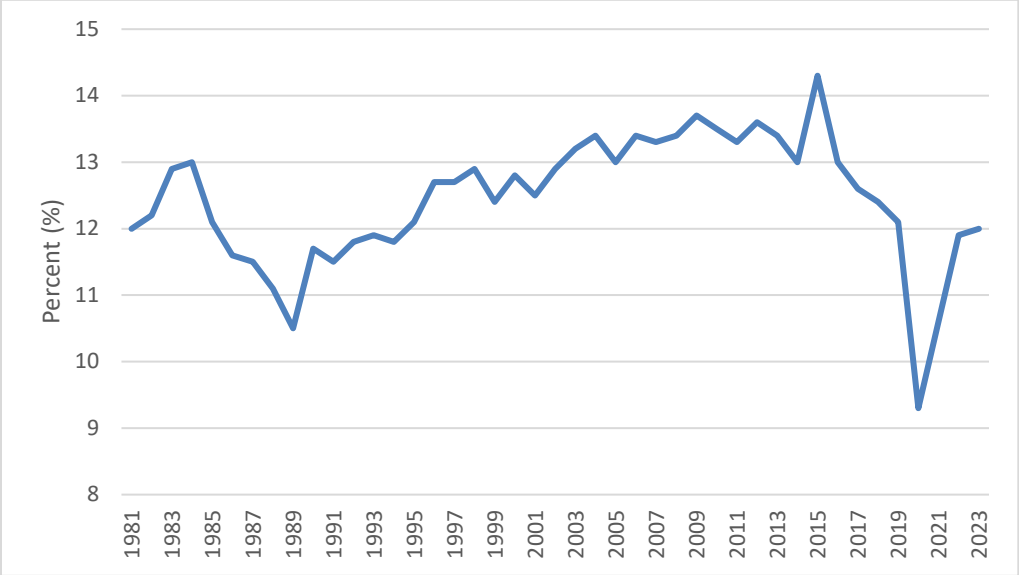
$$Index\ Value = \frac{Series\ Value\ -\ Min}{Max\ -\ Min} \quad or \quad \frac{Max\ -\ Series\ Value}{Max\ -\ Min}$$

The next two subsections will look at both components of economic equality; the third will combine them to form the index of equality.

A. Poverty Intensity

The first component of poverty intensity, the poverty rate, is that reported by Statistics Canada using the Low-Income Measure (LIM).[17] It reports the share of Canadians who live below a poverty line defined as 50 per cent of median equivalized after-tax household income.

Chart 40: Poverty Rate in Canada Using LIM, 1981 to 2023



Source: Appendix Table a18.

[16] When min-max scaling, if we want lower values to contribute to a larger composite index, such as the Gini coefficient where lower values indicate less inequality, we subtract every element from the maximum value. If we want a higher value to contribute to a larger composite index, we subtract the minimum value from every element in the series.

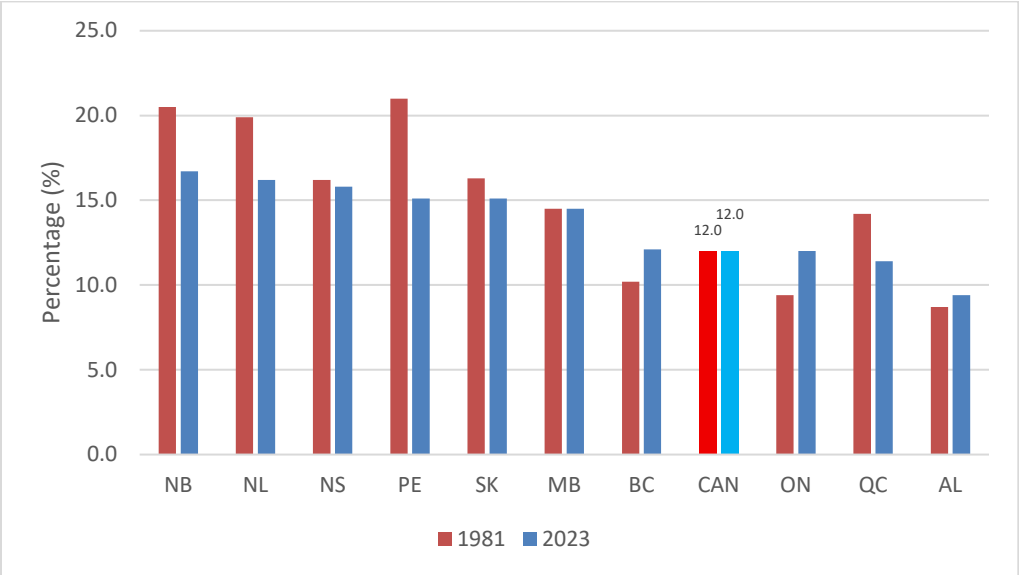
[17] We use the LIM, as produced by Statistics Canada, as it is the only poverty measure that is relative and has a long historical series. As technological progress occurs, the socially accepted minimum standard of living rises. Thus, relative poverty measures better capture the social dimension of poverty compared to absolute measures.

In both 1981 and 2023, Canada's poverty rate was 12.0 per cent of its population (Chart 40). Since the LIM is a relative measure, the identical rates in both years does not imply that people were as poor in absolute terms in 2023 as they were in 1981; instead, it only tells us that the same proportion of the population was below 50 per cent of the median income—an amount which has risen. LIM poverty saw its largest increase in the 2000-2008 period and its largest decrease in the following 2008-2019 period (Table 14).

In 2020 the poverty rate fell to 9.3 per cent, the lowest value observed during the period. This large decline was the result of high levels of government transfers. In 2020, the Canada Emergency Relief Benefit (CERB) and the enriched Canada Child Benefit (CCB) targeted mainly those below the cutoff, shifting them above the low-income line (Statistics Canada, 2022c). In 2022 CERB was cut back, and the poverty rate shot back up 2.6 percentage points. Between 2019 and 2023, the LIM poverty still declined but by substantially less than 2020 levels would have indicated.

Between 1981 and 2023, Alberta, Ontario and British Columbia were the only provinces which saw their poverty rates rise (Chart 41). Even so, they still had the lowest rates: Alberta maintained first place, Ontario slipped from second to third, and British Columbia from third to fourth. By contrast, the Atlantic provinces, excluding Nova Scotia, achieved substantial reductions in their poverty. Prince Edward Island led the decline, with a fall of 5.9 percentage points—from 21.0 per cent to 15.1 per cent. Much like the national rate, Manitoba's relative poverty remained constant.

Chart 41: LIM Poverty Rate by Province, 1981 and 2023



Source: Appendix Table a18.

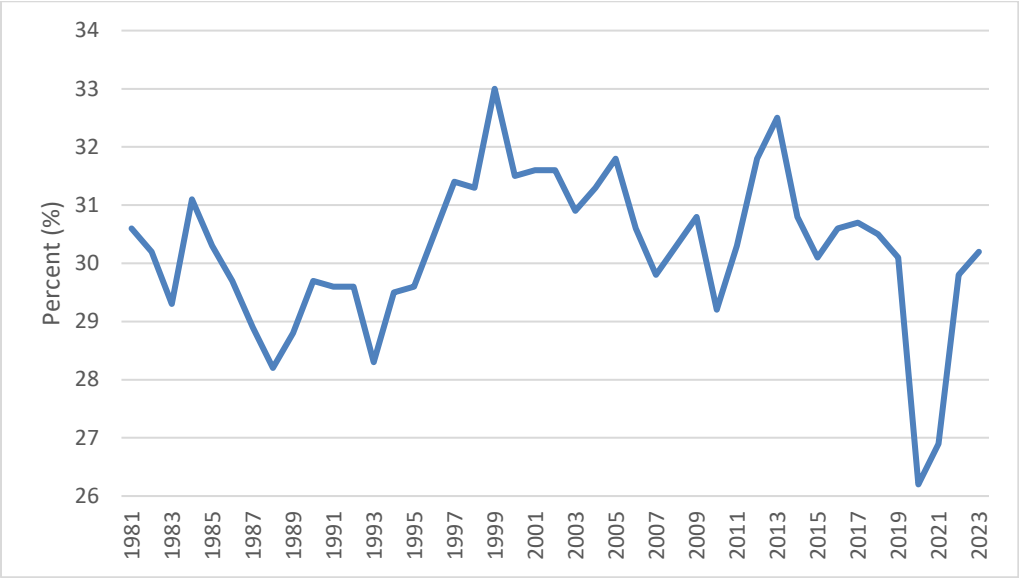
Table 14: Poverty Intensity Components CAGR for Canada, 1981 to 2023

Period	Poverty Rate	Poverty Gap Ratio	Poverty Intensity Index
1981-2000	0.34	0.15	-0.47
2000-2008	0.57	-0.48	-0.09
2008-2019	-0.92	0.06	0.95
2019-2023	-0.21	0.08	0.11
1981-2023	0.00	-0.03	0.03

Source: Appendix Table a18.

The second portion of poverty intensity is the poverty gap ratio. The poverty gap is defined as the average difference between the poverty line (the number representing 50% of median income) and the incomes of those in poverty. To obtain the poverty gap ratio, we simply divide the poverty gap by the poverty line. In 1981 and 2023, the national poverty gap ratio was 30.6 per cent and 30.2 per cent respectively (Chart 42). The gap ratio experienced small increases in every period other than 2000-2008 when it experienced its largest decrease. Once again, since the poverty gap ratio is a relative measure, this statistic only tells us how poor the impoverished are relative to each year's low-income line. So even though the gap ratio barely changed (Table 14), if median incomes rose, standards of living still improved.

Chart 42: Poverty Gap Ratios in Canada Using LIM, 1981 to 2023

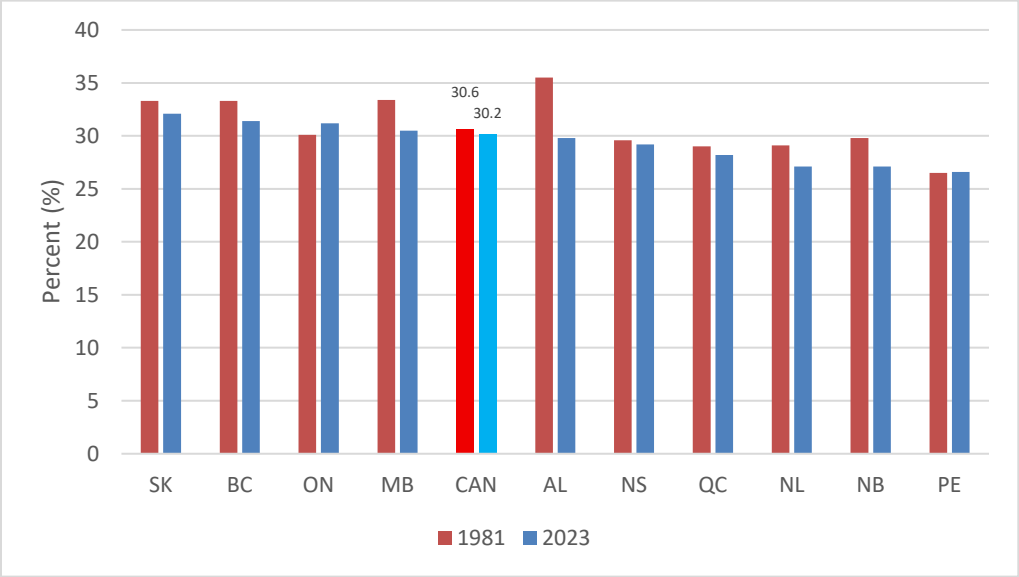


Source: Appendix Table a18.

Although Prince Edward Island's poverty rate remained relatively high, it led the provinces in both 1981 and 2023 with the lowest poverty gap ratios (Chart 43). The other Atlantic provinces showed a similar pattern—high headcount rates paired with small gaps. At the opposite end, Saskatchewan ranked last place with a poverty gap ratio of 32.1 per cent, down from eighth in

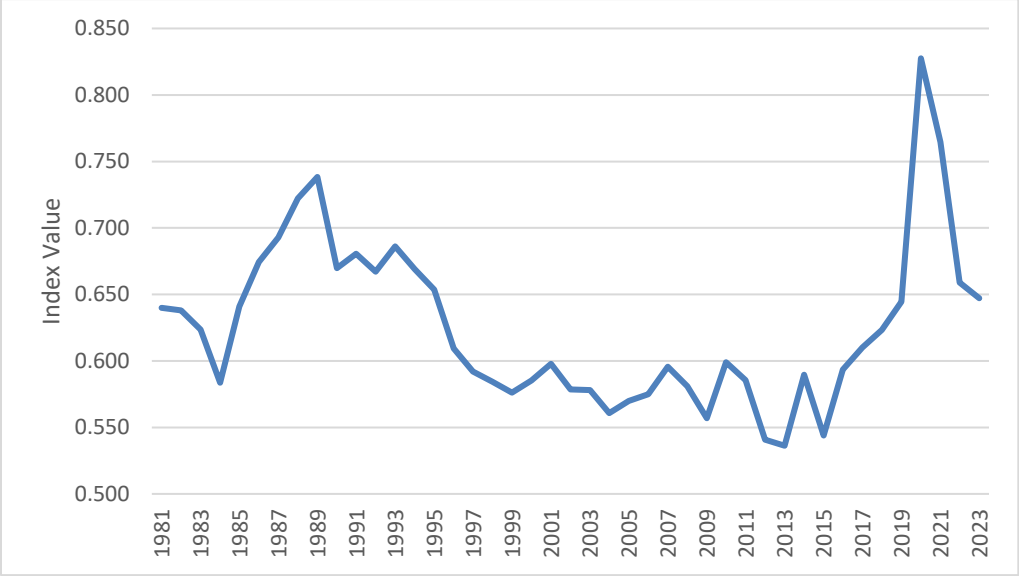
1981. Alberta enjoyed the largest improvement, climbing from the worst gap ratio in 1981 to fifth in 2023, reducing its shortfall by 5.7 percentage points.

Chart 43: LIM Poverty Gap Ratios by Province, 1981 and 2023



Source: Appendix Table a18.

Chart 44: Poverty Intensity Index in Canada, 1981 to 2023



Source: Appendix Table a18.

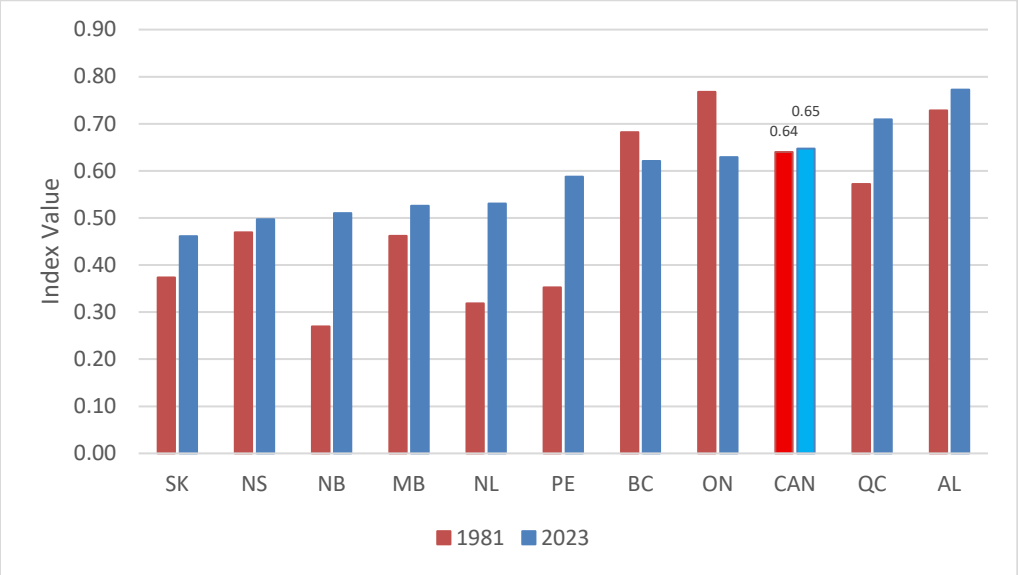
Poverty intensity is calculated by multiplying the poverty rate, poverty gap ratio, and a constant of 1.89.[18] A lower number represents a better outcome, but when scaled, a higher index

[18] 1.89 is $1 + G_p$ in the Sen-Shorrocks-Thon poverty-intensity formula (with Canada's poverty-gap Gini ($G_p \approx 0.89$). We use this fixed constant to match the existing literature.

value (as seen in Chart 44) is preferred. So, while an increase in poverty intensity is bad, an increase in the index of poverty intensity is good for the poor. Poverty intensity saw its steepest decline in the 1981-2000 period and its largest improvement in the 2008-2019 period (Table 14). Once again, even though poverty intensity measures are almost the same in 1981 and 2023, this does not reflect the same material standards of living.

Every province except for Ontario and British Columbia witnessed a decrease in their poverty intensity between 1981 and 2023 (Chart 45). Newfoundland and Labrador, Prince Edward Island, and New Brunswick, experience the largest decreases in poverty intensity. Regardless, they still ranked towards the bottom in both periods. Alberta increased from second in 1981 to first in 2023, having the lowest poverty intensity among the provinces. Ontario and British Columbia ranked third and fourth, down from first and third, respectively.

Chart 45: Poverty Intensity Index by Province, 1981 and 2023



Source: Appendix Table a18.

B. Income Inequality

The IEWB, since its inception, has used the after-tax Gini coefficient as its metric of income inequality. In this updated version of the IEWB, the share of the income earned by the top 1% has been added. In part because of the work of Piketty, this statistic is increasingly used to describe inequalities between members of society. Adding this variable to the Index of Economic Equality gives a more comprehensive measure of income inequality. This is because the Gini coefficient is not greatly affected by the highest and lowest percentage of incomes. Instead, it is weighted to the middle, hindering its ability to capture inequality at the top and bottom per centiles (Osberg, 2017).

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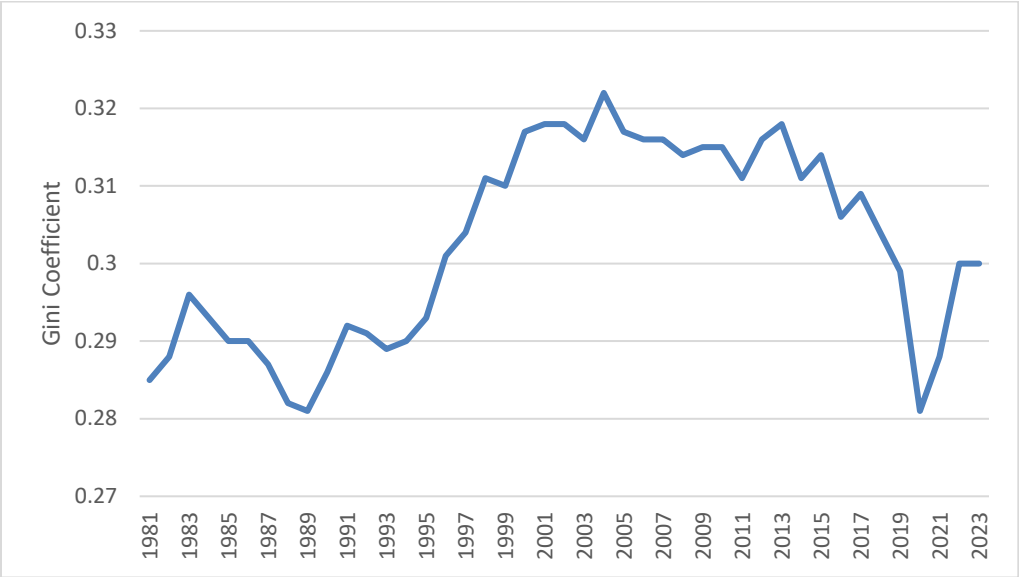
We begin with the after-tax Gini coefficient which quantifies how unequal households' incomes are once taxes are paid. A value of 0 means everyone earns the same amount; a value of 1 means one household has all the income. Between 1981 and 2023, Canada's after-tax Gini coefficient rose from 0.285 to 0.300 points (Chart 46). Inequality, as measured by the after-tax Gini, grew the most in 1981-2000 and fell sharpest in 2008-2019 (Table 15). Between 1989 and 2004, the Gini rose dramatically from a low of 0.281 points in 1989 to a peak of 0.322 points in 2004. Since 2004, inequality has displayed a downwards trend.

Chart 46: Gini Coefficient in Canada, 1981-2023[19]



Source: Appendix Table a17.

Table 15: Income Equality Index and Components CAGR for Canada, 1981 to 2023

Period	Gini Coefficient	Share of Income Earned by Top 1%	Index of Income Equality
1981-2000	0.56	3.17	-3.19
2000-2008	-0.12	-0.91	1.33
2008-2019	-0.44	-0.62	1.75
2019-2023	0.08	1.72	-1.52
1981-2023	0.12	1.25	-0.90

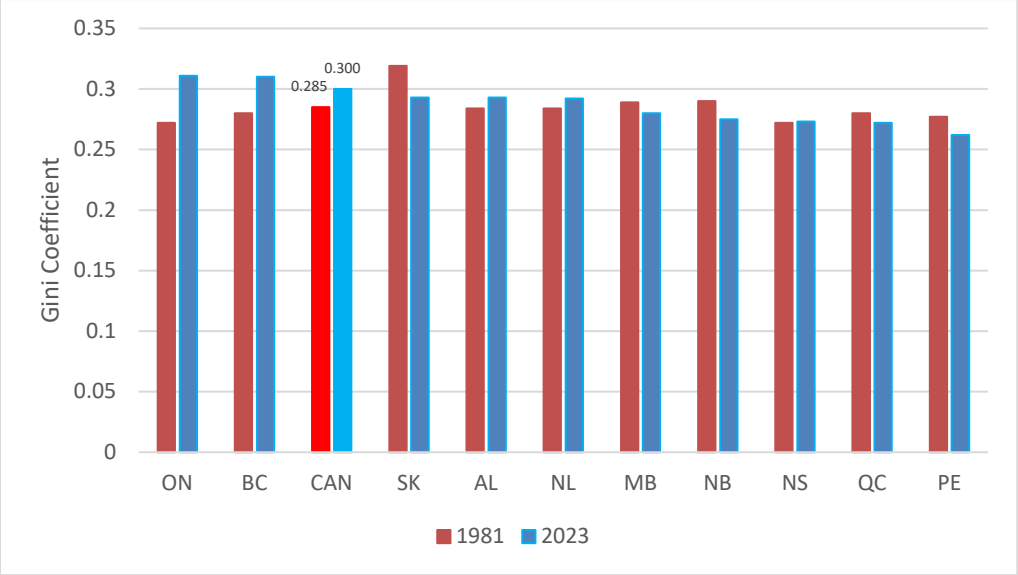
Source: Appendix Table a17.

The biggest changes between 1981 and 2023 occurred in Ontario and British Columbia which saw respective increases of 0.039 points and 0.030 points in their Ginis (Chart 47). In 1981 they were ranked first and fifth (in terms of income equality) but ranked tenth and ninth

[19] A similar trend was seen in the adjusted (household equivalized) market income Gini coefficient. The Gini value for Canada peaked in 1988 and has stayed consistent, showing a weak downwards trends.

lowest in 2023. In general, the Atlantic provinces and Quebec had lower income inequality, as measured by the after-tax Gini, compared to the rest of Canada.

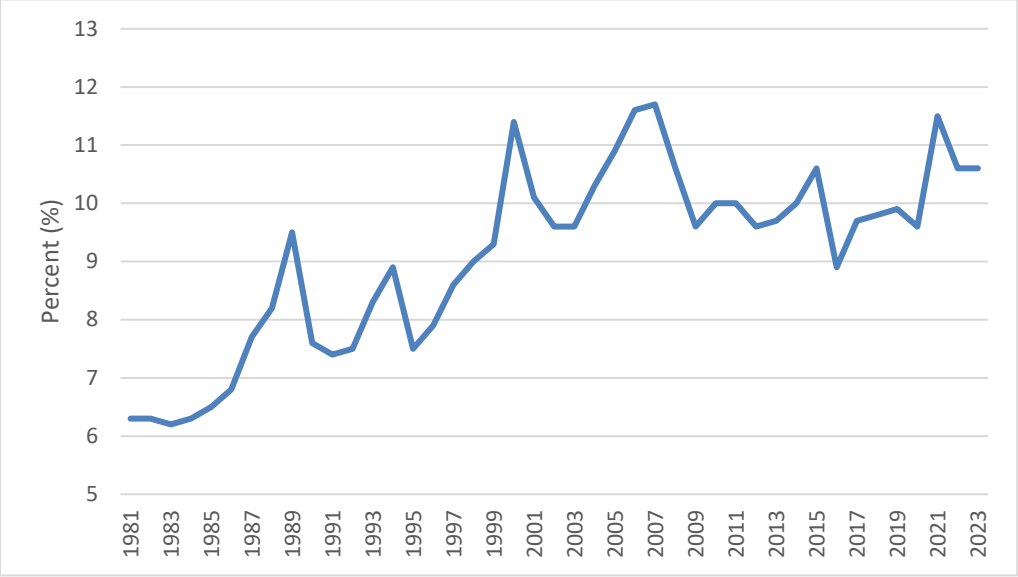
Chart 47: Gini Coefficient by Province, 1981 and 2023



Source: Appendix Table a17.

We now introduce our second measure of income equality: the share of total after-tax income (including capital gains) received by the top 1 per cent of tax filers. Nationally, the share rose from 6.3 per cent of income in 1981 to 10.6 per cent of income in 2023 (Chart 48). The share of income received grew in 1981-2000 and 2019-2023 but declined in the other periods (Table 15). It peaked in 2007, at 11.7 per cent, and has since stayed below this level.

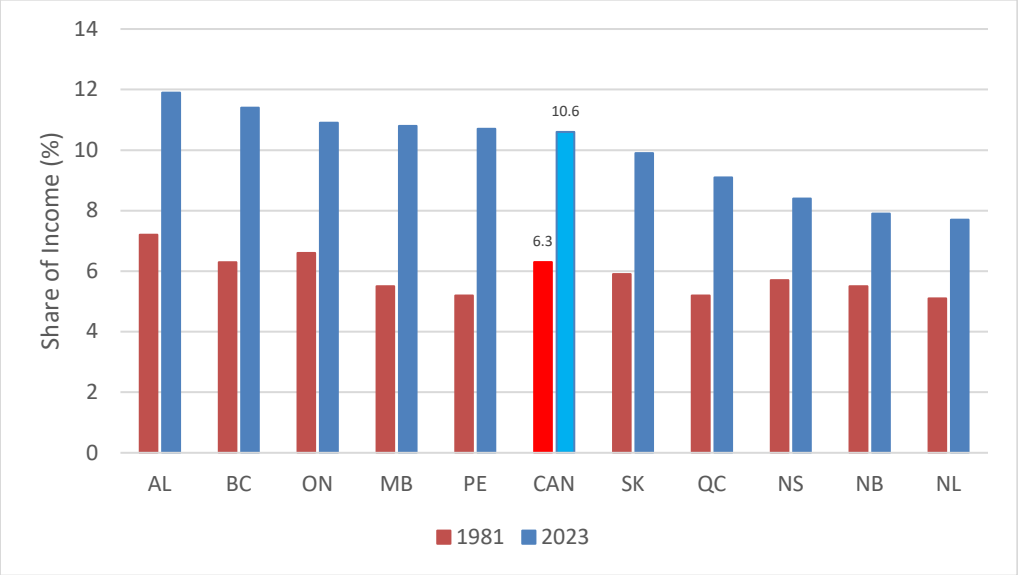
Chart 48: Share of Income Received by the Top 1 Per cent in Canada, 1981 to 2023



Source: Appendix Table a17.

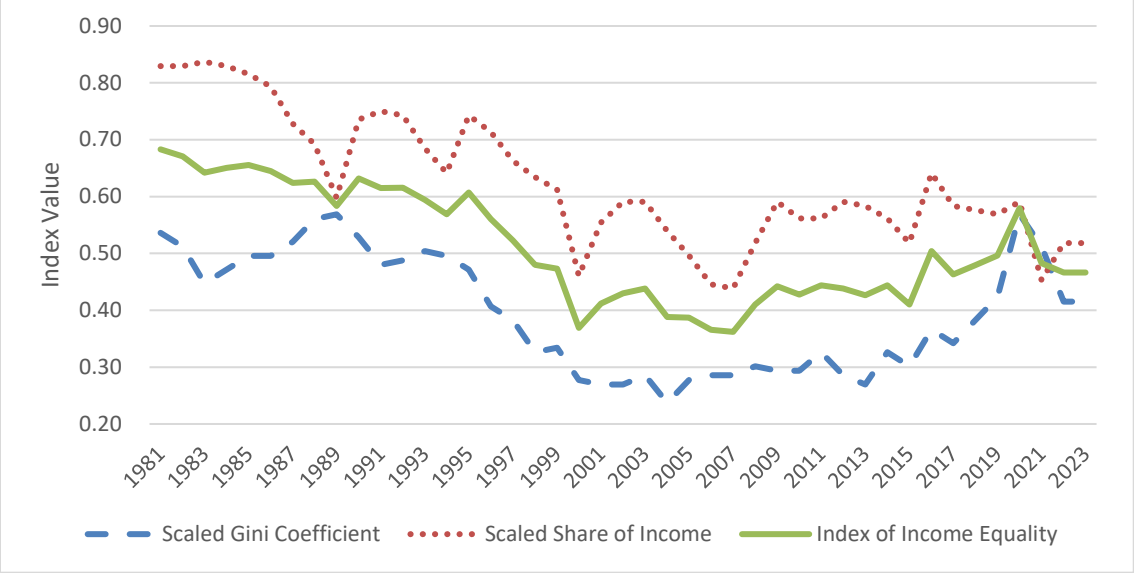
From 1981 to 2023, every province saw the share of total income held by its top 1 per cent increase, reflecting a nationwide increase in income inequality (Chart 49). In both years, Newfoundland and Labrador remained the most equal province (showing the lowest share of income gained by the top 1 percent), with its top 1 per cent only accounting for 7.70 per cent of income in 2023. In contrast, Alberta remained in both year, the least equal in both years, with its top 1 per cent capturing 11.90 per cent of income in 2023. The Atlantic provinces generally fared better on this measure, bolstered by government transfers and the lack of high-income individuals.

Chart 49: Share of Income Received by the Top 1 Per cent by Province, 1981 and 2023



Source: Appendix Table a17.

Chart 50: Index of Income Equality in Canada and Components, 1981 to 2023

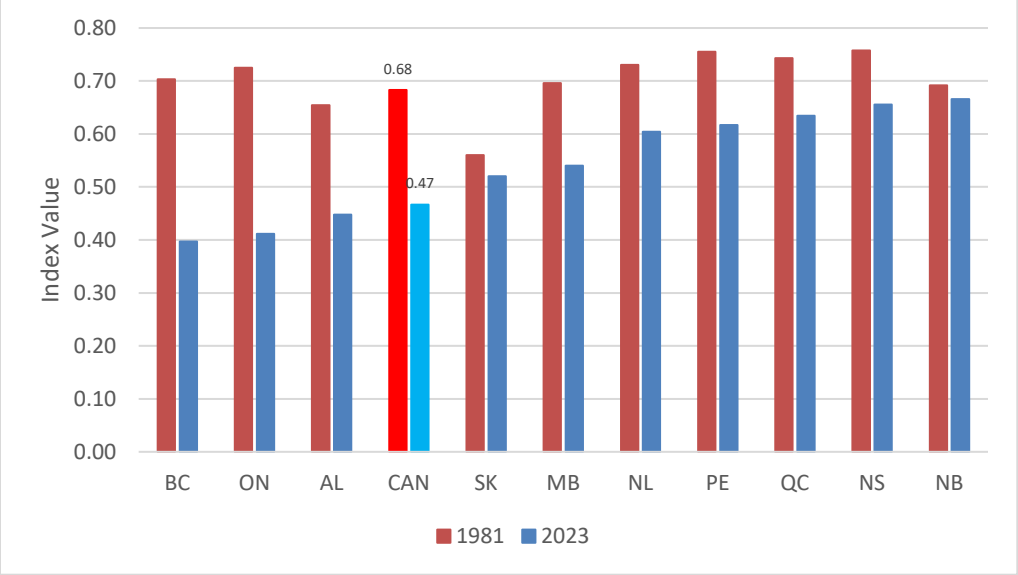


Source: Appendix Table a17.

We now scale both the after-tax Gini coefficient and the share of after-tax income received by the top 1 per cent and add them together, each with a weight of 50 per cent. Between 1981 and 2023, the national index of income equality fell, reflecting a decrease in equality (Chart 50). Increases in both inequality components caused the index of income equality to fall in 1981-2000 and 2019-2023. Decreases in both inequality components caused the index to rise in 2000-2008 and 2008-2019 (Table 15). The index hit its lowest value in 2000 but has since begun to increase again due to drops in the Gini coefficient.

From 1981 to 2023, every province experienced a decline in its income equality index (Chart 51). New Brunswick, on account of having the smallest decline, leaped from eighth place in 1981 to first in 2023. In contrast, Ontario and British Columbia tied in having the steepest drop—falling from fifth and sixth to ninth and tenth, respectively. The Atlantic provinces and Quebec recorded the smallest declines and consistently ranked near the top in both years. Although the Prairie provinces had the lowest income equality in 1981, they still outperformed Ontario and British Columbia by 2023.

Chart 51: Index of Income Equality by Province, 1981 and 2023



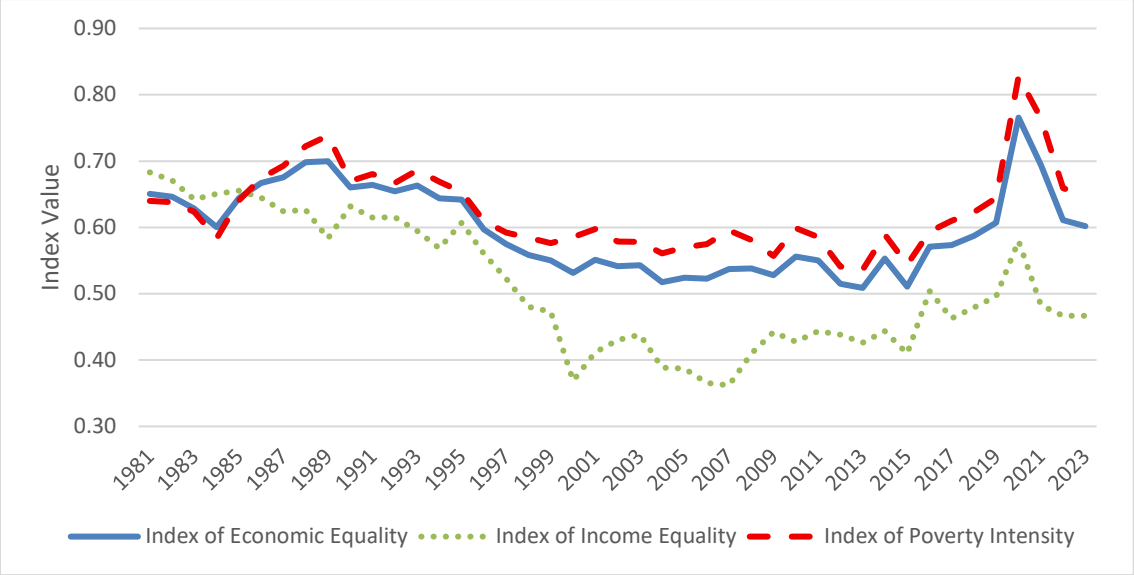
Source: Appendix Table a17.

C. Index of Economic Equality

The economic equality domain combines the poverty intensity and income equality indices, weighting the former at 75 per cent and the latter at 25 per cent (Chart 52). From 1981 to 2023, Canada's composite value declined. The index exhibited a downwards trend from 1990 to around 2015. It reversed course in 2015 and climbed until 2020, when expansionary fiscal measures produced a sharp spike. Since then, it has retreated to near its 2018 level, wiping out most of the 2020 gains. From 2000-2008 the economic-equality index rose, driven solely by gains in equality; it climbed again from 2008-2019 thanks to both stronger equality and lower poverty. By contrast,

the index fell between 1981-2000 as poverty increased and equality weakened, and declined once more in 2019–2023 solely due to decreases in equality (Table 16).

Chart 52: Index of Economic Equality in Canada, 1981 to 2023



Source: Appendix Table 3.

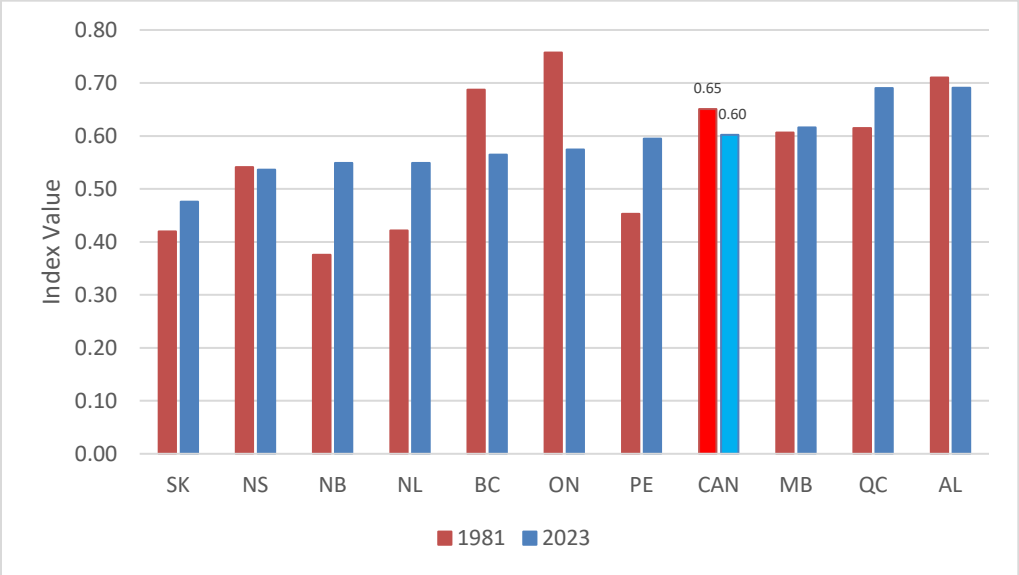
Table 16: Index of Economic Equality and Component CAGR for Canada, 1981 to 2023

Period	Index of Poverty Intensity	Index of Income Equality	Index of Economic Equality
1981-2000	-0.47	-3.19	-1.06
2000-2008	-0.09	1.33	0.17
2008-2019	0.95	1.75	1.10
2019-2023	0.11	-1.52	-0.22
1981-2023	0.03	-0.90	-0.18

Source: Appendix Table 3.

Since 1981, Ontario, British Columbia, Alberta, and Nova Scotia have all seen their economic equality indices decline, while the other provinces recorded gains (Chart 53). Even with the decrease, Alberta ranked first in 2023, rising from second in 1981, as every other province experienced a greater decline. Ontario, which had been first in 1981, experienced a much steeper decline and fell to fifth in 2023. New Brunswick recorded the largest improvement, rising from last place in 1981 to eighth in 2023. Although the Atlantic provinces performed well in income equality, their weaker showings in poverty intensity offset those gains, leaving their overall rankings largely unchanged

Chart 53: Index of Economic Equality by Province, 1981 and 2023

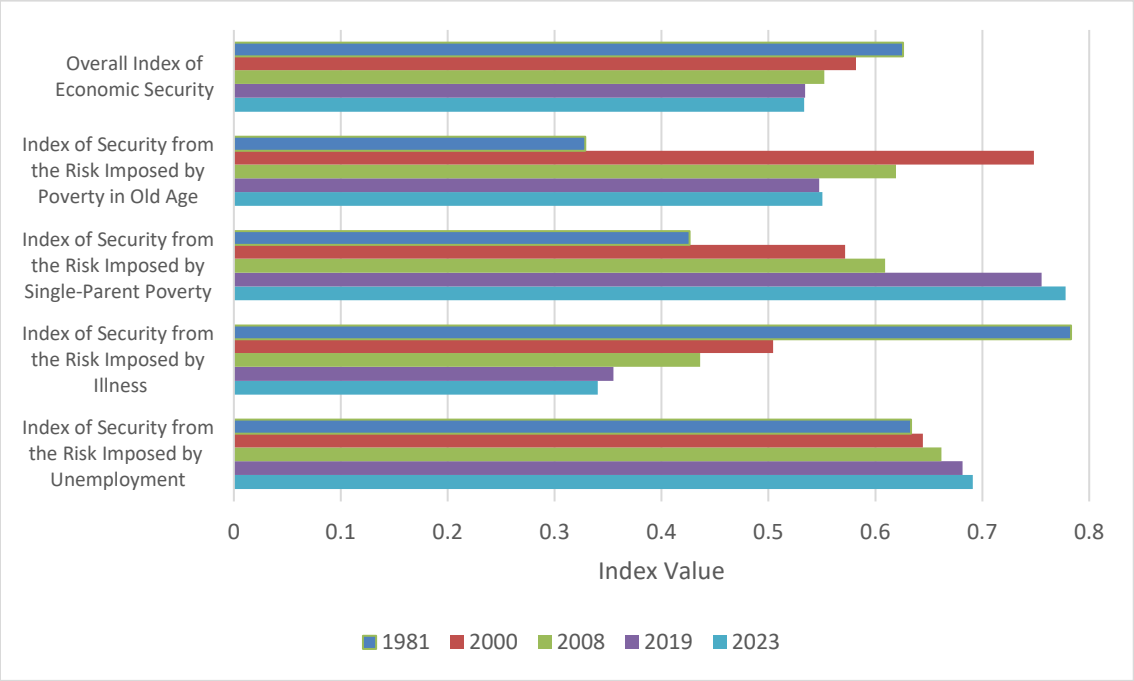


Source: Appendix Table 3.

V. Trends in Economic Security Domain

The economic security domain is the last and most complex domain of the Index of Economic Well-being. This domain has four components concerning the risks to economic well-being: the risk imposed by unemployment, the financial risk from illness, the risk of poverty for lone-parent families, and the risk of poverty in old age. Over time, each of these components vary in their weighting, both from each other and from themselves. This is because the weights of each component are determined based on the percentage of the population in each category.

Chart 54: Components of the Economic Security Domain for Canada in Select Years



Source: Appendix Table 4, 5, 6, 7, and 8

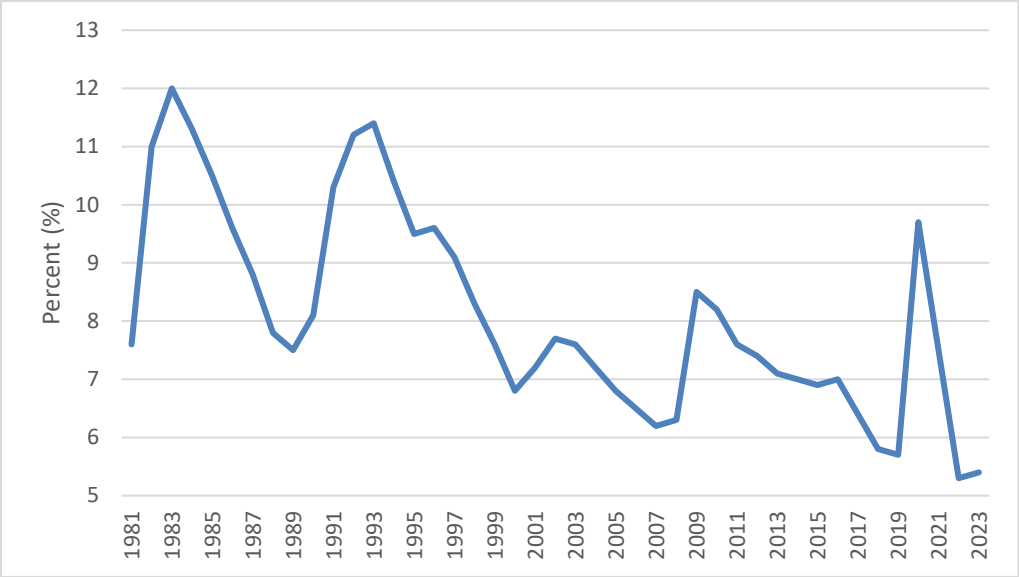
The next four subsections examine each of the components of this domain. The fifth and last one combines these components to form the index of economic security. Once again, this section will use index values—computed the same way as in the economic equality section—to compare trends over time rather than dollar values as in the first two sections (Chart 54).

A. Risk Imposed by Unemployment

Three variables comprise the risk imposed by unemployment: the unemployment rate, the portion of unemployed individuals receiving EI benefits, and the portion of earnings that are replaced by EI benefits. By multiplying the latter two values, we obtain a value measuring financial protection from unemployment. We then scale both this value and the unemployment rate and compute a weighted sum (20 per cent to the former and 80 per cent to the latter) to generate the index of security from unemployment.

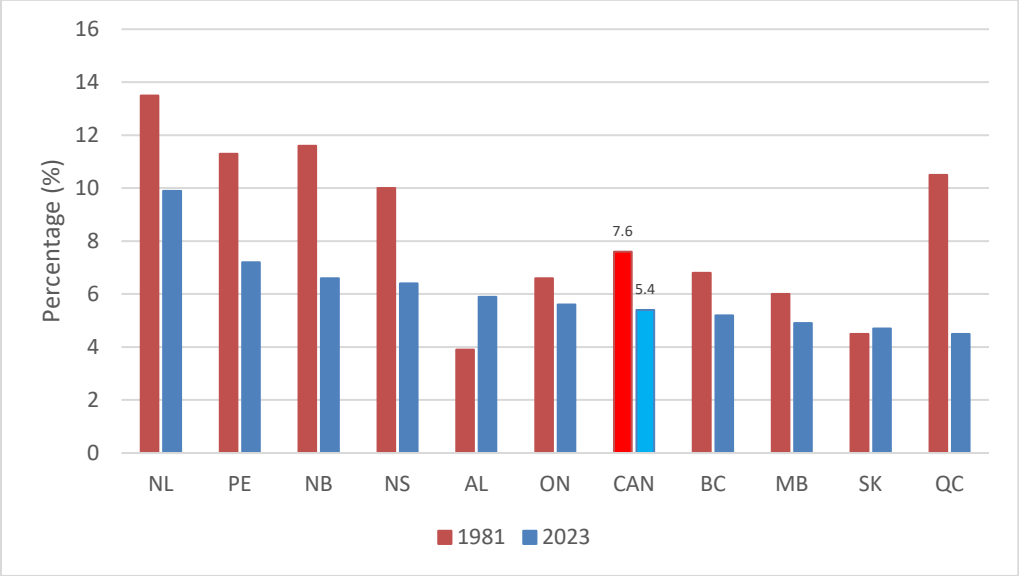
The first variable is the unemployment rate. Between 1981 and 2023, the unemployment rate in Canada decreased from 7.6 per cent in 1981 to 5.4 per cent in 2023 (Chart 55). In 2020, unemployment peaked at 9.7 per cent, a rate last seen in 1994. Unemployment quickly came down to a rate of 5.3 per cent in 2022 and increased slightly to 5.4 per cent in 2023. Unemployment decreased between each cyclical peak (Table 17).

Chart 55: Unemployment Rate in Canada, 1981 to 2023



Source: Appendix Table a20 (2).

Chart 56: Unemployment Rate by Province, 1981 and 2023

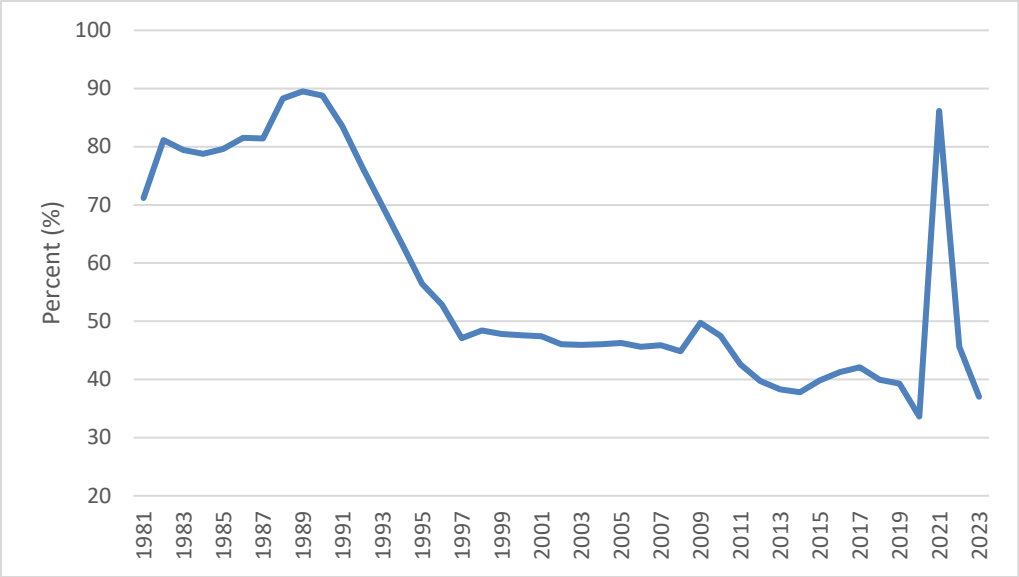


Source: Appendix Table a20 (2).

Quebec had the lowest unemployment rate and thus ranked first in 2023, up from seventh in 1981. It also exhibited the largest decrease in unemployment of any province, going down 6 percentage points—from 10.5 to 4.5 (Chart 56). Similarly, the Atlantic provinces saw a large decrease in unemployment, but their rankings did not improve much due to high initial rates in 1981. Over this period, unemployment decreased in every province except for Alberta and Saskatchewan. Alberta, which ranked first in 1981, saw an increase of 2 percentage points and ranked sixth in 2023. Saskatchewan ranked second in both years and saw an increase of only 0.2 per cent.

The second variable is the EI coverage rate. This rate describes the portion of the unemployed who receive benefits each year. In 1981 coverage was at 71 per cent and fell to 37 per cent by 2023 (Chart 57). Between 1989 and 1997, coverage declined rapidly, falling by 43 percentage points. This trend continued, although at a slower pace, until 2021 when coverage expanded from 34 per cent, the lowest level since 1981, to 86 per cent. Two years later, coverage returned to pre-pandemic levels, falling to 37 per cent. The coverage rate has experienced decreases between each cyclical peak (Table 17).

Chart 57: Percentage of Unemployed Receiving Benefits in Canada, 1981 to 2023



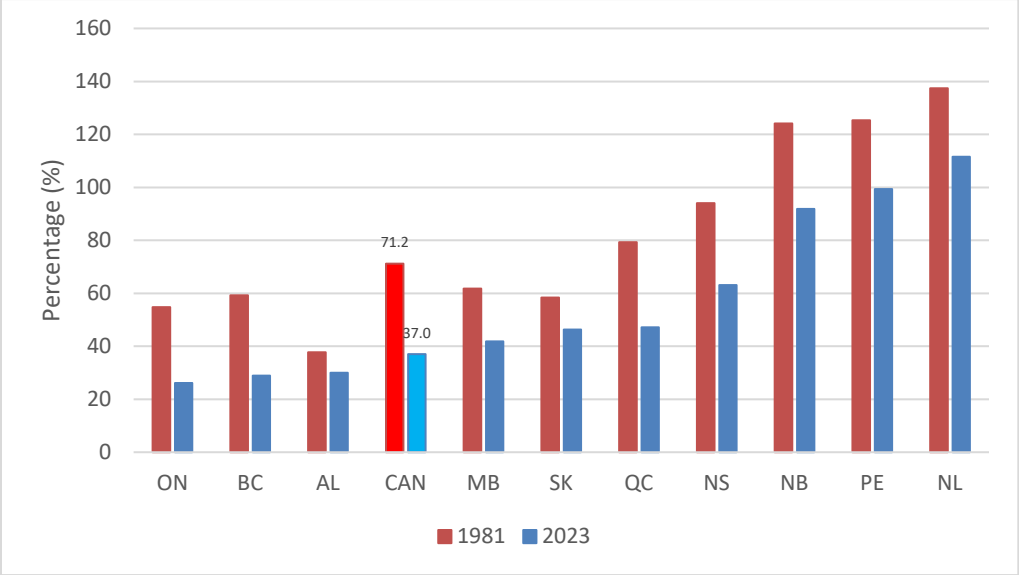
Source: Appendix Table a19.

The Atlantic provinces dominated the rankings in both 1981 and 2023 (Chart 58).[20] New Brunswick experienced the sharpest decline, and every province except Alberta and Saskatchewan saw similarly large drops. In 1981, Alberta, Ontario, and Saskatchewan ranked eighth, ninth, and

[20] Certain provinces have rates of unemployed receiving benefits exceeding 100 percent. This is, in part, due to the way unemployment is measured. Discouraged searchers and non-working individuals who expect to be recalled may receive benefits without being officially counted as unemployed. Such seasonal work is relatively common in the Atlantic provinces.

tenth, respectively. However, unlike the other two, Ontario's coverage plunged by 29 per cent, leaving it last in 2023.

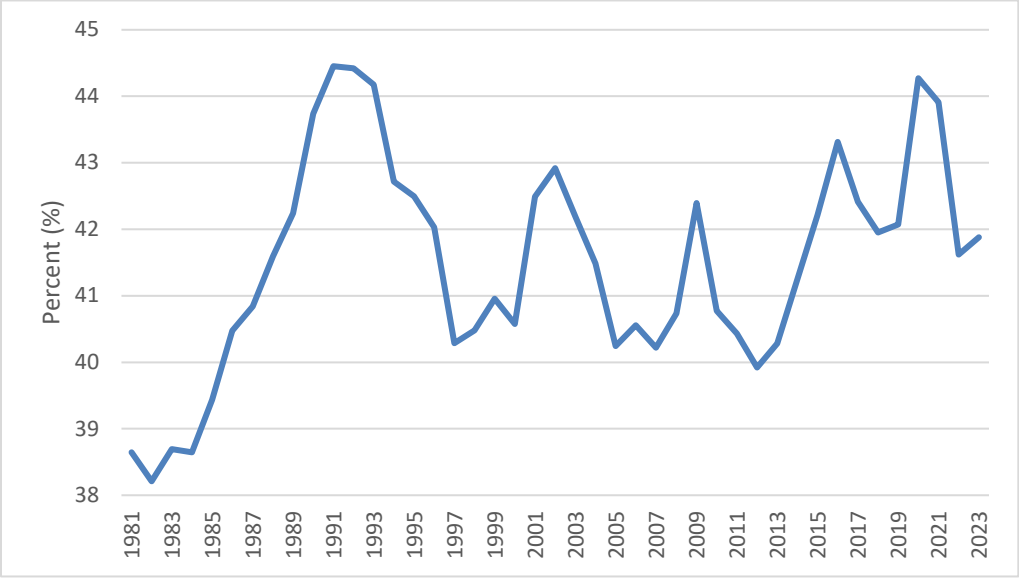
Chart 58: Percentage of Unemployed Receiving Benefits by Province, 1981 and 2023



Source: Appendix Table a19.

The last variable is the earnings replacement rate. Between 1981 and 2023, the percentage of earnings replaced by EI benefits increased from 38.6 per cent to 41.9 per cent (Chart 59). The replacement rate reached its highest level of 44.4 per cent in 1991, with subsequent local peaks in 2002, 2009, 2016, and 2020. Throughout this period, the replacement rate grew between each cyclical peak except in 2019-2023 where it declined (Table 17).

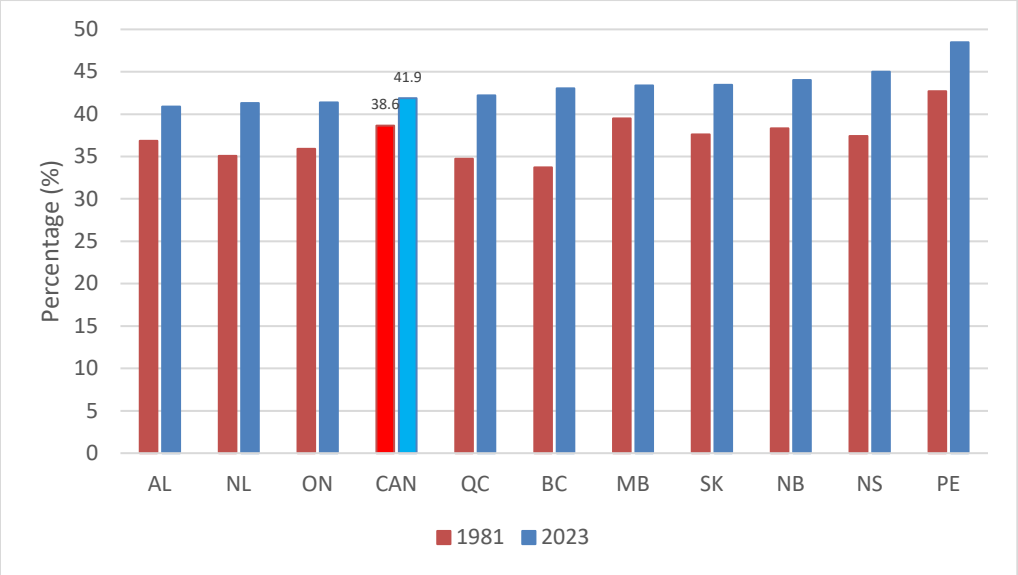
Chart 59: Percentage of Earnings Replaced by EI Benefits in Canada, 1981 to 2023



Source: Appendix Table a23.

Between 1981 and 2023, all provinces saw an increase in their coverage rates and exhibited similar earnings replacement rates (Chart 60). In 1981, Prince Edward Island topped the rankings at 43 per cent and held onto its top spot in 2023 with a rate of 48 per cent. By contrast, Alberta recorded the lowest replacement rate in 2023 (37 per cent). British Columbia recorded the largest increase—a nine percentage point gain—that lifted it fromda tenth to sixth.

Chart 60: Percentage of Earnings Replaced by EI Benefits by Province, 1981 and 2023



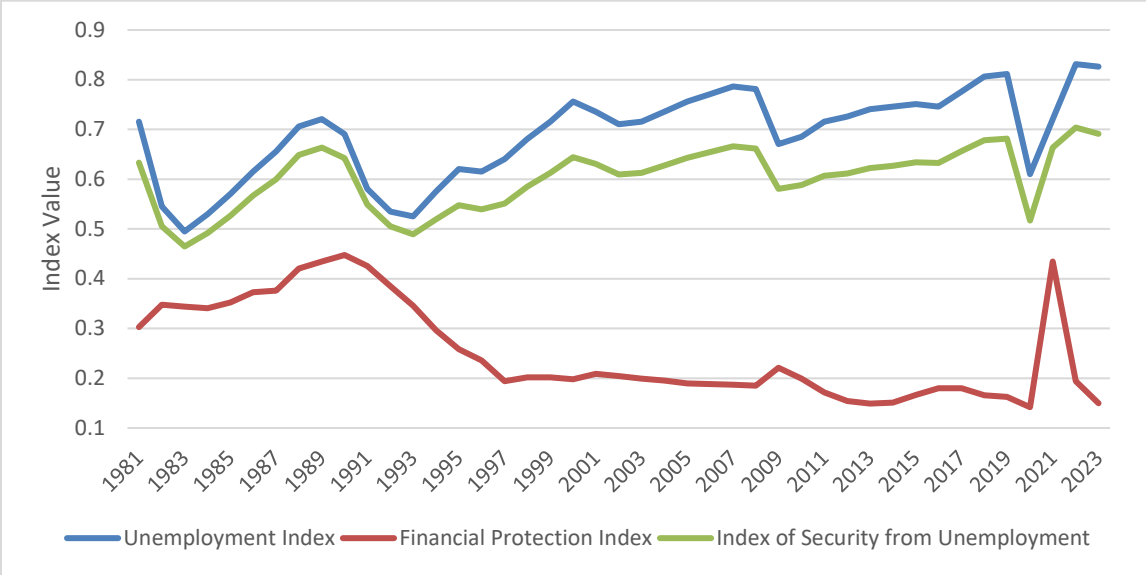
Source: Appendix Table a23.

We now use these three components to calculate the security from unemployment index. The portion of unemployed receiving benefits is multiplied by the portion of earnings replaced by benefits. The resulting value is scaled to achieve the index of financial protection. Then, the unemployment rate is scaled to achieve the index of unemployment. The unemployment index receives a weight of 80 per cent, and the financial protection index receives a weight of 20 per cent. As a result, the unemployment rate is the primary driver of changes in the index of security from the risk of unemployment.[21]

The general trend indicates that security from unemployment has been increasing in Canada between 1981 and 2023 (Chart 61). Because of the weighting, the overall index moves closely in unison with the unemployment index. Dips during high periods of unemployment, such as 2009 and 2020, are slightly muted in the overall index due to the high levels of financial protection during those years. Overall, the index of security from unemployment increased between each cyclical peak (Table 17).

[21] This weighting reflects how severely a high unemployment rate affects financial security. EI benefits are time-restricted, so even if they are generous, unemployment can still inflict substantial hardship.

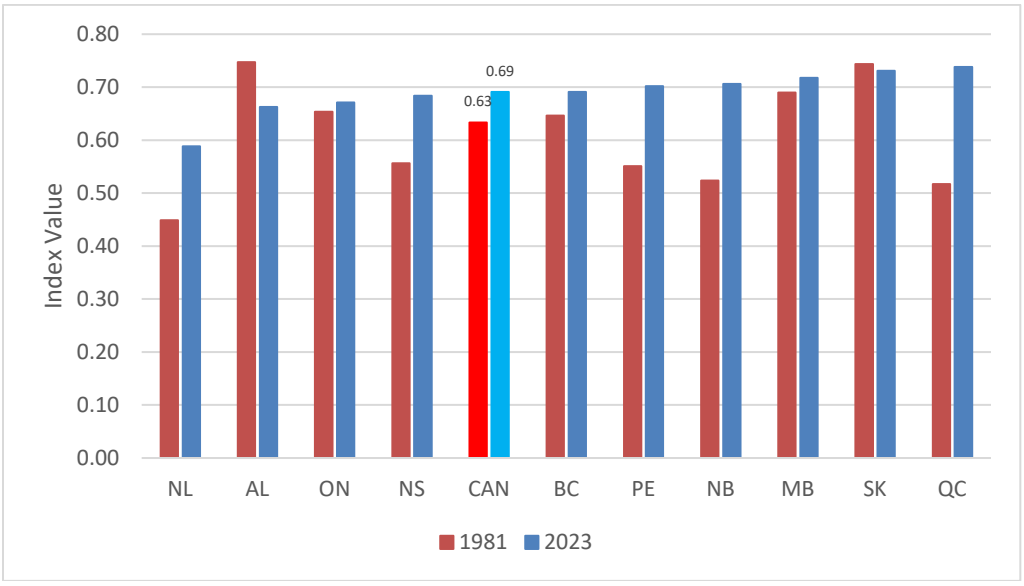
Chart 61: Index of Security from the Risk of Unemployment and Components in Canada, 1981 to 2023



Source: Appendix Table 4.

The general trend indicates that security from unemployment has been increasing in Canada between 1981 and 2023 (Chart 61). Because of the weighting, the overall index moves closely in unison with the unemployment index. Dips during high periods of unemployment, such as 2009 and 2020, are slightly muted in the overall index due to the high levels of financial protection during those years. Overall, the index of security from unemployment increased between each cyclical peak (Table 17).

Chart 62: Index of Security from the Risk Imposed by Unemployment by Province, 1981 and 2023



Source: Appendix Table 4.

Due to its low rate of unemployment, Quebec experienced the largest increase in the rankings, going from ninth in 1981 to first in 2023 (Chart 62). The Atlantic provinces also rose markedly, mainly due to their dominance in the financial protection index. Every province except for Alberta and Saskatchewan experienced an increase in security. Alberta, which ranked first in 1981, experienced the largest absolute drop in its index, ranking ninth in 2023. Saskatchewan decreased only slightly, ranking second in both periods.

Table 17: Security from Risk Imposed by Unemployment Index and Components CAGR for Canada, 1981 to 2023

Period	Unemployment Rate	Portion of Unemployed Receiving Benefits	Portion of Earnings Replaced by Benefits	Index of Security from the Risk Imposed by Unemployment
1981-2000	-0.58	-2.10	0.26	0.09
2000-2008	-0.95	-0.73	0.05	0.33
2008-2019	-0.91	-1.20	0.29	0.27
2019-2023	-1.34	-1.46	-0.12	0.35
1981-2023	-0.81	-1.54	0.19	0.21

Source: Appendix Table 4.

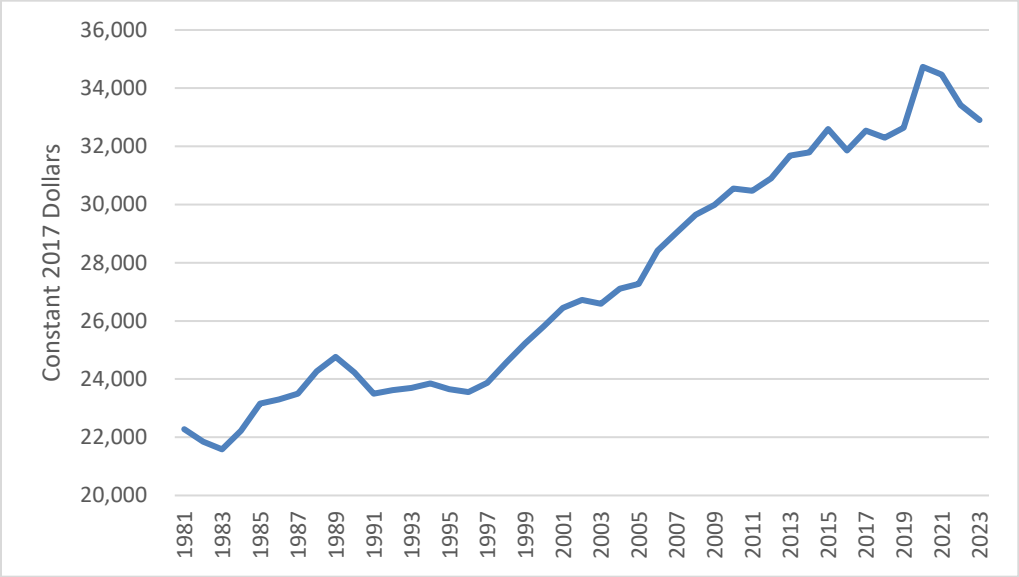
B. Financial Risk Imposed by Illness

Canadian citizens have access to universal health care, which provides medically necessary procedures free of charge. As a result, they face significantly less risk than citizens in countries without universal coverage, such as the United States. However, Canadians can still face significant private expenditures on health care, as many services, such as dental care, and pharmaceuticals are not covered or only partially covered. Additionally, issues such as waiting times may lead individuals to spend more out of pocket on the private provision of healthcare services. To calculate the financial risk from illness we use the total out-of-pocket private (OPP) expenditure on healthcare as a fraction of household income to create an index.

From 1981 to 2023, real household disposable income per capita rose by 52 per cent (Chart 63). It peaked in 2020 and has since decreased by 5.3 per cent. Nevertheless, it has seen increases between each cyclical peak (Table 18).

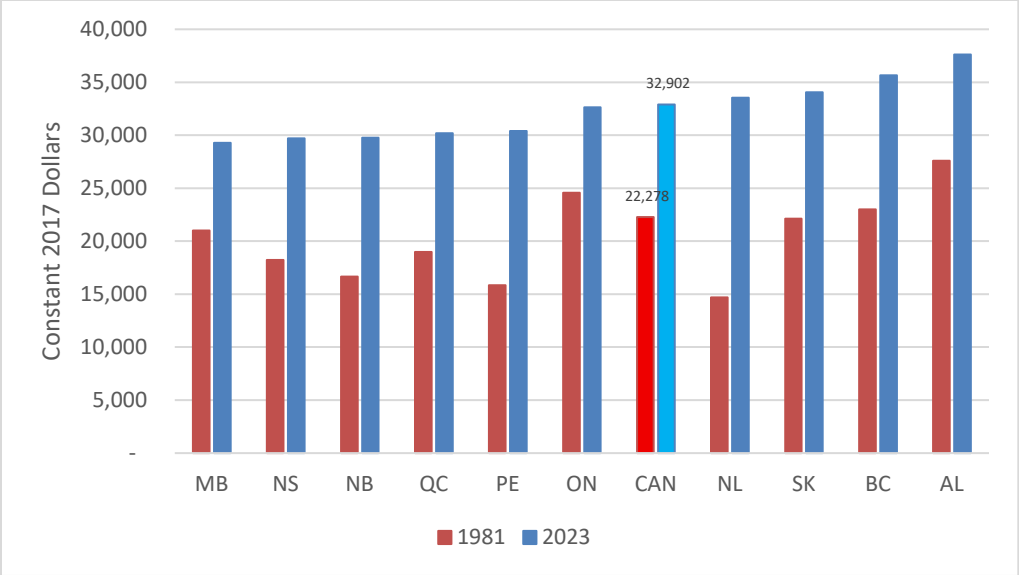
Between 1981 and 2023, every province saw its per-capita disposable income rise (Chart 64). Alberta held the top spot in both years. Newfoundland and Labrador, the lowest ranked in 1981, experienced an increase of 128 per cent, the largest of any province. Similarly large increases occurred across the Atlantic provinces, all of which occupied the bottom four positions in 1981. Ontario recorded the smallest increase, only 33 per cent, shifting it from second in 1981 to fifth in 2023.

Chart 63: Household Disposable Income per Capita in Canada, 1981 to 2023



Source: Appendix Table a24. Nominal household disposable income is converted into constant 2017 dollars using the CPI from Table a0.

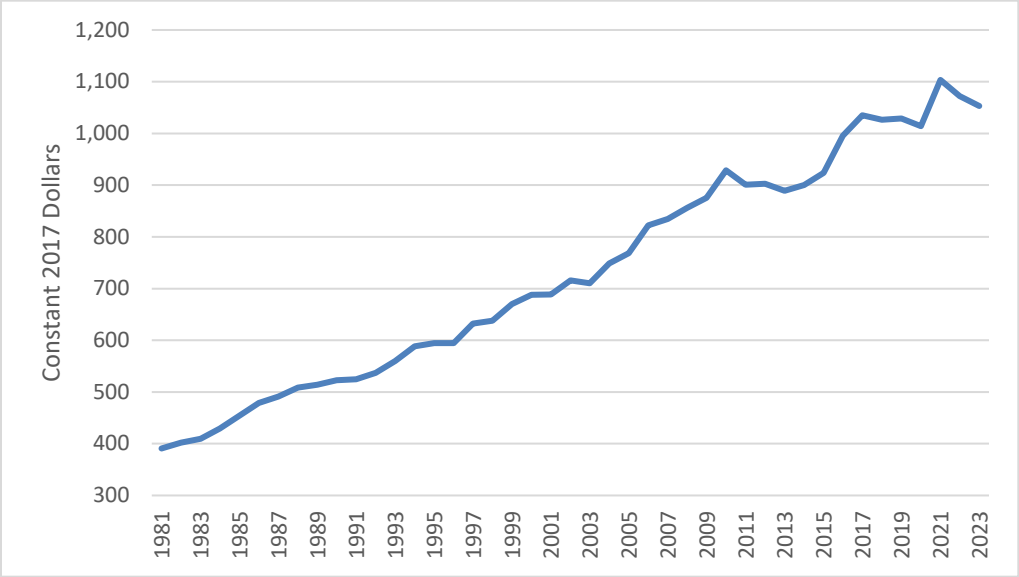
Chart 64: Household Disposable Income per Capita by Province, 1981 and 2023



Source: Appendix Table a24. Nominal household disposable income is converted into constant 2017 dollars per capita using the provincial CPIs from Table a0 and population from Table a1.

Real out-of-pocket private health expenditure per capita has experienced a total increase of 240 per cent (Chart 65). This increase was significantly larger than the 52 per cent increase seen in household disposable income per capita. Between each cyclical peak shown in Table 18, OPP private health expenditure per capita rose, but its pace of growth slowed as it neared the present.

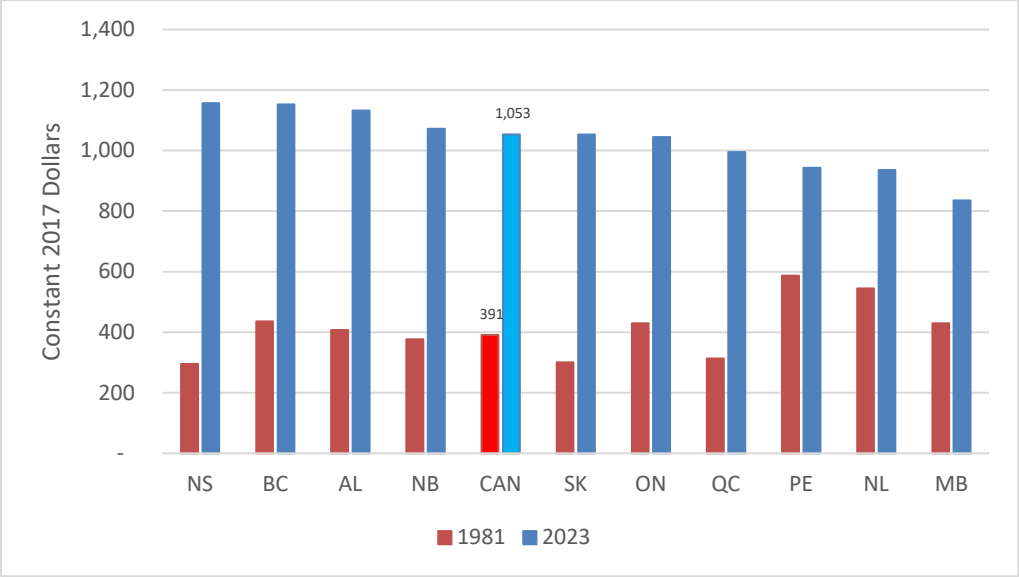
Chart 65: Out-of-Pocket Private Health Expenditure per Capita in Canada, 1981 to 2023



Source: Appendix Table a25. Nominal OPP health expenditure is deflated using CPI from Table a0 and divided by population from Table a1.

Both household per capita disposable income and per capita OPP health expenditures were calculated by taking the current values provided by Statistics Canada and the Canadian Institute for Health Information and adjusting them using provincial CPIs and populations. Unfortunately, out-of-pocket private health expenditure by province is not provided. To obtain provincial estimates, we took OPP health expenditure as a share of total health expenditure for Canada and applied the ratio to the provincial total health expenditure amounts each year. For years before 1988, we applied the national 1988 ratio.

Chart 66: Out-of-Pocket Private Health Expenditure per Capita by Province, 1981 and 2023

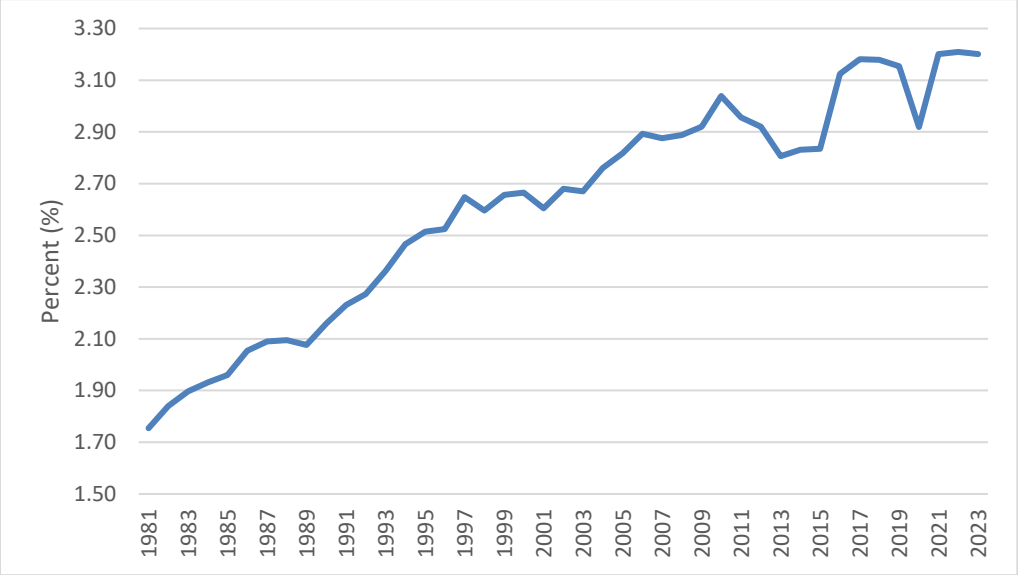


Source: Appendix Table a25. Nominal OPP health expenditure is deflated using provincial CPIs from Table a0 and divided by provincial population from Table a1.

Since the national ratio of OPP over total health expenditure is used for the provinces, Chart 66 simply ranks the provinces by total health expenditure (as those with larger total health expenditures will have a higher OPP when a constant ratio is applied to each value). Between 1981 and 2023, OPP health expenditure per capita rose in every province. Manitoba climbed from seventh in 1981 to first in 2023. Nova Scotia, which had ranked first in 1981, fell to last place in 2023 and suffered the largest increase in per capita spending (291 per cent). In contrast, Prince Edward Island saw the smallest increase (61 per cent) and thus climbed from last in 1981 to third in 2023.

Private out-of-pocket expenditure on health care has increased proportionally more than household disposable income between 1981 and 2023. So, the fraction of out-of-pocket expenditure on health over disposable income has also increased as seen in Chart 67. In 1981, Canadians were spending about 1.75 per cent of their disposable income on private health expenditure. This value has since increased to 3.20 per cent of household disposable income in 2023, a total increase of 1.55 percentage points. In recent years, growth in this ratio has moderated, and even decreased in 2023.

Chart 67: Out-of-Pocket Private Expenditure as a Fraction of Household Disposable Income in Canada[22], 1981 to 2023



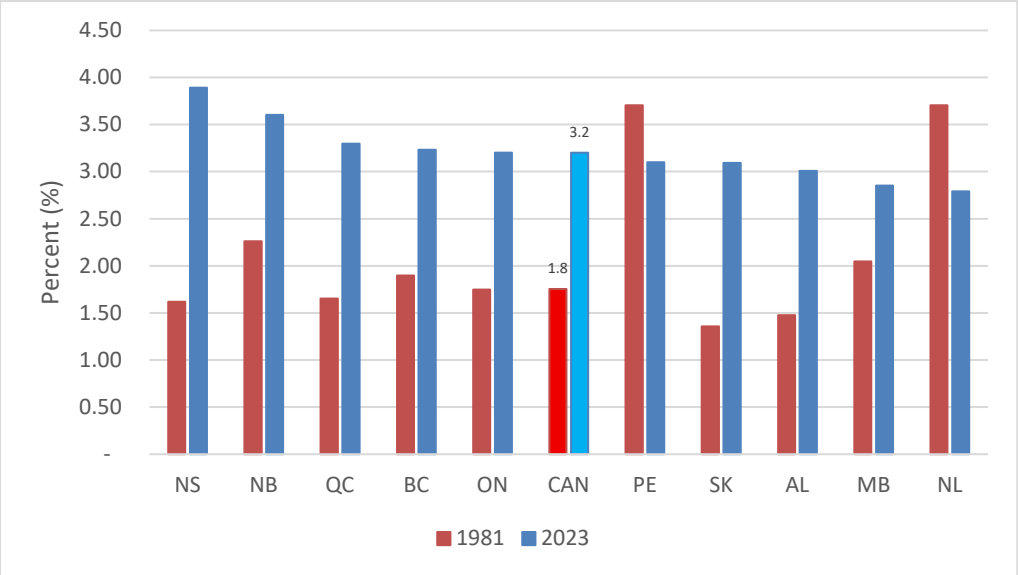
Source: Appendix Table a26.

All provinces except for Newfoundland and Labrador and Prince Edward Island saw an increase in the percentage of OPP health expenditure as a fraction of household disposable income (Chart 68). The decrease seen in these two provinces resulted from the large increase in household disposable income (the denominator). Newfoundland and Labrador ranked first in 2023, up from

[22] We omit direct comparison of the financial risk from illness index as it consists of only one variable and thus follows the same trend. The index itself is shown in the final subsection of this domain.

ninth in 1981, due to a 0.92 percentage points decrease in its ratio. Nova Scotia ranked last in 2023, down from third in 1981, due to 2.27 percentage point increase in its ratio, the largest of any province.

Chart 68: Out-of-Pocket Private Expenditure as a Fraction of Household Disposable Income by Province, 1981 and 2023



Source: Appendix Table a26.

Table 18: Financial Risk from Illness Index and Components CAGR for Canada, Constant 2017 Dollars, 1981 to 2023

Period	Portion of Household Disposable Income Spent on OPP Health Expenditure	Household Disposable Income per Capita	OPP Health Expenditure per Capita	Index of Security from the Financial Risk Imposed by Illness
1981-2000	2.23	0.78	3.02	-2.29
2000-2008	1.01	1.74	2.77	-1.80
2008-2019	0.80	0.88	1.69	-1.85
2019-2023	0.38	0.20	0.58	-1.05
1981-2023	1.44	0.93	2.39	-1.96

Source: Appendix Table 5, a24, a25, and a26. Components are in nominal terms and must be adjusted using CPI from Table a0 and population from Table a1 before computing CAGR.

C. Risk imposed by Single-Parent Poverty

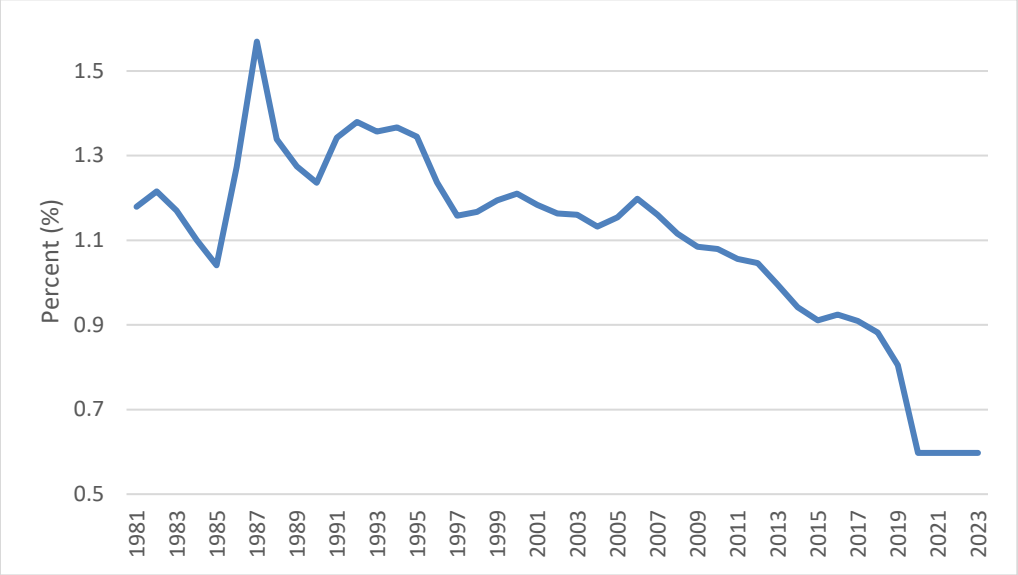
The index of security from the risk imposed by single-parent poverty consists of three variables: the divorce rate, the poverty rate for lone-parent families, and the poverty gap ratio for these families.[23] The poverty rate describes the portion of lone-parent families whose total after-

[23] We once again use the LIM as our measure of poverty.

tax income falls below 50 per cent of the equivalized after-tax median income. The poverty gap measures the average difference between the poverty line (fifty per cent of median income) and the incomes of impoverished families. To obtain the poverty ratio, we divide this average by the poverty line. Finally, we multiply the three variables to generate the index security from single-parent poverty.[24]

We first look at divorce rates. This rate is calculated by using the number of married individuals and divorces provided by Statistics Canada. We divide the former by two to obtain the number of couples and then divide the number of divorces by the number of couples to obtain the divorce rate.[25] In 1981, 1.18 per cent of all married couples obtained a divorce, while in 2020 the rate fell to 0.60 per cent. The divorce rate peaked at 1.57 per cent in 1987 and has since shown a general decline (Chart 69). In 2018, divorce rates began to sharply decline—a trend which was accentuated by the financial uncertainty of the 2020 pandemic. Overall, Table 19 shows that after 1981-2000 the divorce rate has decreased at a faster rate in each subsequent period.

Chart 69: Divorce Rate Among Married Couples in Canada, 1981 to 2020

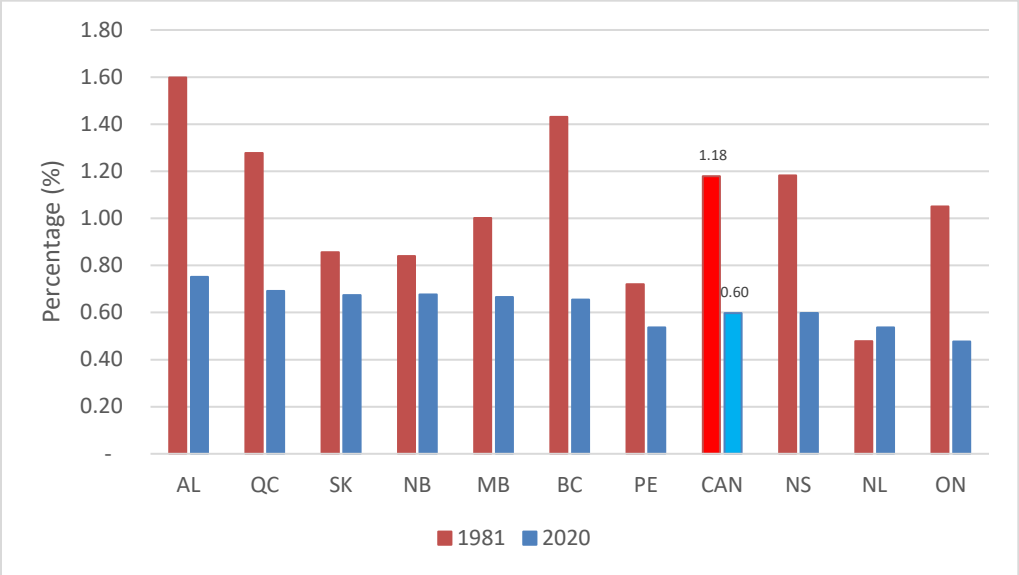


Source: Appendix Table a27.

Between 1981 and 2020, every province except Newfoundland and Labrador saw its divorce rate decline (Chart 70). Newfoundland and Labrador led the rankings in 1981 but fell to second place by 2020. Ontario rose from fifth place in 1981 to first in 2020, with a divorce rate of 0.48 per cent. Alberta's rate dropped from 1.60 per cent to 0.75 per cent, the largest reduction of any province, yet it remained the lowest ranked in both years.

[24] Lower poverty and divorce rates contribute positively to the index. Thus, provinces rankings are done from lowest to highest, where lower rates are preferred.
[25] Divorce numbers after 2020 are not available and carried forward from 2021-2023.

Chart 70: Divorce Rate by Province, 1981 and 2023



Source: Appendix Table a27.

Table 19: Risk Imposed by Lone-Parent Poverty Index and Components CAGR for Canada, 1981 to 2023

Period	Divorce Rate	Poverty Rate for Persons in Lone-Parent Families	Poverty Gap Ratio for Persons in Lone-Parent Families	Index of Security from the Risk Imposed by Single-Parent Poverty
1981-2000	0.14	-0.57	-1.40	1.55
2000-2008	-1.01	-0.92	0.51	0.80
2008-2019	-2.92	-1.90	-0.98	1.98
2019-2023	-7.18	2.30	2.57	0.53
1981-2023	-1.61	-0.72	-0.56	1.42

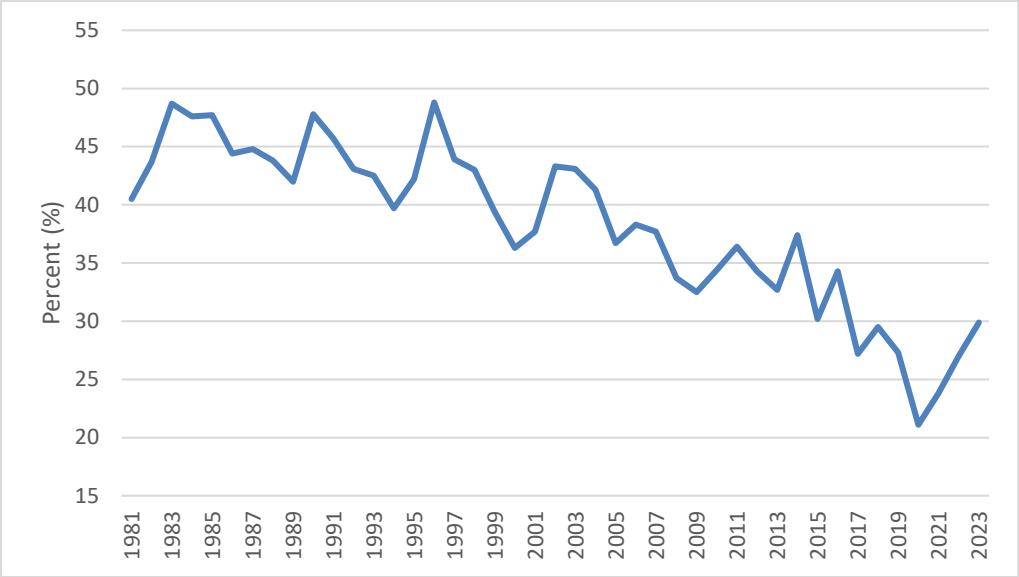
Source: Appendix Table 6 and a27.

We now shift to looking at the poverty rate for lone-parent families. Between 1981 and 2023, the LIM poverty rate for single-parent families fell 10.6 percentage points (Chart 71). The national rate has been highly variable, peaking at 48.8 per cent in 1996 and bottoming at 21.1 per cent in 2020. Surprisingly, even using a relative measure of poverty, the lone-parent poverty rate has shown a substantial decline. This indicates that incomes for lone-parent families have risen quicker than 50 per cent of the national median equivalized after-tax household income. The poverty rate decreased for each cyclical period in Table 19 other than the most recent period, 2019-2023, where it increased by 7.8 percentage points.

Every province other than Alberta experienced a decrease in their lone-parent poverty rate between 1981 and 2023 (Chart 72). Quebec saw a decrease from 45.0 per cent to 23.7 per cent, shifting it from fifth to first place. Nova Scotia, which ranked ninth in 1981, saw the largest drop (25.9 per cent) of any province and climbed to fourth place. Unlike the others, Alberta saw an

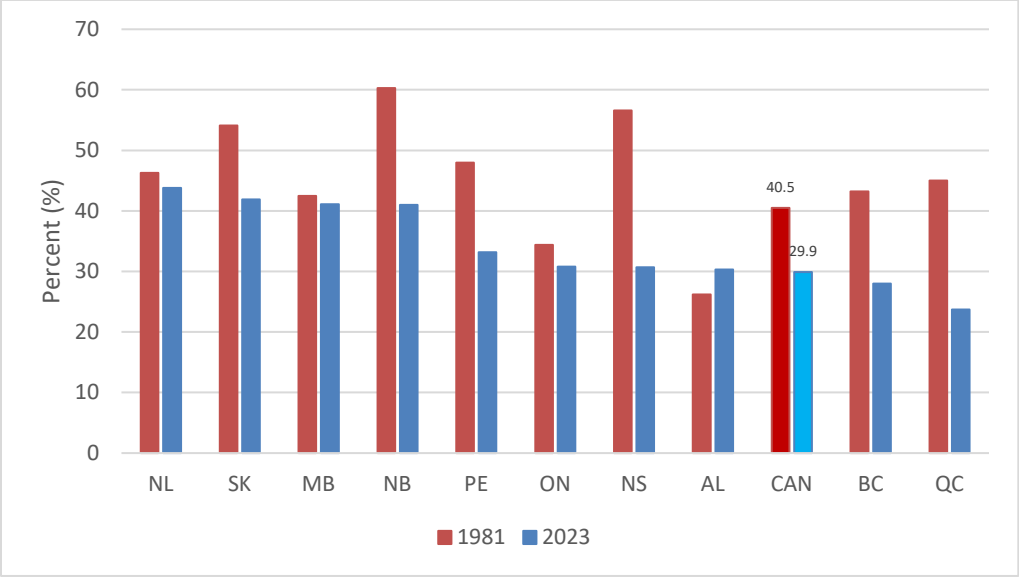
increase of 4.1 percentage points in its lone-parent poverty rate, pushing it down from first to fourth place.

Chart 71: LIM Poverty Rate for Persons in Lone-Parent Families in Canada, 1981 to 2023



Source: Appendix Table a27.

Chart 72: LIM Poverty Rate for Persons in Lone-Parent Families by Province, 1981 and 2023

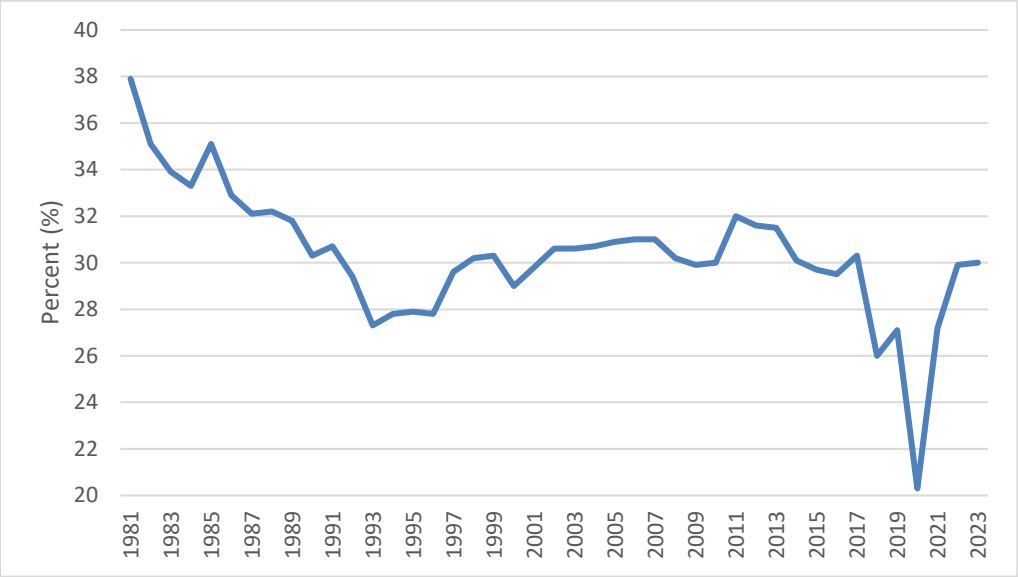


Source: Appendix Table a27.

The last component of the index of security from lone-parent poverty is the poverty gap ratio. From 1981 to 2023, the average distance from the poverty line of impoverished lone-parent families has fallen from 37.9 per cent to 30.0 per cent of the LIM (Chart 73). The entirety of this decrease occurred early on from 1981 to 1993, after which the gap ratio stabilized around 30 per

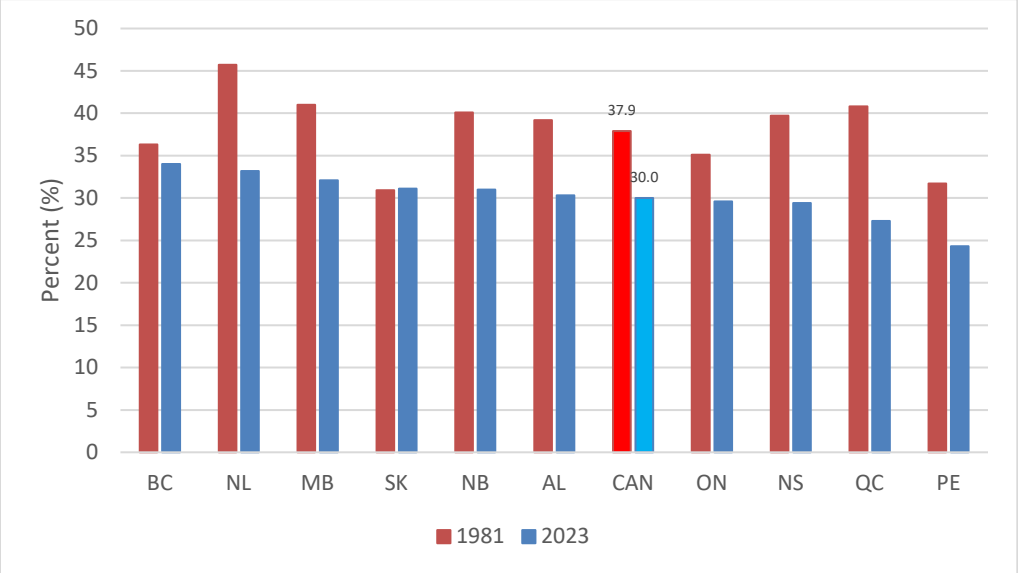
cent. Due to high government transfers during the pandemic, the ratio fell steeply, hitting record lows of 20.3 per cent in 2020. Even before the pandemic, the ratio seemed to deviate from its two-decade trend, dropping from 30.3 per cent in 2017 to 26.0 per cent in 2018. Surprisingly, this trend did not continue after 2020. The ratio rebounded back to 30.0 per cent in 2023.

Chart 73: LIM Poverty Gap Ratios for Persons in Lone-Parent Families in Canada, 1981 to 2023



Source: Appendix Table a27.

Chart 74: LIM Poverty Gap Ratios by Province, 1981 and 2023



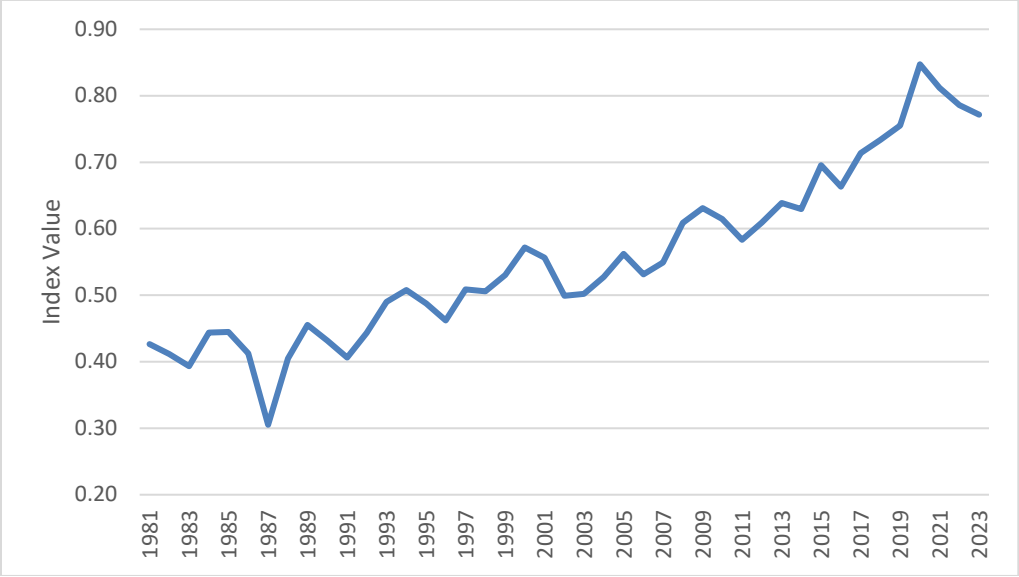
Source: Appendix Table a27.

Over this period, every province other than Saskatchewan saw a decrease in their lone-parent poverty gap ratio (Chart 74). Saskatchewan's gap ratio increased 0.2 percentage points, indicating that the average relative distance from the LIM increased. This shifted Saskatchewan

from first in 1981 to seventh in 2023. Prince Edward Island came first with a gap ratio of 24.3, up from second in 1981. British Columbia, which saw the second smallest decrease in its gap ratio, moved from fourth to last place. Quebec experienced the largest decline in the gap ratio (13.5 percentage points), elevating its ranking from eighth to second.

Finally, to compute the index of security from single-parent poverty, we multiply the three components together, resulting in a single value representing the risk imposed by single-parent poverty. When we scale these values, higher risk translates into a lower index while lower risk translates into a higher index. Due to the national downwards trend in both divorces and the lone-parent poverty rate, the index has been steadily increasing and saw increases in each cyclical period (Chart 75 and Table 19).

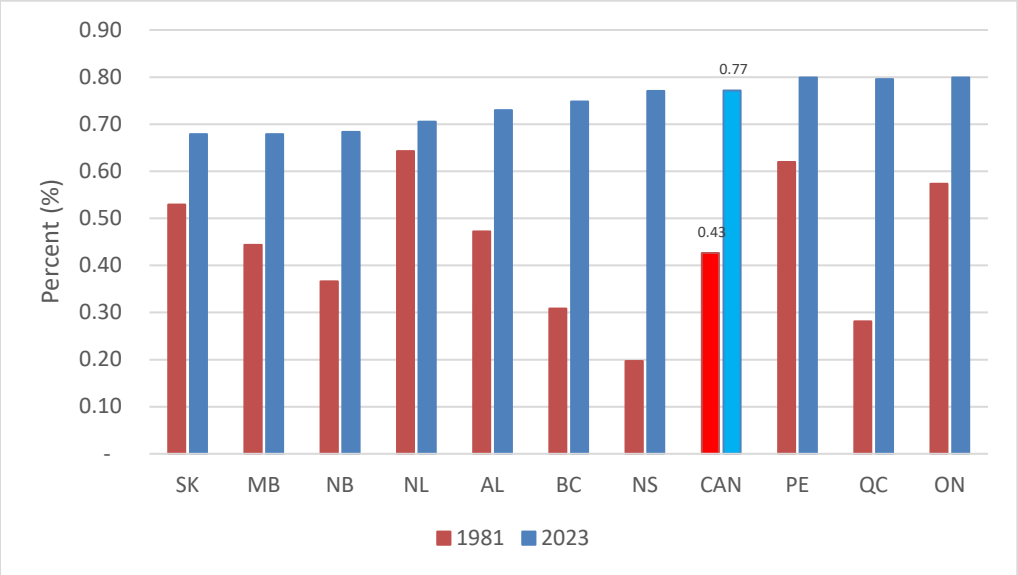
Chart 75: Index of Security from the Risk Imposed by Lone-Parent Poverty in Canada, 1981 to 2023



Source: Appendix Table 6.

Every province saw an increase in their index values (Chart 76). The largest absolute index increase was experienced by Nova Scotia, which improved from last in 1981 to fourth in 2023. Newfoundland saw the smallest absolute increase and dropped from first to seventh. Ontario and Quebec ranked first and second, up from third and ninth, respectively. Over this time, all the Prairie provinces dropped in the ranks, and in 2023 all three ranked in the bottom five.

Chart 76: Index of Security from the Risk Imposed by Lone-Parent Poverty by Province, 1981 and 2023



Source: Appendix Table 6.

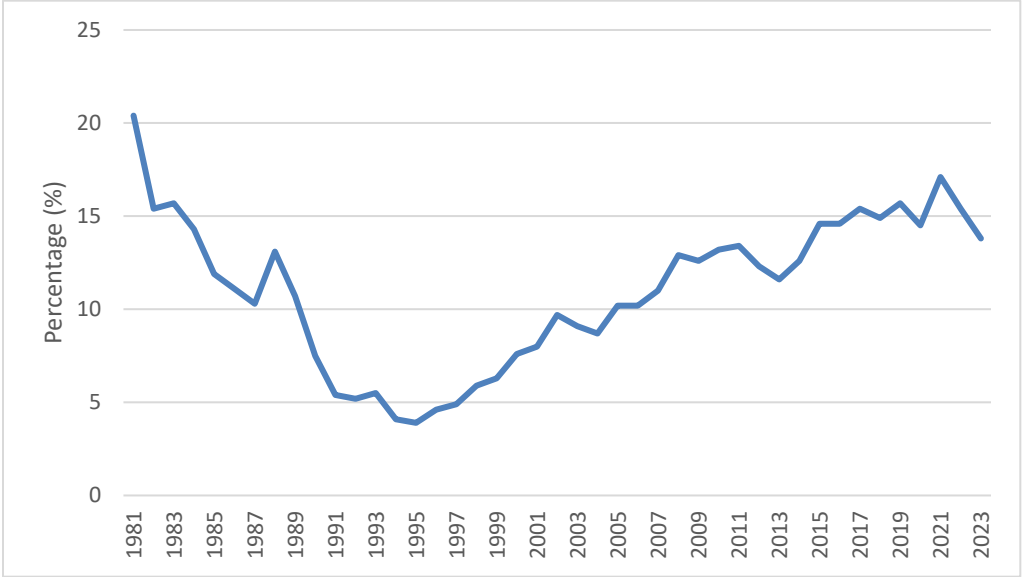
D. Risk Imposed by Poverty in Old Age

This final component of the economic security domain measures the risk of poverty in old age. This component uses the poverty rate and poverty gap ratio for those 65 and older to calculate poverty intensity for the elderly. We multiply the poverty intensity by a constant of 1.89[26] and then scale the result to obtain the index of security from the risk imposed by poverty in old age.

The first component is the poverty rate for the elderly, measured using the LIM. Between 1981 and 2023, the poverty rate for the elderly in Canada dropped 6.6 percentage points, from 20.4 per cent to 13.8 per cent (Chart 77). The rate saw a substantial decrease over the first 15 years and bottomed out at 3.9 per cent in 1995. Since then, the rate has increased, reaching a local peak of 17.1 per cent in 2021. Recent data in the years following 2021 once again indicate the start of a downwards trend (Table 20). One reason for this variation stems from the fact that pensions are inflation adjusted. During the 1980s and 1990s, soaring inflation pushed real wages into negative territory. At the same time, CPI-indexed pensions kept pace with rising prices, preserving retirees' purchasing power and driving a substantial gain in their incomes relative to the LIM.

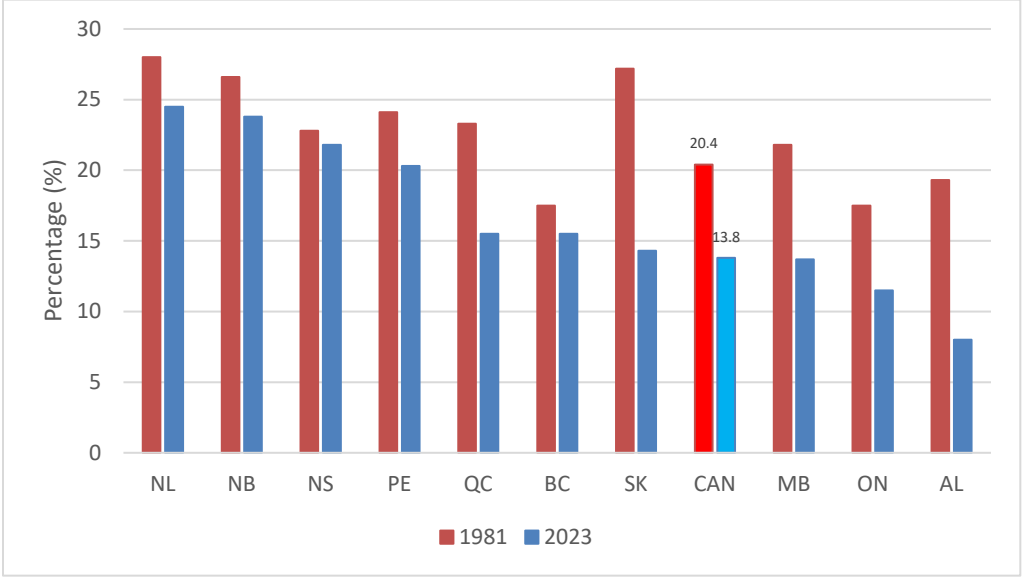
[26] The constant of 1.89 is the Gini coefficient measuring the inequality in the depth of poverty in Canada. Since we apply the same value to each of the provinces, taking the product does not change our rankings but simply makes the numbers comparable with the existing literature.

Chart 77: LIM Poverty Rate for the Elderly in Canada, 1981 to 2023



Source: Appendix Table 7.

Chart 78: LIM Poverty Rate for the Elderly by Province, 1981 and 2023

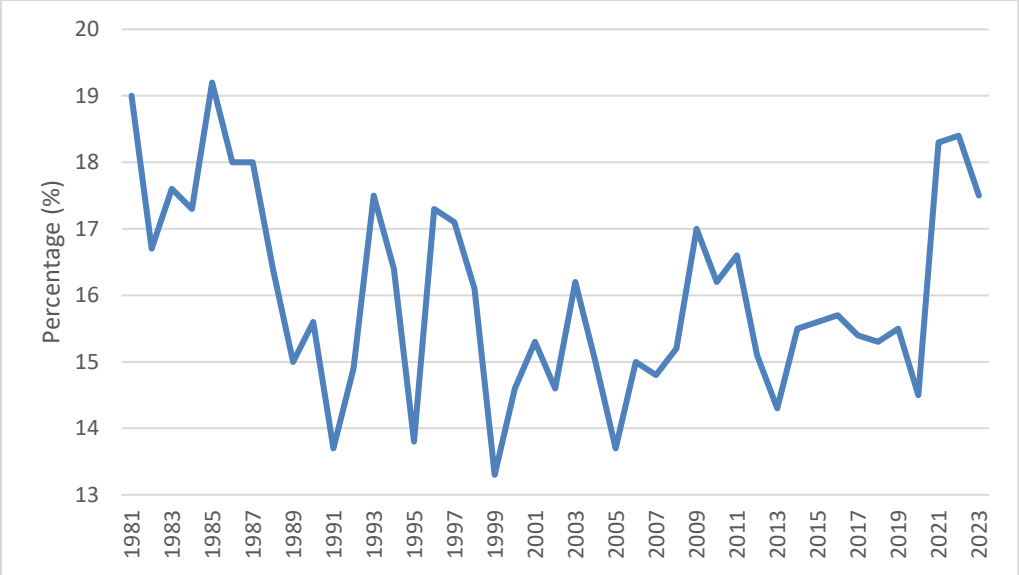


Source: Appendix Table 7.

Between 1981 and 2023, every province saw its elderly poverty rate fall (Chart 78). Alberta climbed from third place in 1981, with a rate of 19.3 per cent, to first in 2023, with a rate of 8 per cent. Ontario, which had ranked first in 1981, slipped to second after its rate dropped by just 6 percentage points. Newfoundland and Labrador remained last in both years, with rates of 28.0 per cent in 1981 and 24.5 per cent in 2023. Overall, the Atlantic provinces occupied the bottom positions throughout, each recording elderly poverty rates above 20 per cent in both periods.

The second component is the poverty gap ratio for those aged 65 and over. From 1981 to 2023, the gap ratio decreased modestly—from 19.0 per cent to 17.5 per cent—fluctuating within a narrow band (never above 19.2 per cent or below 13.3 per cent). Unlike the general poverty gap ratio, the elderly gap ratio showed only a tiny pandemic-related dip in 2020 but soared 3.8 percentage points the following year (Chart 79).

Chart 79: LIM Poverty Gap Ratio for the Elderly in Canada, 1981 to 2023



Source: Appendix Table 7.

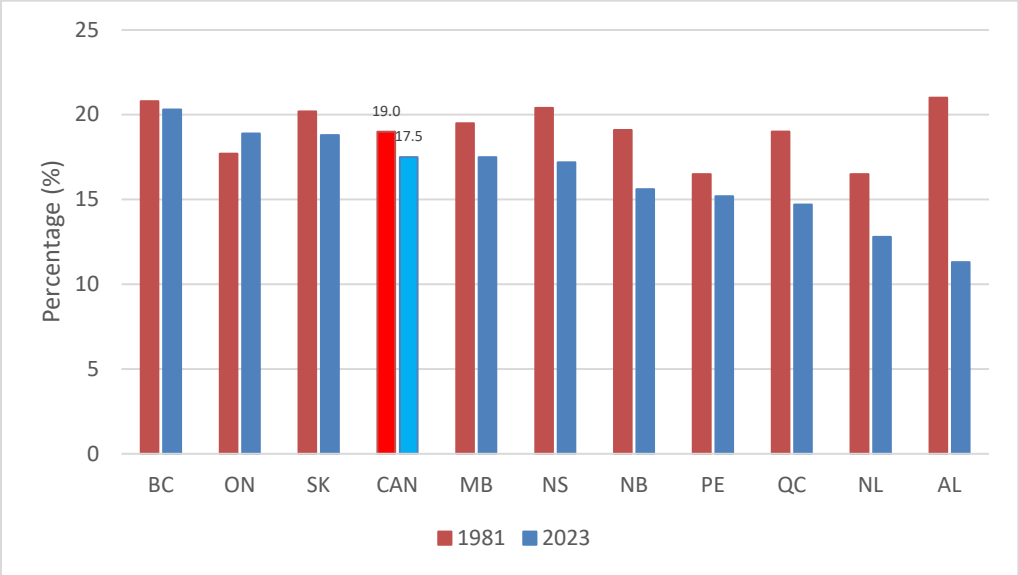
Table 20: Risk Imposed by Poverty in Old Age Index and Components CAGR for Canada, 1981 to 2023

Period	LIM Poverty Rate for the Elderly	LIM Poverty Gap Ratio for the Elderly	Index of Security from the Risk Imposed by Poverty in Old Age
1981-2000	-5.06	-1.38	4.42
2000-2008	6.84	0.50	-2.34
2008-2019	1.80	0.18	-1.11
2019-2023	-3.17	3.08	0.13
1981-2023	-0.93	-0.20	1.23

Source: Appendix Table 7.

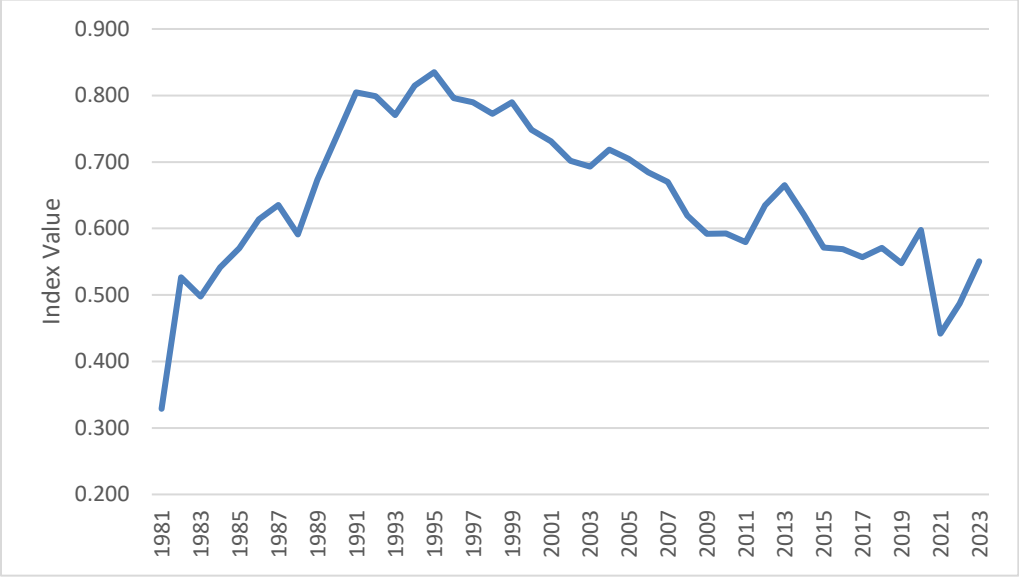
Between 1981 and 2023, every province except Ontario saw its elderly poverty gap ratio decline (Chart 80). Alberta made the greatest progress: it ranked last in 1981 with a gap ratio of 21.0 per cent and by 2023 led all provinces with a gap ratio of 11.3 per cent. British Columbia's gap ratio fell by just 0.5 percentage points, moving it from ninth to tenth place. Ontario was the only province to see an increase, with its gap ratio rising by 1.2 percentage points and sliding from third to ninth place.

Chart 80: LIM Poverty Gap Ratio for the Elderly by Province, 1981 to 2023



Source: Appendix Table 7.

Chart 81: Index of Security from the Risk Imposed by Poverty in Old Age in Canada, 1981 to 2023



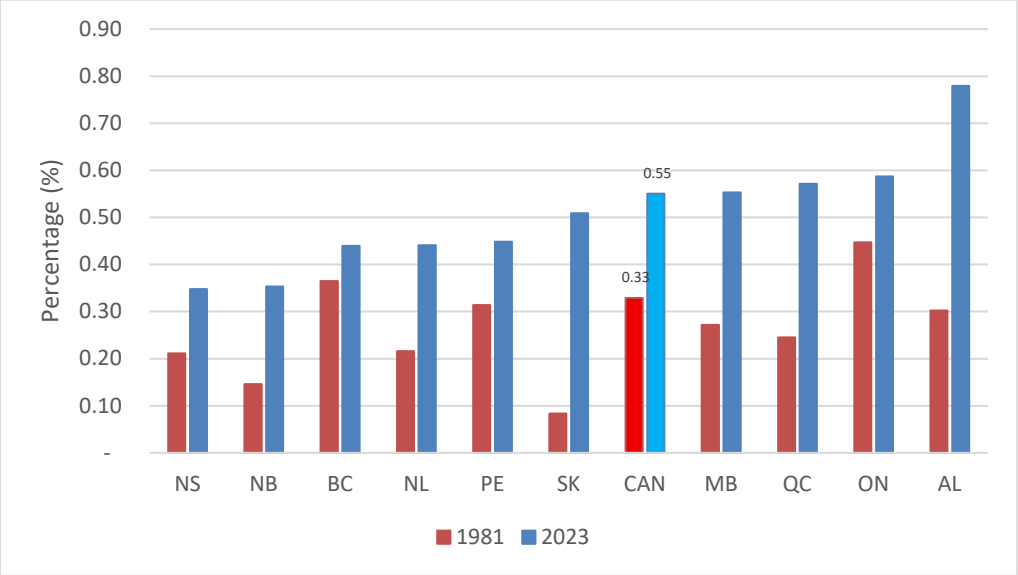
Source: Appendix Table 7.

Finally, the product of both components and a constant of 1.89 is taken to calculate the poverty intensity for the elderly. The index value increased considerably from 1981 to 1995, where it peaked. Since then, the index has shown a steady decline, meaning that the risk of poverty in old age has expanded (Chart 81). As per Table 20, the index value increased a great deal in 1981-2000 and modestly in 2019-2023 but decreased throughout 2000-2008 and 2008-2019.

From 1981 to 2023, every province saw a decrease in the risk of poverty in old age (and thus an increase in its index value). The Prairie provinces, especially Alberta, saw the largest

increases over this period (Chart 82). Alberta ranked first in 2023, up from fourth in 1981. Ontario, which ranked first in 1981, fell to second place in 2023. British Columbia, on account of having the smallest improvement, fell from second to eighth. The Atlantic provinces, due to their poor poverty rate performance, made up four of the bottom five provinces.

Chart 82: Index of Security from the Risk Imposed by Poverty in Old Age by Province, 1981 and 2023



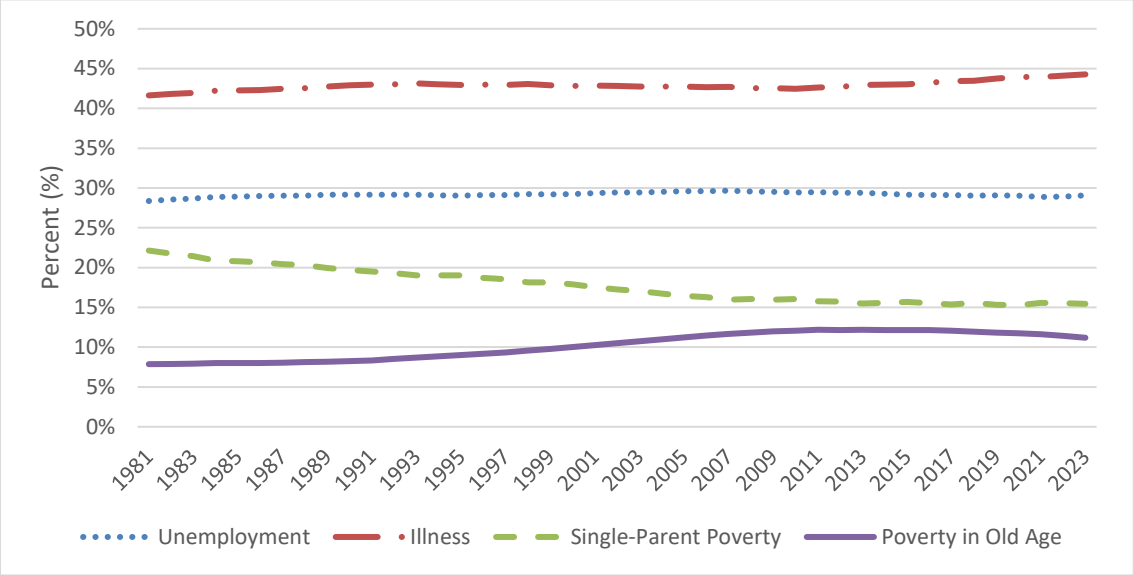
Source: Appendix Table 7.

E. Index of Economic Security

We generate the index for the domain of economic security by aggregating the scaled values of the four components. The contribution of each component is the product of its scaled value and weight. The weights used for this aggregation procedure are constructed from the relative sizes of the populations subject to each risk. The portion defined at risk of unemployment is taken to be the share of people aged between 15 and 64. The portion defined at risk of illness is taken to be 100 per cent of the population. The portion defined at risk of single-parent poverty used is the share of the population in couples with children. The portion defined at risk of poverty in old age is the share of people aged between 45 and 64. The weight used for each component is its share of the total sum of portions at risk.

We see that the weight associated with unemployment and Illness has remained mostly constant, both seeing a slight increase in 2023 compared to 1981 (Chart 83). The weight for single-parent poverty has decreased approximately 7 points, from 22 per cent to 15 per cent of the index. The weight for poverty in old age has increased approximately 3.3 points, from 7.9 per cent to 11.2 per cent of the index (Table 21).

Chart 83: Trends in Weights for the Index of Economic Security for Canada, 1981-2023



Source: Appendix Table 8.

Table 21: Index of Security Component Weight Percentages for Canada, 1981 and 2023

Component	1981	2023
Risk Imposed by Unemployment	28.4	29.1
Risk Imposed by Illness	41.6	43.3
Risk Imposed by Single-Parent Poverty	22.1	15.5
Risk Imposed by Poverty in Old Age	7.9	11.2

Source: Appendix Table 8.

Table 22: Index of Economic Security and Component Indices CAGR for Canada, 1981 to 2023

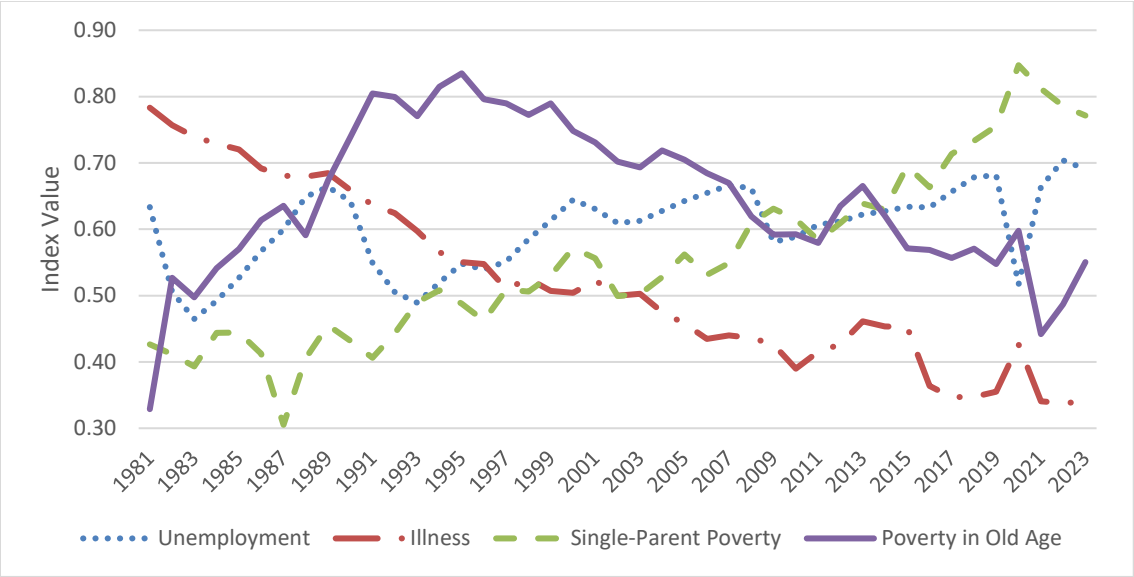
Period	Index of Security from Unemployment	Index of Security from Illness	Index of Security from Lone-Parent Poverty	Index of Security from Poverty in Old Age	Index of Economic Security
1981-2000	0.09	-2.29	1.55	4.42	-0.38
2000-2008	0.33	-1.80	0.80	-2.34	-0.65
2008-2019	0.27	-1.85	1.98	-1.11	-0.30
2019-2023	0.35	-1.05	0.74	0.13	-0.03
1981-2023	0.21	-1.96	1.44	1.23	-0.38

Source: Appendix Table 4, 5, 6, 7, and 8.

Chart 84 shows the index values for the four components of the economic security domain. These are the indices which we have constructed thus far in this chapter. Chart 85 shows the same indices but adjusted for their corresponding weights. It is now easier to compare which indices contribute the most to the overall index of economic security as the index is just the vertical sum of the component values. As stated in Table 22, the index of economic security has decreased

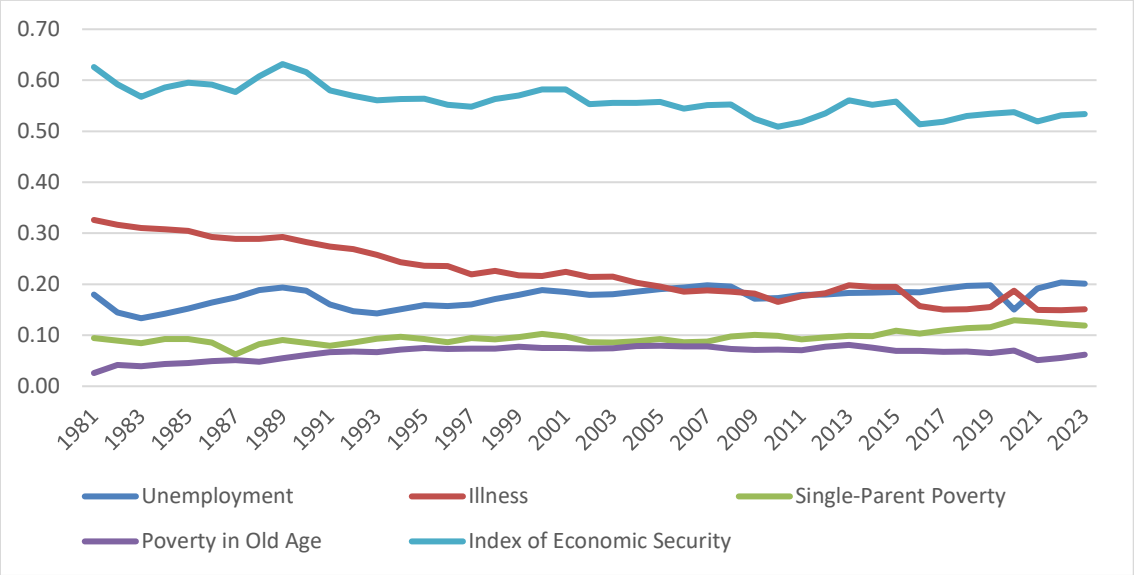
between each cyclical peak. The largest decrease occurred in the 2000-2008 period while the smallest decrease occurred in the 2019-2023 period. Since 2021, security has shown a slight improvement, potentially signaling a change in trend.

Chart 84: Index of Economic Security Component Indices for Canada, 1981 to 2023



Source: Appendix Table 4, 5, 6, and 7.

Chart 85: Index of Economic Security and Weighted Component Indices for Canada, 1981 to 2023

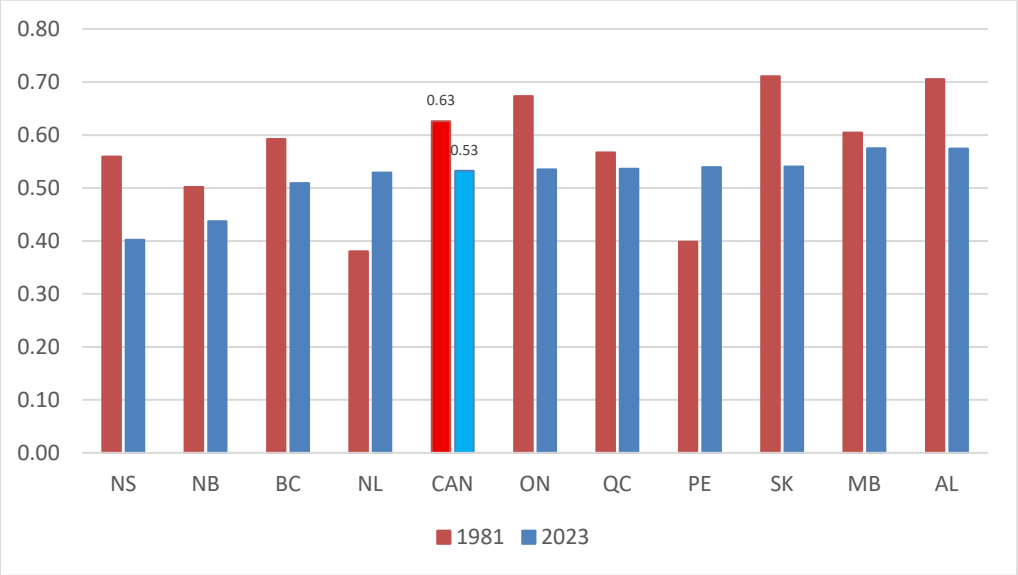


Source: Appendix Table 4, 5, 6, 7, and 8.

The provincial indices are also computed using weights relative to the province. Every province other than Newfoundland and Labrador and Prince Edward Island saw a decrease in their economic security (Chart 86). The prairie provinces performed the best in 2023, with Alberta, Manitoba, and Saskatchewan coming in ranks one, two, and three respectively. Even though they

all saw decreases in their index values, because they had respective ranks of 2, 4, and 1 in 1981, they maintained their rank among the rest of the provinces. The Atlantic provinces ranked bottom four in 1981 and continue to rank low, however, Prince Edward Island and Newfoundland and Labrador saw increases from ninth and tenth to fourth and seventh, respectively.

Chart 86: Index of Economic Security by Province, 1981 and 2023

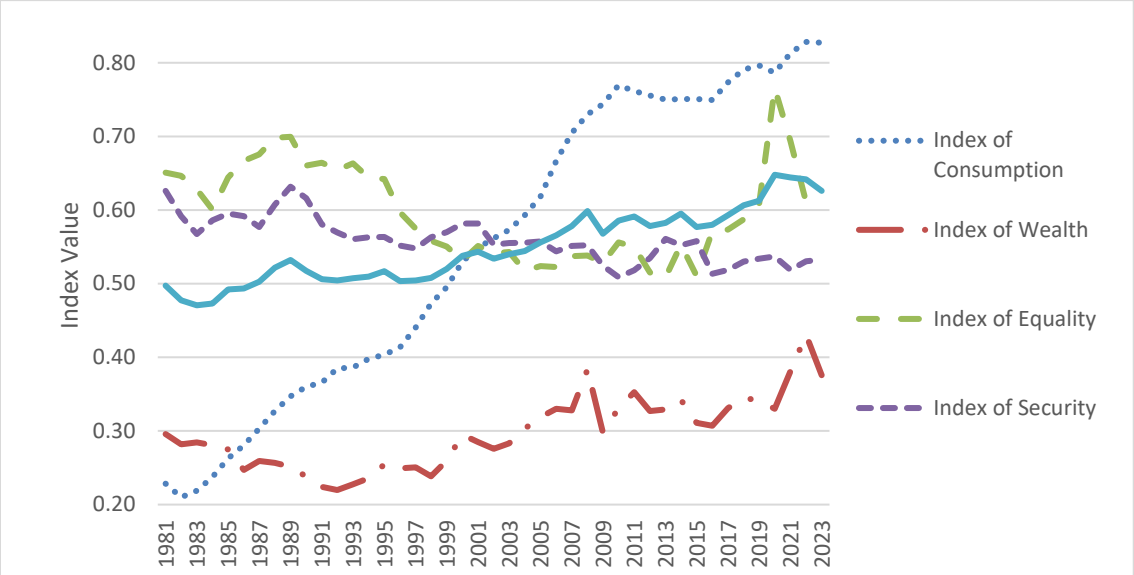


Source: Appendix Table 8.

VI. Trends in the Index of Economic Well-being

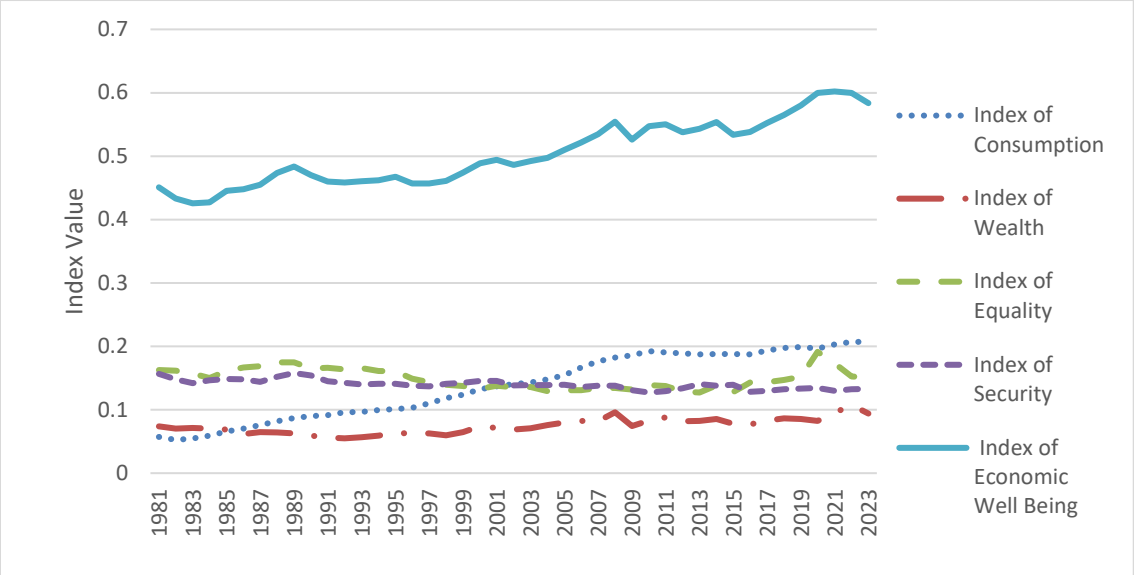
Now that the indices for the four domains comprising the IEWB have been computed, we aggregate them with equal weights to achieve the final index. The scaling procedure used for our index of consumption flows and index of wealth stocks is the same as that used and explained in the domains of equality and security. Chart 87 shows the values of these index components over time. Chart 88 shows the same components but weighed, such that the vertical sum of each component adds up to the overall index each year.

Chart 87: Index of Economic Well-being Components for Canada, 1981 to 2023



Source: Appendix Table 9.

Chart 88: Index of Economic Well-being for Canada and Weighted Components, 1981 to 2023



Source: Appendix Table 9.

Table 23: Index of Economic Well-Being and Components CAGR for Canada, 1981 to 2023

Period	Index of Consumption	Index of Wealth	Index of Economic Equality	Index of Economic Security	Index of Economic Well-Being
1981-2000	4.53	-0.01	-1.06	-0.38	0.39
2000-2008	4.80	3.33	0.17	-0.65	1.62
2008-2019	0.80	-1.05	1.10	-0.30	0.31
2019-2023	0.96	2.42	-0.22	-0.08	0.63
1981-2023	3.11	0.57	-0.18	-0.38	0.62

Source: Appendix Table 9.

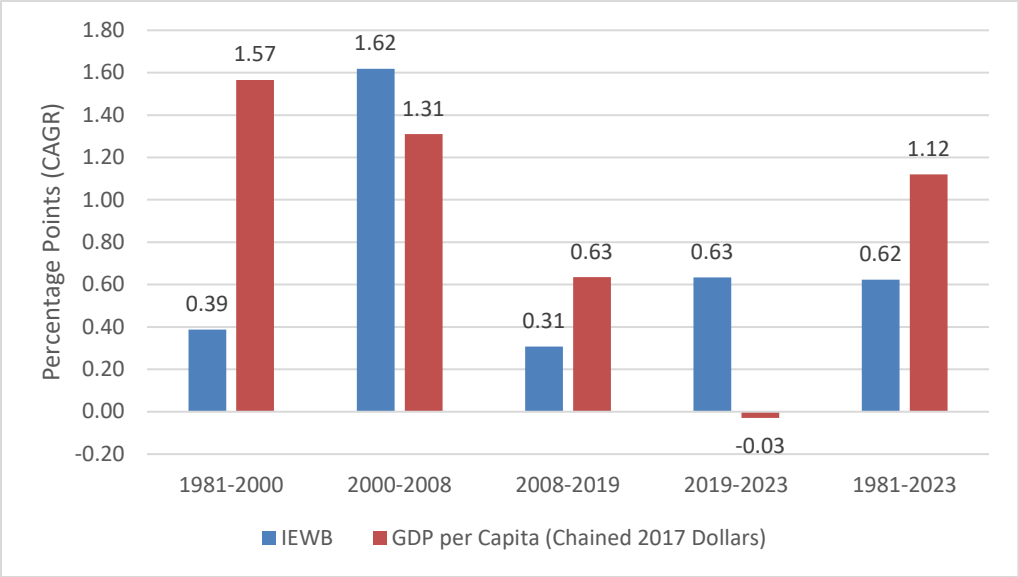
Canada's IEWB grew through every economic cycle between 1981 and 2023 (Table 23). From 1981-2000, improvements in the index were bolstered by consumption while wealth, equality, and security all detracted from growth. The 2000-2008 interval saw the largest jump, propped up by strong gains in consumption and wealth alongside tepid improvements in equality.[27] Security, in contrast, suffered its steepest fall during this period. Throughout 2008-2019, overall growth returned to first-period levels, owing to weaker consumption and drops in wealth and security—but sustained by sizeable gains in equality. Finally, from 2019-2023, the index grew slightly faster than in the previous period. Wealth and consumption grew while security and equality suffered losses. In sum, the IEWB's increase spanning 1981 to 2023 was primarily driven by heightened consumption and, to a lesser extent, wealth. Meanwhile, equality and security impeded growth.

We end the national analysis with a comparison between CAGRs in the IEWB and GDP per Capita (measured in chained 2017 dollars). The IEWB is a much broader and, many argue, more meaningful metric of economic well-being than real GDP per capita. Consequently, it is useful to compare trends in the two measures.

Interestingly, the trends in the two measures do not seem to track each other too closely (Chart 89). In 2000-2008, when the IEWB averaged its highest growth, GDP per capita achieved its second-highest growth rate. But in 1981-2000 when GDP per capita saw its highest growth, the IEWB grew weekly, only slightly outpacing the growth of its weakest period (2008-2019). Additionally, in 2019-2023, the IEWB experienced moderate growth while GDP per capita contracted, most likely owing to the 2020 pandemic and improvements in both equality and security. However, on the aggregate, the relationship between the two is still one of positive correlation.

[27] A sharp rise, like that seen in consumption, only tells us that consumption values have moved rapidly from their historical minimum towards their maximum, not that consumption "grew more", than say, wealth. By giving every domain the same weight, we unintentionally amplify those components whose observations naturally cluster near their extremes (relative to their own ranges).

Chart 89: IEWB vs GDP per Capita in Canada, CAGR, 1981 to 2023

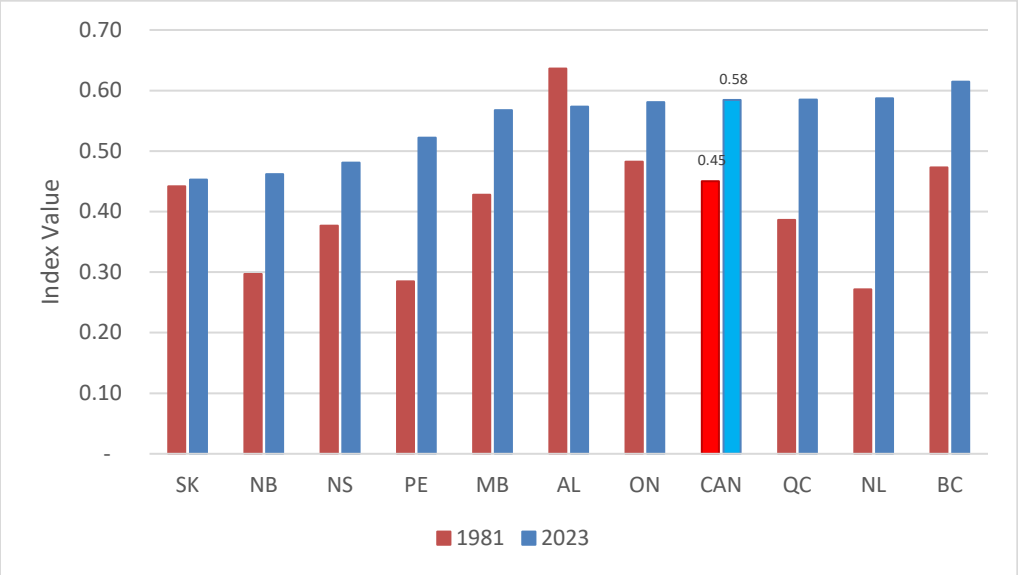


Source: Appendix Tables 9 and a-30

Between 1981 and 2023, every province other than Alberta saw an increase in its IEWB (Chart 90). British Columbia ranked first, up from third, mainly due to its strong performance in consumption and wealth. It did not do well in the equality or security domains, ranking below the national average at sixth and eighth, respectively. Newfoundland and Labrador recorded the largest improvement out of any province, moving up from last place in 1981 to second in 2023. This occurred due to its increase and dominance in the wealth domain, namely its physical capital stock. In both 1981 and 2023, the Atlantic provinces occupied the four lowest index values—Newfoundland and Labrador being the only exception as it was replaced by Saskatchewan. Saskatchewan ranked last, down from fourth, due to its poor performance in consumption, wealth, and equality.

Alberta ranked first in 1981 but has since dropped to fifth in 2023. Even though Alberta ranked second in consumption (right behind British Columbia), and first in both the domain of equality and security, it still only placed fifth overall. One of the reasons for this was due to an intrinsic property of the min-max procedure as explained above; the indices of security, equality, and wealth received a low implicit weight compared to the consumption domain. Manitoba was also heavily affected by this property. Another reason for why Alberta placed fifth is due to its decrease in wealth per capita. If Alberta's energy prices and extraction costs of natural resources were such that economic rents were negative, they were not included in the reserve valuation. Additionally, Alberta was significantly impacted by the environmental degradation component, having social costs 288 per cent of the national average—only second to Saskatchewan. Without social costs included, Alberta would have ranked first in the IEWB in 2023.

Chart 90: Index of Economic Well-being by Province, 1981 and 2023



Source: Appendix Table 9.

Tables 24 and 25 rank the provinces from best performing to worst performing in each of the four IEWB domains by levels and growth rates. The national average (denoted by *Canada*) is added for comparison. When evaluating the ranks of those provinces which fall below the national average, subtract a rank from the one denoted by the *Rank* column.

Table 24: Index of Economic Well-being and Components Rankings for Canada and the Provinces, 2023

Levels in 2023					
Rank	**Index of Economic Well-being**	**Index of Consumption**	**Index of Wealth**	**Index of Economic Equality**	**Index of Economic Security**
1	British Columbia	British Columbia	Newfoundland and Labrador	Alberta	Alberta
2	Newfoundland and Labrador	Alberta	British Columbia	Quebec	Manitoba
3	Quebec	Ontario	**Canada**	Manitoba	Saskatchewan
4	**Canada**	**Canada**	Quebec	**Canada**	Prince Edward Island
5	Ontario	Nova Scotia	Ontario	Prince Edward Island	Quebec
6	Alberta	Manitoba	Manitoba	Ontario	Ontario
7	Manitoba	Quebec	Prince Edward Island	British Columbia	**Canada**
8	Prince Edward Island	Newfoundland and Labrador	New Brunswick	Newfoundland and Labrador	Newfoundland and Labrador
9	Nova Scotia	Saskatchewan	Alberta	New Brunswick	British Columbia
10	New Brunswick	Prince Edward Island	Nova Scotia	Nova Scotia	New Brunswick
11	Saskatchewan	New Brunswick	Saskatchewan	Saskatchewan	Nova Scotia

Source: Appendix Table 11

Table 25: Index of Economic Well-being and Components Growth Rankings for Canada and the Provinces, 1981 to 2023 (CAGR)

Compound Annual Growth Rates, 1981-2023					
Rank	**Index of Economic Well-being**	**Index of Consumption**	**Index of Wealth**	**Index of Economic Equality**	**Index of Economic Security**
1	Newfoundland and Labrador	Newfoundland and Labrador	Prince Edward Island	New Brunswick	Newfoundland and Labrador
2	Prince Edward Island	New Brunswick	Newfoundland and Labrador	Prince Edward Island	Prince Edward Island
3	New Brunswick	Quebec	Quebec	Newfoundland and Labrador	Manitoba
4	Quebec	Manitoba	British Columbia	Saskatchewan	Quebec
5	Manitoba	Ontario	Ontario	Quebec	New Brunswick
6	British Columbia	**Canada**	**Canada**	Manitoba	British Columbia
7	**Canada**	Prince Edward Island	Manitoba	Nova Scotia	**Canada**
8	Nova Scotia	Nova Scotia	Nova Scotia	Alberta	Alberta
9	Ontario	Saskatchewan	New Brunswick	**Canada**	Ontario
10	Saskatchewan	British Columbia	Saskatchewan	British Columbia	Saskatchewan
11	Alberta	Alberta	Alberta	Ontario	Nova Scotia

Source: Appendix Table 11

VII. Conclusion

Canada's Index of Economic Well-Being (IEWB) rose across every business cycle since 1981, with gains driven mostly by stronger consumption and, more recently, wealth. By contrast, economic equality and economic security have been persistent drags.

The overall increase in the IEWB between 1981 and 2023 was largely due to growth in consumption which saw the largest increase of any domain (corresponding to a CAGR of 3.11 per cent). Historically, the drivers of this domain were increases in personal consumption, government expenditure, unpaid work, and life expectancy. More recently, growth in this domain has slowed (to a CAGR of 0.96 in 2019-2023), reflecting a stagnation in personal consumption and an outright contraction in life expectancy. At the same time, household sizes, and thus economies of scale, continued to shrink, imposing greater costs on individuals and further slowing growth.

The wealth domain has also contributed positively to the index between 1981-2023, with a CAGR of 0.57 per cent. This domain has experienced severe swings in its growth between periods, contributing significantly in 2000-2008 and 2019-2023 but detracting from overall growth in 1981-2000 and 2008-2019. Historically, improvements in wealth have come from increases in the stocks of human capital, physical capital, and natural resources — with much of its volatility and recent growth owing to this last component. Additionally, an increasing net international investment position (as Canadians increase their ownership of foreign assets relative to foreign ownership of Canadian assets) has also generally aided growth. In contrast, the burden imposed by greenhouse gas emissions has increased, reducing overall wealth.

The economic equality domain sustained downwards growth, decreasing at a CAGR of -0.18 per cent over 1981-2023. This was driven by a jump in inequality as measured by both the after-tax Gini coefficient and the after-tax share of income received by the top 1 per cent. While inequality has increased, the poverty intensity measure, as of 2023, has remained almost entirely unchanged compared to its value 1981, leading to a negligible contribution. Even though growth in both the Gini coefficient and the top 1 percent's share of income measures have peaked (in 2004 and 2007 respectively) recent growth in 2019-2023 has been negative, owing to renewed growth in the top 1 percent's share of income.

The economic security domain declined at a CAGR of -0.38 per cent over the 1981-2023 period, largely because of the increased financial risk associated with ill health. This was due to the disproportionate increase in out-of-pocket private health expenditure compared to disposable income. The remaining components of this domain (security from unemployment, security from lone-parent poverty, and security from poverty in old age) saw substantial improvements over this same period. Regardless, the economic security domain has fallen in every period since 1981.

This report provides a comprehensive analysis of trends in socio-economic indicators in Canada from 1981 to 2023 through the lens of the Index of Economic Well-being. The bottom line is that the landscape for economic well-being in Canada in 2023 is mixed. While all provinces have seen increases in their consumption domains, many have seen decreases in their wealth, equality, and security domains relative to 1981. There is much that can be done, especially in

addressing the components of these three domains, to improve the economic well-being of Canadian citizens.

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