The Alberta GPI Accounts: Income Inequality, Poverty, and Living Wages

Report # 4

by

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About this Report

This is one of 28 reports that provide the background for the Genuine Progress Indicators (GPI) System of Sustainable Well-being Accounts. It explains how we derived the index that was earlier published in “Sustainability Trends 2000: The Genuine Progress Statement for Alberta, 1961 to 1999.” The research for this report was completed near the end of 2000. The appendices provide further background and explanation of our methodology; additional details can be obtained by contacting the authors. Appendix A includes a list of all GPI background reports.

This Alberta GPI report examines the trends in income inequality (distribution) and poverty in Alberta and poses the question: is society making genuine progress if while Gross Domestic Product (GDP) is rising the gap between the incomes of rich and poor is increasing? What are the long-term costs to social cohesion and health from growing income inequality and chronic levels of poverty in Alberta and Canada? The report examines trends in poverty and income distribution over the past 40 years. We attempt to provide a balanced perspective on these often ideologically controversial issues. If we have a bias it is to acknowledge that a rising level of poverty and inequality can lead to increasing social and human health costs that go counter to an intuitive sense of genuine progress. This report also examines the idea of a guaranteed living wage (the amount of disposable income required to meet basic needs and participate fully in society) for Albertans and examines how many Albertans do not currently enjoy a living wage and thus lack the financial capacity to participate fully in Alberta’s civil society.

Current economic accounting and the GDP ignores changes in the distribution of income and wealth and would indeed count as positive to economic growth the erosion of social capital that results when inequality increases leading to increasing health, social services and other social program costs associated with the poor. Alternatively GPI accounting measures the health of communities by accounting for changes in income distribution and poverty. Less inequality in income and wealth plus
a living wage for all willing and able to work in a civil society are considered to contribute to represent real progress towards improved societal well-being. GPI treats rising income inequality and poverty as a regrettable loss in social and human capital and thus as an adjustment for social capital depreciation in national accounts and the GDP calculations. GPI accounts also count as a liability to future well-being the families and children currently living in poverty (those without a living wage) since such conditions have been shown to result in higher future health care expenditures and other social program spending. These are real costs and real liabilities for sustained well-being in civil societies. Our national and provincial accounting systems should treat them accordingly thus leading to more effective stewardship of our living capital – social and human.

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The contents of this report are the responsibility of the Pembina Institute and do not necessarily reflect the views and opinions of those who are acknowledged above or the opinions or positions of Western Economic Diversification who helped fund the research.

We have made every effort to ensure the accuracy of the information contained in this document at the time of writing. However, the authors advise that they cannot guarantee that the information provided is complete or accurate and that any person relying on this publication does so at their own risk. Given the broad scope of the project and time constraints, it has not been possible to submit the entire report for peer review. The material should thus be viewed as preliminary and we welcome suggestions for improvements that can be incorporated in any later edition of the work.
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1. Executive Summary

This report examines the long-term trends in income inequality (distribution) and poverty of Albertans over the past 40 years. Our current national economic accounting system currently ignores the true costs of poverty and inequitable income and wealth distribution in terms of GDP calculations of economic prosperity. Ignoring the costs of eroding social cohesion (social capital) that results from a growing gap between rich and poor is like a firm ignoring the depreciation costs of its buildings and equipment relative to income. Defining and measuring poverty and inequality raises a spectrum of opinions and controversies. Regardless of how poverty and inequality are measured there is concrete evidence that suggests that growth in these factors of social capital do lead to measurable impacts on human health and the loss of social cohesion. Economic growth measures such as the GDP ignore the true costs and liabilities associated with income inequality of poverty. Indeed, GDP would actually count the added social program and health expenditures due to these social issues as positive credit for economic growth rather than a debit or depreciation of social capital.

Alternatively GPI accounting measures the health of communities by accounting for changes in income distribution and poverty. Genuine progress is made there is a trend towards a more egalitarian and equitable society that exhibits small gaps between the incomes and wealth of the rich and poor (for both men and women), low poverty rates (particularly for single mothers and children), and an adequate living wage to fully participate in society. GPI treats rising income inequality and poverty as a regrettable loss (depreciation) in social and human capital and thus as deduction against the GDP in the national accounts. GPI accounting also treats those living in poverty as a unfunded liability in the living capital balance sheet recognizing that children and adults who grow up poor tend to incur future health care costs and other social program costs. These are real costs and real liabilities for sustained well-being in civil societies. Our national and provincial accounting systems should treat them accordingly thus leading to more effective stewardship of our living capital – social and human.

1.1. Poverty in Alberta: How Much?

While there is no commonly agreed upon definition of poverty, the U.N. Human Development Report for 1997 describes poverty in this way: “[P]overty can involve not only the lack of opportunity of the necessities of material well-being, but the denial of opportunities for living a tolerable life. Life can be prematurely shortened. It can be made difficult, painful and hazardous. It can be deprived of knowledge and communication. And it can be robbed of dignity, confidence and self-respect—as well as the respect of others.” In this study, we used a common measure of “poverty,” the percent of Albertans living below Statistics Canada’s Low Income Cut-off (LICO).

In 1961, 11.3% of Albertans were living below the LICO line. The rate of poverty rose to 18.0% of the population in 1984 during the height of Alberta’s oil and gas boom. The collapse of oil prices in 1985-1986 saw poverty moderate again to 15.2% of Albertans. But by 1992, poverty reached an all-time high of 19.4% of Albertans then fell back again to 15.5% in the latter part of the 1990s. Another sign of poverty is the presence of food banks. According to the Alberta Food Bank Association, roughly 587,700 Albertans are served by more than 74 food banks across the province.
Noteworthy:

- In 1999, an estimated 12.9% of families (with two or more children), 34.9% of unattached individuals, and 15.5% of all Albertans lived below the LICO, based on National Council of Welfare statistics.
- Between 1961 and 1999, the level of poverty (as measured by percent living below LICO) increased 37.1%.
- Alberta had Canada’s third lowest poverty rate in 1997—15.5% of all persons—followed by Saskatchewan (15.0%) and Prince Edward Island (12.1%).
- According to the Alberta Government’s Measuring Up 2000, less than 10% of Alberta families earn less than $20,000 per annum, and this number has been declining over the past 10 years.
- We estimate that in 1999 roughly 20% of Albertans, used the province’s more than 74 food banks.
- In 1999, Edmonton’s Food Bank use was almost 90% higher than in 1992.
- The impacts of poverty are greatest on children.
- Statistics on homelessness are difficult to come by and are only now being compiled by Statistics Canada.
- In 1987, the Canadian Council on Social Development estimated that 13,797 people used shelters nightly and that 259,384 Canadians (about one percent of the population) were homeless at some point during the year. It also estimated that 25 per cent of those people were children.

Poverty (% of Albertans living below LICO), 1961 to 1999

![Graph showing poverty levels from 1961 to 1999]
So What?

High levels of poverty—like high levels of income inequality—erode societal well-being and increase individual health costs. While we cannot place an economic price on the impacts of poverty, we can assess the trends (see figures). Poverty rates, measured in traditional ways, remained relatively stagnant through the 1990s and Alberta’s rates are among the lowest in Canada. Yet poverty exists. A “living wage” should be considered a prerequisite for a healthy, sustainable and equitable society. Such a wage would meet all basic needs and allow an individual or household to participate in the community.

We estimate a living wage for a household of two adults and two children at roughly $24,332 per annum (about $11.70 per hour). Based on these figures, we estimate that roughly 17.2% of Alberta households live at or below a living wage threshold. The Alberta Government report, Measuring Up, reveals that less than 10% of Alberta families earn less than $20,000. Assessing the cost of healthy and sustainable living is a critical piece of sustainable well-being accounting. If the cost of healthy living can approximate the cost of sustainable living (that is, living with an ecological footprint that is in line with the earth’s carrying capacity), then we would have a powerful tool for determining how public policy might help shape future living wage policies. Ultimately such a tool will help move society toward living sustainably, with a reduced ecological footprint and the ability to meet basic needs while participating fully in the community at the same time.

There is no price tag or cost attached to poverty per se in the GPI income statement, although the increase in income inequality (as measured by the Gini coefficient) is used to adjust personal consumption expenditures as part of the GPI income statement. As an index, poverty in Alberta in 1999 ranked 59 on a scale of 0 to 100, where 100 is the lowest level of poverty recorded (in 1981) over the period 1961 to 1999 (see figure below).
Poverty Index: Where are We Today?

Distribution of Income by Type, Alberta 1999
1.2. Income Distribution in Alberta

The distribution of income can be measured in terms of the “Gini coefficient,” a measure of income distribution, or by the gap between highest income earners and the lowest. The figure below shows that while after-tax income is more evenly distributed in the 1990s than it was in the 1960s for both individuals and families, income inequality has begun to rise since 1994. If income were equal everywhere, the Gini coefficient would be zero; the more unequal the distribution, the closer it gets to one. Our analysis shows while the distribution of after-tax, after-transfer income appears to have been relatively unchanged since 1976, inequality is rising in the 1990s. For example, between 1994 and 1999, the Gini coefficient (after-tax-transfers) rose 7.4% for individuals and 10.2% for families. Despite a prosperous economy, not all are sharing equally in the growing pie of prosperity, in spite of a progressive tax system.

The gap between the market (earned) incomes of the richest 20% and poorest 20% of Albertans has increased by 62.9%. In 1999, the top 20% earned 14.5 times more than the lowest 20%. Alberta had the highest after-tax income gap between rich and poor in 1998 of any province.

Noteworthy:

- The Gini coefficient (a measure of income inequality) for after-tax and after-government-transfer income has been relatively stable from 1976-1999 for both individuals and families.
- However, since 1994 income inequality has begun to increase among individuals and families and in terms of earned (market) and after-tax-transfer income.
- The gap between the market incomes (before taxes and transfers) of the top 20% of income earners and the lowest 20% increased from a ratio of 8.20 (lowest) in 1981 to its current high of 14.5 in 1998.
- The gap between the market incomes of the top 20% compared to the lowest increased 62.9% from 1980 to 1998 in Alberta, compared to only 35.5% increase across Canada.
- These trends in income inequality in the last five years suggest that the benefits of a booming economy are not being evenly distributed.
- Rising income inequality is consistent with real weekly wages, which are still almost 5% lower than they were at their peak in 1982 despite a 36% increase in real GDP per capita.
Income Distribution in Alberta (Gini coefficient), 1971 to 1999

So What?

Our analysis of income distribution (see income distribution index below) suggests that Alberta has become a more egalitarian society since the 1960s with more even distribution of after-tax income for both individuals and families. However, this may now be reversing as income inequality has risen since 1994. In particular, there is a growing income (earned) gap between the top and the bottom income groups, a trend that should be watched closely (see adjacent figure). Using measures of income inequality that consider broad clusters of income groups, such as quintiles (20% of total) may mask the more extreme inequalities of income and wealth that exist in our society. While Alberta may not have the disparity of the U.S., we have estimated that the reported net worth of Alberta’s eight wealthiest individuals and families could earn them an hourly income roughly 5,645 times more than a person earning Alberta’s minimum wage. Also, if the 1999 reported annual salaries of Canada’s top 100 CEOs were converted to an hourly wage, they would be roughly 309 times the Alberta minimum wage. While these may be hypothetical and extreme comparisons they illustrate the need to be vigilant in ensuring money, wealth and power are equitably distributed to build and sustain an egalitarian and “good” society.

Unfortunately, economic measures like the GDP are indifferent to how money and wealth distribution affect social cohesion. It is assumed that a rising tide of economic growth automatically lifts all boats equally. This may not be the case. While the average Albertan may have witnessed a 36.3% increase in real GDP since 1982, they experienced an average decline in real disposable income of 5.5% and a 70.8% fall in their savings rates.
The Growing Income Gap Between Alberta’s Top 20% and the Bottom 20%, 1980 to 1999

![Graph showing market income inequality, total income inequality (after Government transfers), and after-tax income inequality from 1980 to 1999.](source)

Source: Statistics Canada, “Income inequality within provinces”, Dimin Sanga, Perspectives, Winter 2000, Catalogue No. 75-001-XPE, Table, p. 35

Income Distribution Index: Where are We Today?

![Graph showing GDP index and income distribution index from 1961 to 1996.](source)

There is no price tag on income distribution—only an adjustment to GDP (personal consumption expenditures) in the GPI income statement for changes in the Gini index. As an index, income distribution in Alberta in 1999 ranked 90.8 on a scale of 0 to 100, where 100 is the greatest disposable income level from 1961 to 1999 (see figure above).
2. Introduction

An egalitarian society whereby the gap between rich and poor is narrowest may exhibit social and human capital dividends (e.g. higher life expectancies) that go unaccounted for in measures of economic growth like the GDP. It is often assumed that when the GDP rises – that is the economy is growing – the economic well-being of all citizens rises accordingly. The first shortcoming of the GDP is that it tells us nothing about how income and wealth is being shared as the economy is growing. Secondly, as the economy is growing through increased production and trade, income inequality, poverty and the associated human health and social costs may actually be rising contributing further to a positive GDP growth curve. Again masking the real costs to human and social capital that may be associated with economic growth patterns. Third, GDP and national accounts to not consider poverty and income inequality as a potential long-term liability to future generations in terms of increasing health-related costs associated with poverty.

In national income accounts and GDP it is assumed that each additional dollar of economic output contributes equally to national and provincial well-being no matter who spends the dollar. Yet, intuitively an additional dollar to a minimum wage earner will increase that person’s and the nation’s welfare more than an extra dollar for a wealthy family. In economics this is known as diminishing marginal utility of consumption.

This GPI Alberta report examines the trends and estimated social costs of income inequality and poverty as well as looking at the notion of a living wage to be enjoyed by all Albertans regardless of gender, age, or capacity to contribute to a good and civil society. These indicators provide a measure of the social cohesion and people living in communities across Alberta. Christopher Sarlo (1998) writing for the Fraser Institute on the subject of Canadian living standards provides a refreshing endorsement on the GPI approach to accounting for well-being by calling for a broadening of traditional measures of economic well-being such as the GDP to include “a wider variety of variables relating to well-being than is currently presented in examinations of living standards.”

GPI Accounting makes the assumption that rising income inequality or a growing gap in both income and wealth amongst the rich and the poor is a regrettable cost to social cohesion of a society. Of course, an acceptable gap between rich and poor is subject to philosophical, ethical and moral debate and would require society itself to define an acceptable distribution of income and wealth in defining the “good society” or “sustainable society.” Establishing an acceptable level of income inequality is a difficult matter. Placing a monetary price tag on income and wealth inequality or measuring the social costs is challenging and controversial. Nevertheless methods have been developed to explore how to adjust measures of economic well-being (GDP), defined as personal consumption expenditures in the GPI, for rising inequality.

Defining an acceptable gap between the richest and poorest in society is an ethical issue that has captured public debate throughout human history. There is no “rule” of an acceptable gap between highest and lowest paid work in society. Economist Herman Daly (1996) has suggested a rule of 10 (where the richest members of society have disposable income of no more than 10 times the poorest). Another rule may be the rule of 7 where the highest paid member of society earns no more than 7 times the least paid. The Alberta GPI accounts examine the trends in the gap between income in relation to these rough rules of thumb.
3. Adjusting Economic Prosperity for Income Inequality

In the original U.S. GPI and ISEW accounting of economic well-being, personal consumption expenditures (the starting point for GPI calculations) is adjusted the distribution of income. In both the US GPI and UK ISEW the inclusion of a measure changes in the distribution of income has had a major impact on the growing gap between the GDP and GPI per capita. Rising income inequality in the U.S. since 1968 has the effect of adjusting the GPI downwards; this rising inequality has continued though in 1999 it would appear to have leveled off. In the original US GPI work (Cobb, Halstead, Rowe, 1995) personal consumption expenditures for the either the gap between the top quintile (the 1995 US GPI), by the change in the Gini coefficient (a measure of the inequality of income amongst all income groups in the 1998 (Anielski and Rowe, 1999) and the 1999 US GPI (Cobb et. al., 2000).

The Australian GPI (Hamilton, 2000) adopts the more sophisticated Atkinson index of income distribution. The Atkinson index reflects both the distribution of income between income groups and society’s preferences for more or less inequality but soliciting these responses from society at large. In essence the Atkinson index is a measure of society’s aversion to income inequality. The Atkinson index was first used by Jackson et.al. (1997) in the UK ISEW. The development of an Atkinson index for Alberta and Canada would be desirable for future GPI accounting.

While the Atkinson index may be a more elegant measure of income distribution, it too will suffer from criticisms from those who would argue there is no monetary proxy for inequality.

Most recently GPI Atlantic (2001) released its study of Income Distribution in Nova Scotia highlighting the importance of measuring income inequality and poverty as part of their 22-component Genuine Progress Index (GPI) that include social, economic and environmental components (see Appendix D). Their study highlights the need to account for the cost of poverty and inequality as a loss in social capital in the form of illness, crime, poor educational attainment and low productivity.

The Alberta GPI accounts track both the trends in income inequality (income distribution as measured by the Gini coefficient for after-tax incomes) as well as generating a Sustainable Income Statement by adjusting personal consumption expenditures (the main part of the GDP) for the change in Alberta’s after-tax Gini coefficient. This is consistent with the U.S. and Australian GPI methods. We could also show income inequality Gini coefficients based on total income (before taxes and transfers) or based on income before government transfers. We opt for the Gini coefficient of after-tax income reflecting the true disposable income of households given the impacts of taxes and government transfers which have the effect of redistributing earned income in society.
4. Alberta Income Inequality

4.1. Gini Coefficients of Income Inequality

After showing a steady decline since the early 1970s, income inequality amongst both unattached individuals and families with two or more children has begun to increase again in the latter part of the 1990s (see Figures 7 and 8). Drawing from data from Statistics Canada (Cat. No. 75-202 XIE) for the period 1971 to 1998 (with 1999 estimated) income inequality is measured using Gini coefficients for: a) market income (income before taxes and before government transfers) b) total income (includes government transfers) and c) after-tax (and transfers) income.

Unfortunately Statistics Canada only has Gini coefficients dating back to 1971. In order to complete the GPI Alberta accounts for 1961 to 1999 the Gini coefficients from 1961 to 1970 were estimated by extrapolation analysis using figures for the period 1971 to 1998.

Figure 1 shows that income inequality for unattached individual Albertans decreased steadily from 1971 to the mid 1990s and has subsequently showed a progress increase. After-tax Gini coefficients for all unattached individual Albertans fell from a high of 0.444 in 1978 to a low of 0.332 by 1995. It has subsequently increased to an estimated 0.365 by 1999. This trend is true of Gini coefficients both before government transfers and total income.

Figure 1: Income Inequality in Alberta of Unattached Individuals: Gini Coefficients of Total Income, Income Before Government Transfers, and After-Tax Income, 1971 to 1999.

The same trends are also true for families with two or more children. While after-tax income inequality has been declining since the early 1970s there has been a reversal in the mid 1990s.
with inequality showing an increasing trend. Figure 2 shows that income inequality for families with two or more children has shown a general decline in the last 30 years. A high of 0.330 was recorded in 1974 with a low of 0.287 in both 1990 and 1994. Since 1994 inequality has begun to increase reaching an estimated 0.316 by 1999.

**Figure 2: Income Inequality in Alberta of Families with 2+ Children: Gini Coefficients of Total Income, Income Before Government Transfers, and After-Tax Income, 1971 to 1999.**

Figure 3 compares after-tax Gini coefficient trends for both unattached individuals and families with two or more children. It shows that inequality is generally higher amongst unattached individuals than families.
The positive impact of government policies on redistributing income and reducing inequality amongst income groups is evidenced in Figures 2 and 3. The Gini coefficients for after-tax incomes are generally lower than for Gini coefficients based on income before government transfers and total income. This is true for both unattached individuals and families with two or more children.

4.2. The Income Gap Between Rich and Poor

Another way of measuring income inequality is to compare the ratio of the incomes of the top 10 or 20% of income earners to the lower 10 to 20%. This provides a more meaningful image of the gap between rich and poor. Figure 4 shows Alberta’s income gap between the top quintile (top 20% of income groups) and the bottom quintile (lowest 20% of income groups) in terms of: a) income before government taxes; b) total income (after transfers), and; c) after–tax income. The trends are similar to the Gini coefficients. The gap or ratio between earned income (before government transfers and before taxes) of the top 20% of economic families and lower 20% of economic families had climbed sharply in 1998 (36.7 times) and has more than doubled over the low recorded in 1982 (18.3 times). The highest earned income gap occurred in 1993 when the top 20% of economic families earned 45.9 times the lowest 20% of families. The trend in the latter part of the 1990s shows an increase in the gap between rich and poor.

The income gap is narrowed significantly when income taxes and government transfers are considered consistent with the Gini coefficient differences. Yet the evidence shows that the gap between rich and poor has begun to show an increase in the latter part of the 1990s.
The 1990s have been good for the richest Albertans but have meant reduced economic well-being for the poorest and middle class. This is consistent with our GPI study of real disposable income which shows the average real disposable income stagnating throughout the 1990s even as GDP continues to rise. This suggests that there has been a net benefit from economic growth for the richest Albertans and a real loss of those of lower or middle income brackets. GPI Atlantic’s (2001) study supports this finding. Using Statistics Canada data their study of income distribution across Canada found that in Alberta, the incomes of the poorest 20% fell in the 1990s, middle incomes stagnated, and the richest 20% gained an average of $9,800 (up 12%). According to the study, “Alberta now has the widest income gap between rich and poor in the country, and Ontario ranks as the most unequal province using the GINI measure of inequality.”

5. Alberta’s Income Inequality Highest in Canada

According to Statistics Canada (2000) comparisons of income inequality across Canada, Alberta has the highest after-tax income inequality amongst all provinces. According to the analysis by Statistics Canada’s Dimitri Sanga Alberta had the highest inequality ratio (based on after-tax income) in 1998 while Prince Edward Island had the lowest. “In Prince Edward Island, the 20% of families with the highest incomes had $4.20 in after-tax income for every dollar of the 20% of the lowest incomes. In Alberta, this gap was $6.20” (Statistics Canada, 2000: 35-36).

The study also found that the inequality gap has widened from 1980 to 1998, with market income inequality showing the largest difference in inequality ratio each year and the largest growing gap.
In terms of market income inequality, Newfoundland had the largest gap in 1998 at 22.20 followed by New Brunswick (20.80), Nova Scotia (19.20), Quebec (15.10) and then Alberta (14.5) (Statistics Canada, 2000: 35). Alberta’s market income inequality ratio was equal to the Canadian average (14.50).

The growth in the gap in market income ratios has accelerated in the latter part of the 1990s. “In terms of market income ratios, Alberta, Newfoundland, Nova Scotia and Prince Edward Island saw very marked increases from 1996 to 1998. Their ratios grew by 4.10, 3.00, 2.4 and 2.2, respectively” (Statistics Canada, 2000: 37).

GPI Atlantic’s (2001 see Appendix D) found that in the 1990s, the poorest 20% of households across the country saw their share of income fall everywhere except Saskatchewan and the next 40% saw their income share fall in every single province. Indeed middle income households have less disposable (after tax) income now than the did 20 years ago, which supports our own findings that average real disposable incomes for the average Albertan is still lower than their peak in the early 1980s.

The GPI Atlantic study also found that:

- The income gap between the richest provinces (Ontario and Alberta) and the rest of the country grew in the 1990s. In 1990, Nova Scotians had 82 cents for every $1 of disposable income in Ontario. In 1998 they had 73 cents. The average Nova Scotian disposable household income dropped $3,000 in the 1990s (down 8%), while Ontarians saw a $1,800 increase (up 4%) and Albertans a $2,100 increase (up 5%).

- However, it is the gains of the richest 20% of Ontarians and Albertans that have raised "average" incomes in those provinces. Poor and middle income Ontarians actually lost real income in the 1990s, while the richest 20% gained an average of $9,400 per household (up 11%). In Alberta, the incomes of the poorest 20% fell, middle incomes stagnated, and the richest 20% gained an average of $9,800 (up 12%). Alberta now has the widest income gap between rich and poor in the country, and Ontario ranks as the most unequal province using the GINI measure of inequality.”

Consistent with our findings for Alberta, income distribution is highest for market income and lower for total income (after government transfers) and after-tax income for both within provinces and nationally.

6. Alberta Compared with the U.S.

Comparing Gini coefficients of the U.S. with Alberta reveals some interesting disparities (Figure 5). Using before-tax/transfer income from the U.S. GPI accounts (Anielski and Rowe, 1999 using U.S. Census Bureau as data source) we compare Alberta’s before government transfer Gini coefficients (1971 to 1997) with the U.S. Gini coefficients (1950 to 1998) for all family units. The data suggests that Alberta actually had higher inequality than the U.S. even though the Gini coefficients may not be directly comparable. The gap has narrowed considerably as income inequality has continued to rise in the U.S.
7. Income Distribution as an Index

We use income after-tax Gini coefficients in the GPI accounts. First, we create an indicator of income inequality for the GPI Balance Sheet and Sustainability Circles. To develop the index we averaged the after-tax Gini coefficients for unattached individuals and two-parent, two-children families. We set the lowest blended Gini coefficient from 1961 to 1999 as our benchmark year and set this rate at 100 equal to reflect the lowest rate of income inequality in Alberta. We call the year of least income inequality the benchmark year. In the case of income distribution or inequality in Alberta there are three benchmark years which recorded the lowest Gini coefficient: 1989, 1990 and 1994.

The index formula is as follows:

Income Distribution Index = \( \frac{\text{Gini coefficient}_\text{year}}{\text{Gini coefficient}_{1968}} \times 100 \)

A higher number relative to 1989, 1990, 1994=100 denotes growing income inequality while a number less than 100 denotes improvement in income inequality.

We can compare income inequality trends with trends in economic output (GDP). Figure 6 shows that as economic growth (GDP per capita) has risen, after-tax income inequality (Gini coefficient) has fallen over the period. There are several reasons for the improvement in income inequality
including the positive impact of taxes and government transfers of earned income that redistribute income across all income groups.

**Figure 6: Alberta Income Inequality Index vs. GDP, 1961 to 1999.**

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### 8. The True Costs of Income Inequality and Poverty

The true social and human capital costs of income inequality are not explicitly accounted for in the Alberta GPI accounts since such an accounting is at this time not possible. A true cost accounting would attempt to measure the increasing social costs and liabilities to social cohesion and human health that result from the existence of income and wealth inequality. Such economic accounting is desirable and necessary to provide more concrete evidence to support other sociological and health studies that have shown that health and wellbeing do correlate with income, poverty, equity, standards of living, and life styles (Raphael, 2000 and Hurtig, 1999). Raphael (2000) notes “Evidence is accumulating that poverty and deprivation during childhood contributes to poor health over the entire course of the life span...[and] pose direct threats to the sustainability of the health care system.” Wilkinson (1996) argues that societies with greater economic inequality begin to “disintegrate” – show evidence of decreased social cohesion and increased individual malaise.

Benzeval, Judge and Whitehead (1995: xxi) noted that:

> Poverty can affect health in a number of ways. Income provides the prerequisites for health, such as shelter, food, warmth, and the ability to participate in society; living in poverty can cause stress and anxiety which can damage people’s health; and low income limits peoples’ choices and militates against desirable changes in behaviour.
Poverty and income inequality are certainly strong predictors of poor health and general well-being for both adults and children. Wilkinson (1996) found that societies with greater poverty have higher mortality rates across the entire population. A U.S. study found that well-off economically unequal American communities have greater rates of health problems than the well-off in relatively equal communities (Lynch, Kaplan, Pamuk, et. al., 1998). And the British Medical Journal (1996) reports:

*What matters in determining mortality and health in a society is less the overall wealth of that society and more how evenly wealth is distributed, The more equally wealth is distributed the better the health of that society.*

GPI accounting would begin to explicitly account for the changes in income and wealth inequality as well as measures of poverty including estimating the full costs to future societal well-being from the liabilities such conditions present in terms of future health care and social program spending to deal with a life time of impacts from such conditions.

In the absence of such concrete evidence we have adopted the U.S. GPI methodology for accounting for income distribution in calculating a net sustainable economic welfare measure. The Alberta GPI accounts also adjust personal consumption expenditures (the major component of the GDP) for rising income inequality. The after-tax Gini coefficient is used in the GPI Sustainable Income Statement to adjust personal consumption expenditures by the change in income inequality. Personal consumption expenditures are adjusted to account for income inequality or the changes in the distribution of the share of aggregate income by household income groups or quintiles. The Income Distribution Index (distributional inequality) is used to weight personal consumption by dividing personal consumption figures by the index of distributional inequality multiplied by 100. The reason for dividing rather than multiplying is that larger numbers indicate greater inequality. This approach is consistent with the U.S. GPI and Australian GPI (see Appendices B and C). In the case of Alberta with a declining Gini coefficient (lower income inequality) this has the effect of increasing personal consumption expenditures relative to other periods where inequality was higher imposing a shadow social cost.

9. Foodbank Use

While poverty and income distribution may pose methodological and ideological challenges of definition and measurement, the reality that many families must resort to the use of foodbanks to fulfill their basic needs for food is a stark indicator of loss of financial capacity to meet basic needs. Foodbank use may serve as another measure of poverty and the erosion of social capital.

Our study found that since the first foodbank opened in 1982 in Edmonton, there are now 74 registered foodbanks operating across Alberta in virtually every major community. The rise in foodbanks and foodbank use parallels the stagnation of average real incomes and net loss of incomes by lower and middle income groups. Foodbanks are a recent phenomenon in Canada, a sign of eroding financial health and capacity of many Canadians and Albertans to meet their basic needs.

According to the Canadian Association of Foodbank’s “Hunger Count 2000” roughly 48,975 Albertans accessed foodbanks in month of March 1999. March is taken as an average month as there are no extreme "highs" or lows in food bank usage. Taking 48,975 (persons served in March) times 12 months in the year, then roughly 587,700 people used food banks in 1999 in the province of Alberta. If these figures are accurate (and assuming no double or multiple counting...
of individual use) then roughly 19.8 percent of Albertans used foodbanks in 1999. Not that this compares with an estimated poverty rate of 15.5% compares with our later estimate of roughly 17.2% of Alberta households which we estimate are living at or below our calculated living wage.

According to Edmonton Foodbank statistics, the number of persons served per month has increased 90 percent between 1992 and 1999 from 8,757 (in 1992) to 16,626 (in 1999). On an annual basis roughly 199,512 Edmontonians were served in 1999. Records from the period 1982 to 1991 were not available for Edmonton but would undoubtedly show a dramatic increase over the period 1982 to 1999. In Calgary (2000) the number of food hampers issued increased 43 percent from 28,097 in 1992 to a peak of 40,246 in 1998. According to Calgary Interfaith Foodbank statistics the number of hampers issued in 1999 declined dramatically to 22,328 suggesting a significant (if unexplained) improvement.

10. Growing Wealth Inequality

While Gini coefficients are a useful metric for measuring income inequality they provide little insight into wealth distribution. Financial wealth represents purchasing power; those with more financial wealth have more purchasing and economic power in a chromatistic (money-oriented). As with income inequality, there are no “rules” that would govern acceptable distribution of wealth in society.

In our the GPI Alberta Report #3 Money, Debt, Assets and Net Worth we showed that based on Statistics Canada’s most recent net worth assessment of Canadians, that Alberta had the third highest ratio of median net worth to average net worth. Base on the ratio of average to median net worth, the highest ratio is recorded by British Columbia (2.65), Quebec (2.53), and Alberta (2.47), with the lowest being Newfoundland (1.75). This suggests that there is a growing gap between the wealthiest family units and the poorest in wealth.

Examining the wealth and income between the richest and poorest in society reveals remarkable gaps (see Table 1). Table 1 compares the wealth and estimated annual salaries of Bill Gates (at that time the richest man in the world), other top wealthy Canadians, the top 8 wealthiest Albertans and a number of other benchmark salaries the disparity is striking. (We examine the salaries of the top 100 Canadian CEOs, to the head of the Workmen’s Compensation Board, to Premier Ralph Klein, Mayors Al Duerr and Bill Smith all the way down to a minimum wage earner.) We also distinguish salary and benefit gaps between government, private enterprise, not-for-profit organizations to compare the differences. This “parade” of wealth and income shows remarkable disparity between the rich and the lowest wage earners in society.

The data comes from various sources. In the absence of annual and hourly salaries for the wealthiest individuals we estimate annually and hourly income based on various assumptions of return on investment and average work time. While only estimates they nevertheless reveal a significant gap and financial power imbalance between a few wealthy individuals and the rest of the Alberta population.

Figure 13 shows the graphic depiction of the “parade of incomes” for 1998 according to estimated hourly wages. At the lower end of this spectrum is Alberta’s minimum wage of $5.90 in 1999 that would provide a full-time worker with a take home market income of roughly $11,328 per year (based on a 240 work year and 8 hour work day). By comparison a single Welfare mother with two children would receive roughly $6.16 per hour and have roughly $11,830 in gross income. Compare this to the average per annum income of Albertans in 1999 of
$27,472 (or $14.20 per hour) compared to the average income of Canadian workers in 1999 was $31,000 per annum (or $16.15 per hour).\(^6\)

In stark contrast the average annual 1999 salaries of the top 100 Canadian CEOs was $3,500,000 (or roughly $1,822.92 per hour). That amounts to 309.0 times the Alberta minimum wage. The average salaries of all Canadian CEOs was $862,000 (or roughly $448.91 per hour). This amounts to 76.1 times what a minimum wage earner makes in Alberta. The head of the Alberta Workmen Compensation Board makes 31.4 times the Alberta minimum wage (see Figure 7 statistics) with an annual salary of $355,699 (or $185.26 per hour).

When we attempt to examine the gap between the super rich and minimum wage earners, the gap is sobering. Kenneth Thompson, Canada’s richest individual is estimated to have a net worth of $20,060 million which, if translated to an annual income stream, could amount to $1.604 million per hour or the equivalent of $835,833 per hour. That’s 141,667 times what a minimum wage worker in Alberta makes. The combined wealth (net worth) of the of the richest 8 Albertans is estimated at $6.395 billion which is roughly 5.5 percent of Alberta’s GDP in 1999 ($115.4 billion). This wealth would work out to a hypothetical average annual salary of $63,950,000 or roughly $33,307 per hour. While these figures are hypothetical, in terms of estimated income, they illustrate the significant imbalance of financial and economic power.

### Table 1: Comparisons of Wealth and Income, Richest to Poorest\(^7\).

<table>
<thead>
<tr>
<th>Name</th>
<th>Location</th>
<th>Business</th>
<th>Estimated Net Worth</th>
<th>Estimate Annual Income</th>
<th>Estimated Hourly Income</th>
<th>Ratio of Hourly Income of Richest to Alberta’s Minimum Wage</th>
</tr>
</thead>
<tbody>
<tr>
<td>World’s Richest (Bill Gates)</td>
<td>Redmond, Washington</td>
<td>Software, Computers, Media, Newspapers, Information Services</td>
<td>$60,000,000,000</td>
<td>$4,800,000,000</td>
<td>$2,500,000,000</td>
<td>432.79</td>
</tr>
<tr>
<td>Canada’s Richest (Kenneth Thomson)</td>
<td>Toronto</td>
<td></td>
<td>$20,060,000,000</td>
<td>$1,604,800,000</td>
<td>$835,833,33</td>
<td>141.67</td>
</tr>
<tr>
<td>Cliff Leede &amp; Dave Leede</td>
<td>Edmonton (Cliff Leede)</td>
<td>Fibre optics, construction</td>
<td>$2,109,000,000</td>
<td>$168,000,000</td>
<td>$87,500,000</td>
<td>14.83</td>
</tr>
<tr>
<td>Mannix Family</td>
<td>Calgary</td>
<td>Construction, Energy, Real Estate, Restaurants</td>
<td>$1,075,000,000</td>
<td>$86,000,000</td>
<td>$44,791,67</td>
<td>7.59</td>
</tr>
<tr>
<td>JR Shaw</td>
<td>Calgary</td>
<td>Cable Television</td>
<td>$745,000,000</td>
<td>$60,600,000</td>
<td>$31,041,67</td>
<td>5.26</td>
</tr>
<tr>
<td>Ronald Joyce</td>
<td>Calgary</td>
<td>Donuts &amp; Coffee, Professional Sports, Real Estate</td>
<td>$715,000,000</td>
<td>$57,200,000</td>
<td>$29,791,67</td>
<td>5.04</td>
</tr>
<tr>
<td>Murray Edwards</td>
<td>Calgary</td>
<td>Oil and Gas, Aerospace, Professional Sports</td>
<td>$545,000,000</td>
<td>$43,600,000</td>
<td>$22,708,33</td>
<td>3.84</td>
</tr>
<tr>
<td>Clay Reid</td>
<td>Calgary</td>
<td>Oil and Gas</td>
<td>$526,000,000</td>
<td>$42,000,000</td>
<td>$21,875,00</td>
<td>3.71</td>
</tr>
<tr>
<td>Ronald Southern</td>
<td>Calgary</td>
<td>Equestrian Facilities</td>
<td>$425,000,000</td>
<td>$32,400,000</td>
<td>$16,875,00</td>
<td>2.86</td>
</tr>
<tr>
<td>Bill Condie</td>
<td>Edmonton</td>
<td>Retail, Real Estate</td>
<td>$285,000,000</td>
<td>$22,800,000</td>
<td>$11,750,00</td>
<td>2.01</td>
</tr>
<tr>
<td>Industry and Government Executives</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average Salary of Top 100 Canadian CEOs</td>
<td></td>
<td></td>
<td>$3,500,000</td>
<td>$1,822,92</td>
<td></td>
<td>309.0</td>
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<tr>
<td>Average CEO Salary</td>
<td></td>
<td></td>
<td>$852,000</td>
<td>$448.96</td>
<td></td>
<td>76.1</td>
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<tr>
<td>Mary Cameron, President, Alberta WCB</td>
<td></td>
<td></td>
<td>$585,899</td>
<td>$185.26</td>
<td></td>
<td>31.4</td>
</tr>
<tr>
<td>Top Federal Government Bureaucrat</td>
<td></td>
<td></td>
<td>$240,000</td>
<td>$125.00</td>
<td></td>
<td>21.2</td>
</tr>
<tr>
<td>Sheila Weatherill, President, Capital Health Authority</td>
<td></td>
<td></td>
<td>$238,000</td>
<td>$123.98</td>
<td></td>
<td>21.0</td>
</tr>
<tr>
<td>Top Provincial Deputy Ministers</td>
<td></td>
<td></td>
<td>$135,200</td>
<td>$70.42</td>
<td></td>
<td>11.9</td>
</tr>
<tr>
<td>Premier Ralph Klein</td>
<td></td>
<td></td>
<td>$121,500</td>
<td>$63.33</td>
<td></td>
<td>10.7</td>
</tr>
<tr>
<td>Calgary Mayor Al Duerr</td>
<td></td>
<td></td>
<td>$112,000</td>
<td>$58.33</td>
<td></td>
<td>9.9</td>
</tr>
<tr>
<td>Edmonton Mayor Bill Smith</td>
<td></td>
<td></td>
<td>$100,500</td>
<td>$52.34</td>
<td></td>
<td>8.9</td>
</tr>
<tr>
<td>The Rest of Us</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teachers (Edmonton Public Schools)</td>
<td></td>
<td></td>
<td>$45,857</td>
<td>$25.86</td>
<td></td>
<td>4.4</td>
</tr>
<tr>
<td>Registered Nurses</td>
<td></td>
<td></td>
<td>$45,087</td>
<td>$23.48</td>
<td></td>
<td>4.0</td>
</tr>
<tr>
<td>Federal Public Servant</td>
<td></td>
<td></td>
<td>$33,000</td>
<td>$17.19</td>
<td></td>
<td>2.9</td>
</tr>
<tr>
<td>Average Canadian Worker</td>
<td></td>
<td></td>
<td>$31,000</td>
<td>$16.15</td>
<td></td>
<td>2.7</td>
</tr>
<tr>
<td>Average Personal Income of Albertans</td>
<td></td>
<td></td>
<td>$27,272</td>
<td>$14.20</td>
<td></td>
<td>2.4</td>
</tr>
<tr>
<td>Youth (15-24) Median Wage Earner</td>
<td></td>
<td></td>
<td>$14,850</td>
<td>$7.75</td>
<td></td>
<td>1.3</td>
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<tr>
<td>Poverty Living Wage</td>
<td></td>
<td></td>
<td>$14,592</td>
<td>$7.60</td>
<td></td>
<td>1.3</td>
</tr>
<tr>
<td>Welfare Single Mom with two children</td>
<td></td>
<td></td>
<td>$11,830</td>
<td>$6.16</td>
<td></td>
<td>1.0</td>
</tr>
<tr>
<td>Minimum wage earner</td>
<td></td>
<td></td>
<td>$11,328</td>
<td>$5.90</td>
<td></td>
<td>1.0</td>
</tr>
</tbody>
</table>
Figure 7: Hourly Income Comparisons, Alberta, 1998

| Minimum wage earner | $5.90 |
| Welfare Single Mom with two children | $6.16 |
| Poverty Living Wage | $7.60 |
| Youth (15-24) Median Earnings | $7.75 |
| Average Personal Income of Albertans | $14.20 |
| Average Canadian Worker | $16.15 |
| Federal Public Servant | $17.19 |
| Registered Nurses | $23.48 |
| Teachers (Edmonton Public Schools) | $25.86 |
| Edmonton Mayor Bill Smith | $52.34 |
| Calgary Mayor Al Durr | $58.33 |
| Premier Ralph Klein | $63.33 |
| Top Provincial Deputy Ministers | $70.42 |
| Sheila Weatherill, President, Capital Health Authority | $123.96 |
| Top Federal Government Bureaucrats | $125.00 |
| Mary Cameron, President, Alberta WCB | $185.26 |
| Average CEO Salary | $448.96 |
| Average Salary of Top 100 Canadian CEOs | $1,822.92 |
| Richest 8 Albertans (Average) | $33,307.29 |


Such inequality of both income and wealth are stark reminders that inequality in economic power is a real phenomenon.

Defining an acceptable gap between the richest and poorest in society is a complex ethical issue that has captured public debate throughout human history. There is no “rule” for an acceptable gap between highest and lowest paid work in society. The issue is what is a reasonable gap. Economist Herman Daly (1996) has suggested a rule of 10 (where the richest members of society have disposable income of no more than 10 times the poorest). Another rule may be the rule of 7 where the highest paid member of society earns no more than 7 times the least paid. The Alberta GPI accounts examine the trends in the gap between income in relation to these rough rules of thumb.


> What then is the right course as regards the distribution of income? There can be no fixed rule, no acceptable multiple as between what is received by the rich and what goes to the poor. Or, indeed, as between what is earned by management at the top and what is earned on the shop floor...What is necessary are strong ameliorating actions that reflect and address the inherent and damaging inequality.

The “strong ameliorating actions” Galbraith identifies are a progressive taxation system as central to achieving a more equitable distribution of income in a good society along with the removal of tax and expenditure concessions to the affluent and a support system for the poor.
11. Poverty

There is a wealth of studies and ideological differences with respect to defining and measuring poverty. Any discussion of poverty provokes emotional discussions which often are unsupported by concrete and common sense evidence. What is evident from reading a vast amount of poverty literature is that the debate over the definition and measurement of poverty has not been resolved. Studies and findings range from socialist to libertarian positions, from Christopher Sarlo’s conservative estimates of poverty found in his Fraser Institute studies on Canadian poverty to Mel Hurtig’s (1999) recent expose of the tragedy of poverty in Canada in *Pay the Rent or Feed the Kids: The Tragedy and Disgrace of Poverty in Canada.* No matter how poverty and inequality are defined the National Council of Welfare has been tracking poverty rates for years.

While there is neither an official definition or common measure of poverty, many intuitive definitions have been offered. Madam Gro Harlem Brundtland, three-time prime minister of Norway offers this definition:

“Poverty is lack of opportunity, lack of freedom. It is hunger and malnutrition, disease and lack of basic social services. It is a policy failure that degrades people – those who suffer it, and those who tolerate it... Poverty is still the gravest insult to human dignity. Poverty is the scar on humanity’s face.”

One of the most contentious issues is defined as a so-called poverty line. The *Oxford Concise Dictionary* defines the poverty line as “the minimum income level needed to secure the necessities of life.”

A more pragmatic definition comes from a person in Alberta actually living in poverty which goes like this:

*Poverty is feeling self-conscious about the amount of generic products you have at the checkout, not being able to afford the large bag of powdered milk, only being able to afford hamburger as your meat, fasting one day a week, walking 30 blocks to apply for a job to save the bus fare, then walking back. Getting turned down for that dishwasher job. Finally getting your high school diploma and then finding out it makes no difference. Being turned down for an Emergency Food Voucher by a Social Worker who is making at least $20 an hour, in a union, with a pension and eating good tonight.*

As Hurtig (1999; 18) notes quoting from the U.N. *Human Development Report* for 1997 “poverty can involve not only the lack of opportunity of the necessities of material well-being, but the denial of opportunities for living a tolerable life. Life can be prematurely shortened. It can be made difficult, painful and hazardous. It can be deprived of knowledge and communication. And it can be robbed of dignity, confidence and self-respect – as well as the respect of others.”

We might conclude by defining poverty as a condition of economic well-being where an individual, family or household lacks sufficient financial or non-financial resources to participate fully in society in a meaningful way. That is they lack the financial capacity to provide for food, shelter, clothing and other essentials in living that allow individuals to participate fully in Alberta communities. Thus
poverty in our opinion is measured by assessing how far earned income (as well as income from government transfers and programs) goes to provide a “living wage” to satisfy basic needs. We analyze and estimate a “living wage” for Alberta based on detailed studies of the true costs of living conducted by various studies, most importantly the Edmonton Social Planning Council (“Tracking the Trend 2000” report) which estimated in minute detail the actual costs of living and participating fully in society. Other measures such as the MBM (market basket measure) being developed on a national scale were also examined. Living wage ordinances in San Francisco and living wage analysis from other jurisdictions were also examined.

In their discussions with Canadians about quality of life, the Canadian Policy Research Network found that one of the most important issues to Canadians is that we all have an adequate “living wage” in order to have a fulfilling and meaningful quality of life and economic existence.

12. Traditional Measures: LICO and Others

Traditional measures of poverty have included LICO (Low Income Cut-off), LIM (Low Income Median) and other permutations of these figures. Based on the use of LICO figures for Alberta, the trend in poverty rates amongst all persons have been of moderate change throughout the 1990s, with some variability (Figure 14). Figures for 1961 to 1979 were extrapolated or estimated based on data from the National Welfare Council for the period 1980 to 1999. There is no apparent trend in the 1990s in terms of the percentage of Albertans living below LICO.

Figure 8: Rate of Poverty in Alberta, 1961 to 1999

![Graph showing rate of poverty in Alberta from 1961 to 1999.](image)

The trend in poverty versus the growth in the economy (as measured by the GDP) shows an interesting trend (Figure 15). Based on our estimates, as the economy was growing through the
1960s and 1970s the rate of poverty amongst all persons also deepened. In 1961 we estimate that 11.3% of Albertans were living below the LICO line. In 1981 during the recession the rate of poverty was actually the lowest rate in 40 years (if we have confidence in our 1961 to 1979 projections) at 10.8% below LICO. The rate of “poverty” then rose rather dramatically to reach 18.0% of Albertans living below LICO in 1984 during the height of Alberta’s oil and gas boom.

**Figure 9: Poverty Index vs. Economic Growth Index, Alberta 1961 to 1999**

The collapse of oil prices in 1985-1986 saw poverty moderate again to 15.2%. In 1992 poverty reached an all-time high of 19.4% of Albertans and had moderated to 15.5% in the latter part of the 1990s.

### 13. Poverty by Province

According the most recent statistics for 1997 on poverty by National Council on Welfare (which records changes in national poverty levels) showed that Alberta had an estimated 438,000 persons living in poverty or 15.5% of the total population. An estimated 109,000 families (12.9% of families) and 139,000 unattached individuals (34.9%) were living in poverty. Poverty is defined according to LICO (low income cut off). The major determinants of poverty are unemployment rates, the adequacy of pension programs, and family type. Figure 10 gives the 1997 provincial statistics for families, unattached individuals and all persons. For families, poverty rates ranged from a low of 9.2 percent in Prince Edward Island to a high of 18.9 percent in Newfoundland. The range for unattached individuals was even greater, from 27 percent in Saskatchewan to 45.6 percent in Newfoundland. Poverty rates for all persons went from 12.1 percent in P.E.I. to 20.1 percent in Quebec and 20.3 percent in Newfoundland. The GPI Atlantic (2001) study of income distribution found that the poorest 20% of Nova Scotian households are the poorest in the country, with an average disposable income of just $8,205.
### Figure 10: Poverty by Province, 1997

<table>
<thead>
<tr>
<th>Province</th>
<th>Families</th>
<th>Unattached Individuals</th>
<th>All Persons</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number of Poor Families</td>
<td>Poverty Rate</td>
<td>Number of Poor Unattached</td>
</tr>
<tr>
<td>Newfoundland</td>
<td>31,000</td>
<td>18.9</td>
<td>17,000</td>
</tr>
<tr>
<td>Prince Edward Island</td>
<td>4,000</td>
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Sources: [http://www.ncwcnbes.net/htmdocument/reportpovertypro/chap2.htm](http://www.ncwcnbes.net/htmdocument/reportpovertypro/chap2.htm) (National Welfare Council)

According to the National Council on Welfare studies, between 1996 and 1997, family poverty rates were down in all provinces except Newfoundland and New Brunswick. Among unattached individuals, the poverty rates were down in Quebec, Ontario, Saskatchewan and British Columbia.
and up in the other six provinces, including Alberta. The poverty rates for all persons were up in Newfoundland and New Brunswick and down elsewhere.

Ontario and Quebec, the two largest provinces, had the most consistent trends for families, unattached individuals and all persons. Ontario’s poverty rates were among the lowest in Canada and were well below the national average throughout the period. Quebec’s rates were among the highest and well above average. There was much less consistency elsewhere.

Figure 11 compares the trends in poverty rates for Alberta versus Canada. In the early 1980s Alberta’s poverty rate was lower than the national average, then from 1986 to 1993 the poverty rate in Alberta was higher. In 1996 and 1997 the poverty rate was lower than the national average.

**Figure 11: Alberta versus Canada Poverty Rate, All Persons, Unattached Individuals and Families 1980 to 1999.**

Our study did not examine inequality by gender nor child poverty in depth. However based on the Canadian Centre for Social Development studies (using Statistics Canada data)\(^\text{11}\) the incidence of child poverty in Alberta has risen from 12.3% in 1980 to 20.7% in 1996 and peaked in 1992 at 24.5%. This compares to the Canadian child poverty incidence averaging 15.8% in 1980 and 21.1% in 1996. Child poverty amongst Alberta children in lone-parent female households is particularly high and has increased substantially from having increased from 50.1% in 1980 to 71.4% by 1996. The trend is the same nationally with the incidence of child poverty amongst single moms averaging 58.9% in 1980 and reaching 65.0% in 1996. Future GPI accounts should examine these trends in more detail. However it is clear from other studies that most vulnerable in
our society are single mothers and their children who experience low disposable incomes and high rates of poverty. The GPI Atlantic (2001) study found:

Despite relative educational parity, Nova Scotian women earn only 80% of the hourly wages of men. Even with identical education, field of study, employment status, work experience, job tenure, age, job duties, industry and occupation, female hourly wages are still 11% lower than equivalent male wages. Full-year full-time working women in Nova Scotia earn 70% of male wages, with 21% of these women earning less than $15,000 a year ($8 per hour or less) and 38% earning less than $20,000 a year ($10 per hour or less).

One in six Nova Scotian women lives below Statistics Canada’s low-income cut-off, a low income rate that is 50% higher than that for men (by far the widest low-income gender gap in the country) and 26% above the national average for women. The female poverty rate in Nova Scotia is the highest in Atlantic Canada and the second highest in the country after Quebec. Single mothers and unattached elderly women have the highest poverty rates, with 70% of Nova Scotian single mothers living below the low-income cut-off.

Nearly half the province’s 40,000 poor children live in single parent families, and a child living with a single mother is nearly four times as likely to be poor as a child living with both parents. Overall, nearly one in five Nova Scotian children under 18 live in poverty, the fourth highest rate in the country after Newfoundland, Quebec and Manitoba, and an improvement over 1997 when Nova Scotia had the highest rate of child poverty in the country.

14. Living Wage

Perhaps the most practical approach to measuring and defining poverty is to analyze the actual or real costs of living at the community and household level. Because of poverty is about the financial capacity to provide for the basic needs of living and to fully participate in a civil society, it simply makes sense to account for the actual costs associated with such participation. We support the work of Christopher Sarlo (1996) of the Fraser Institute in this regard in his attempts to construct such cost of living profiles for various Canadian communities. We also support the approach to developing the Market Basket Measure (MBM) by provincial and federal social service ministers for the redefinition of poverty. Any measures of poverty should be based on the realities of living standards and associated costs. The recent estimates of the real cost of living in Edmonton by the Edmonton Social Planning Council (2000) is also an excellent example of how cost of living profiles can be constructed which can then be compared with real disposable income data from the federal government.

A “living wage” or a sufficient level of disposable income is necessary to finance the costs of basic needs and participating fully in society. Unfortunately good analysis comparing real disposable incomes with the real costs of living are rare, with a few exceptions including the work by the Edmonton Social Planning Council (2000). This is unfortunate since such evidence would go far in mitigating the rhetoric that dominates the poverty debate.

Many jurisdictions across North America are beginning to consider passing into law living wage standards to ensure that all individuals can participate fully in society based on earned income. In the most recent survey and consultation with Canadians on quality of life issues (Canadian Policy
Research Network), the importance of a living wage was one of the most important issues identified by all Canadians.

A living wage is the amount of money (per hour or day) required to achieve a level of healthy living or existence and to participate fully in the community (beyond simply basic needs of food, shelter and clothing). Living wages will differ according to the cost of living in each community. For example, San Francisco is exploring a living wage law for public sector related employment of US $9.00 per hour (Cdn. $13.05 per hour). In Canadian dollars this would amount to an annual income of roughly $25,056 per annum or a weekly wage of $481.85.

The results of our preliminary analysis of what a living wage would look like for Alberta are fascinating. Figure 12 provides a preliminary estimate of what a living wage would look like for Alberta. Based on various estimates of the cost of healthy living (the most recent and practical approach from the Edmonton Social Planning Council’s full costs of healthy living for a family of two adults with two children) would range from a living wage of a low of $7.96 per hour (Christopher Sarlo, Fraser Institute), to $10.07 per hour (Market Basket Measure (MBM) method), to $11.70 (ESPC for employed families), and to an upper range of $16.39 per hour based on LICO. This would equate to annual incomes ranging from $16,553 (Sarlo) at the low end of the scale to $34,087 (1999 LICO) at the upper end of the scale.

**Figure 12: Living Wage Estimates, Alberta 1999**

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<td>Minimum wage</td>
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**Alberta “Living Wage” Estimates**

Cost of Healthy Living Thresholds (for 2 adult-2 children families), 1999

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<td>$21,804.00</td>
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**San Francisco Living Wage**

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<td>$481.85</td>
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Exact numbers of Albertans who might fall below our estimated living wage have not yet been analyzed. However, figure (Figure 13) shows the number of households in Alberta who would fall below various income thresholds, based on 1996 Census data. Using a crude estimate of
households living below a living wage (based on the ESPC employed healthy cost of living threshold of $24,332 per annum (1999) we estimate roughly 17.2% of Alberta households or 107,175 household who are living below a living wage (note: this analysis is crude and assumes that the average household is comprised of a family of two-adults-two-children when in fact the average Alberta household in 1996 was 2.73 persons with the Canadian average of 3.05 persons (Statistics Canada, 1999)).

Figure 13: Household Income Distribution by Income Group, Alberta and Canada1996

According to Measuring Up 2000 (Alberta Government, 2000), less than 10% of Alberta families earn less than $20,000 per annum which has been declining over the past 10 years. While $20,000 was chosen as an arbitrary threshold by the Alberta Government it may actually be closer to our estimated living wage of $18,555 per annum (based on the Canadian average size household of 3.05).

Exactly how many Albertans and families would fall below these living wage or healthy cost of living thresholds has not yet been analyzed in these GPI accounts, but is worthy of further research. Also important are the discussions amongst the provinces and the federal government regarding the development of a new Market Basket Measure (MBM) that would redefine poverty and ultimately provide guidance to designing living wage thresholds. Sensitivity analysis on the real cost of healthy living by each community in Canada is critical. To this end, the work by the Edmonton Social Planning Council in assessing the real costs of healthy living in Edmonton are important compliments to the MBM research.

On the basis of individual earned income we can compare Alberta’s minimum wage ($5.90 per hour, equivalent to $11,328 per annum) to a “poverty wage” (Alberta Federation of Labour, 1997) of $7.90 per hour or $16,554. Unfortunately the Edmonton Social Planning Council’s work on the cost of healthy living did not estimate these costs on an individual basis. Further analysis of the cost of living for all family types would be required to improve our living wage analysis. However, even based on the estimates of a poverty wage by the Alberta Federation of Labour,
that workers earning an annual income based on Alberta’s minimum wage would lack a living wage.

San Francisco is considering passing a living wage bylaw that would require a living wage paid to all public-sector related employees or contractors of C$13.05 per hour, equivalent to C$25,056 per annum. While the costs of living are considerably higher in San Francisco than Alberta, this benchmark is important to consider in designing living wage laws for Alberta and Canada.

Assessing the cost of healthy and sustainable living is a critical piece of sustainable well-being accounting. If the cost of healthy living can approximate the cost of sustainable living (that is living with an ecological footprint that is in line with the earth’s carrying capacity), then we have a powerful tool for assessing how public policy might help shape future living wage policies. These policies can be shaped to move all households in society to a path sustainable living with a reduced ecological footprint yet meeting basic needs and the capacity to participate fully in the community.
References


Calgary Interfaith Food Banks. Calgary Foodbank Statistics


Edmonton Gleaner’s Association Food Banks. Edmonton Foodbank Statistics.

*Edmonton Journal*. "WCB head gets nearly three times as much as premier and ministers", June 11, 2002.


Hurtig, Mel. 1999. *Pay the Rent or Feed the Kids: The Tragedy and Disgrace of Poverty in Canada*. McCcelland and Stewart Inc.


Appendix A. List of Alberta GPI Background Reports

A series of Alberta GPI background reports accompanies the *Alberta Sustainability Trends 2000* report and this report. These documents are being released in late 2001 and early 2002 and will be available on the Pembina Institute’s website at [www.pembina.org](http://www.pembina.org).

### Alberta GPI Background Reports and Sustainability Indicators

<table>
<thead>
<tr>
<th>GPI Background Reports</th>
<th>GPI Accounts Covered by Report</th>
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| 1. Economy, GDP, and Trade | • Economic growth (GDP)  
                                 • Economic diversity  
                                 • Trade |
| 2. Personal Consumption Expenditures, Disposable Income and Savings | • Disposable income  
                                                                        • Personal expenditures  
                                                                        • Taxes  
                                                                        • Savings rate |
| 3. Money, Debt, Assets and Net Worth | • Household debt |
| 4. Income Inequality, Poverty and Living Wages | • Income distribution  
                                                    • Poverty |
| 5. Household and Public Infrastructure | • Public infrastructure  
                                                 • Household infrastructure |
| 6. Employment | • Weekly wage rate  
                      • Unemployment  
                      • Underemployment |
| 7. Transportation | • Transportation expenditures |
| 8. Time Use | • Paid work time  
                     • Household work  
                     • Parenting and eldercare  
                     • Free time  
                     • Volunteerism  
                     • Commuting time |
| 9. Human Health and Wellness | • Life expectancy  
                                   • Premature mortality  
                                   • Infant mortality  
                                   • Obesity |
| 10. Suicide | • Suicide |
| 11. Substance Abuse; Alcohol, Drugs and Tobacco | • Drug use (youth) |
| 12. Auto Crashes and Injuries | • Auto crashes |
| 13. Family Breakdown | • Divorce |
| 14. Crime | • Crime |
| 15. Gambling | • Problem gambling |
| 16. Democracy | • Voter participation |
| 17. Intellectual Capital and Educational Attainment | • Educational attainment |
| 18. Energy (Oil, Gas, Coal and Renewable) | • Oil and gas reserve life  
                                             • Oilsands reserve life |
| 19. Agriculture | • Agricultural sustainability |
| 20. Forests | • Timber sustainability  
                      • Forest fragmentation |
<p>| 21. Parks and Wilderness | • Parks and wilderness |
| 22. Fish and Wildlife | • Fish and wildlife |
| 23. Wetlands and Peatlands | • Wetlands |</p>
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Appendix B: Poverty and Income Distribution Data and Indices

Poverty and Income Distribution Data and Indices used in the Alberta GPI

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<tr>
<th>Year</th>
<th>Percentage of All Albertans (Persons) Living below LICO (Poverty Line)</th>
<th>Poverty Index is based on lowest poverty rate in Canada (PEI 1994=9.9% below LICO) set at 100 points</th>
<th>Gini Coefficient (after tax and transfer income, all families)</th>
<th>Income distribution index is based on the average of the after-tax Gini Coefficients for individuals and families, taking the min. Gini 0.287 in 1989, 1990 &amp; 1994 set to 100 points</th>
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Appendix C: U.S. GPI Methodology for the Cost of Income Inequality

The U.S. GPI adjusts personal consumption expenditures (the primary component of GDP) for changes in the Gini coefficient – a measure of the distribution of income amongst various income groups. In the absence of a more precise measure of the monetary costs associated with rising inequality, the Gini coefficient is used to essentially estimate a “cost” as measured in terms of adjusting GDP (personal consumption expenditures) downwards as the Gini rises (i.e. as inequality increases). A similar approach is taken in the Alberta GPI estimates of net sustainable income (or net economic welfare). These and other detailed GPI methodological descriptions for the U.S. GPI analysis can be found in Anielski and Rowe (1999). The following provides a description of the U.S. GPI methodology taken Anielski and Rowe methodology report The Genuine Progress Indicator – 1998 Update.

Income Distribution Index (Column B)

Economist Paul Krugman noted that “economists who study wages and income in the United States agree about the radical increase in inequality” (1996). As Figure 2 shows, since 1968 (the lowest point of income inequality in the U.S. since 1950) the degree of income inequality between the rich and poor has grown considerably. In fact, 1997 recorded the highest degree of income inequality in over 50 years of measurement.

According to a study by Daniel H. Weinberg (1996) of the U.S. Census Bureau “the most commonly used measure of income inequality, the Gini index (also known as the index of income concentration), indicated a decline in family income inequality of 7.4 percent from 1947 to 1968. Since 1968, there has been an increase in income inequality reaching its 1947 level in 1982 and increasing further since then.” The following graph shows that relative to 1968 (the year with the least income inequality), income inequality for households has risen dramatically by over 18%.

[Graph: Income Inequality]

The U.S. Gini Coefficient for Households 1950 to 1997
As Paul Krugman (1996) notes, while the gap between the very rich and the poor has increased, the so-called middle class (families and households in the middle of the income spectrum) have also lost a share of the aggregate income to the top income households. This is illustrated in the following graph. In 1997 the top 20 percent of households earned 49.4% of total income (the top 5 percent of households earned 21.7 percent of aggregate income) while the lowest 20 percent earned only 3.6%. As the graph shows both middle income and the lowest income quintiles have lost a share of their income to the top income quintile. These shifts from both the bottom and middle of income groups to the top as Krugman notes, “the statistical signature of a seismic shift in the character of our society.”

The inequality in wealth distribution is even greater. According to the most recent State of Working America 1998-99 study by economists Lawrence Mishel, Jared Bernstein and John Schmitt for the Economic Policy Institute, the distribution of wealth remains more concentrated at the top than distribution of income, with wealth inequality worsening in the 1990s. Their projections for 1997 indicate “that since 1989 the share of wealth held by the top 1 percent of households grew from 37.4 percent of the national total to 39.1 percent” facilitated in large part by the stock market boom. They estimate that the net worth of the middle-class families (those in the middle fifth of the wealth distribution) fell by 2.9% from 1989 to 1997, due to a rise of indebtedness. In 1995 almost 60 percent of America’s households owned no stocks in any form, while 90 percent of the value of stocks was in the hands of the wealthiest 10 percent of households. Mishel et al. (1998) also found that the wealthiest 1 percent of families has seen their tax bills fall by $36,710 since 1977 as a result of changes in tax law.

The growing gap between the super rich and the very poor is epitomized in the growth in CEO salaries of Fortune 500 companies. Mishel et al (1998) show that the average compensation for CEOs from $999,000 in 1983 to $3,565,000 in 1997 (in constant 1997 dollars) for a 3.5 fold increase. They show that in 1965 the typical CEO made 20 times more than the average production worker; in 1989, the ratio had tripled to 56 times; 1997, relative CEO pay had more
than doubled to 116 times the pay of the average worker. Another estimate shows that CEO pay shows that salary, bonus, and returns from stock plans of the average CEO has grown 100% between 1989 and 1997.

Daniel Weinberg of the U.S. Census Bureau (1996) has suggested that one of the reasons for increasing inequality is that "divorces, separations, births out of wedlock, increasing age at first marriage have led to a shift away from married-couple households and toward single-parent and non-family households, which have typically low incomes." Intuitively, one of the key factors for rising income inequality may be an increase in single-parent female households (as a result of divorce or births out of wedlock) where women typically have lower incomes than two-parent households. While there is no definitive answer to why income inequality has reached unprecedented levels, closer study of the socioeconomic factors driving inequality would enlighten the debate.

We have factored in income distribution on the assumption that inequality of income does relate directly to the economic welfare and social cohesion of a society. By factoring in income inequality into the GPI account we are making an explicit ethical argument that growing income inequality represents a social cost. While economists tend to consider the issue of distributional equity to be important, they regard it as a separate issue from the magnitude of economic welfare (Daly and Cobb, 1994). Yet we must ask ourselves whether or not the rising income inequality and thus rising disparity in purchasing power between the rich and the rest of income groups (both poor and in the middle as the Gini coefficient indicates) does not impose a real cost on societal well-being. There is little doubt that a growing gulf between those who have greater income capacity and purchasing power can and does lead to demoralization of the relatively "poor" by constraining their participation in the fruits of the nation’s prosperity. Ultimately democracy and egalitarianism suffers, although empirical evidence of the cost to democracy is not always easy to discern. From the perspective of neoclassical economics there is no answer to this issue and the GDP and national income accounts simply ignore such potentially significant societal costs. While conceptually challenging, we nevertheless believe that accounting for income inequality is fundamental to an honest accounting of the nation’s economic and societal welfare. Thus we have made a measure of income inequality an integral part of the GPI, estimating the “social cost” of income inequality by using the Gini coefficient of income inequality as a factor to weight personal consumption expenditures.

The revised 1998 GPI makes a departure from the 1995 estimates by adopting the more common measure of income inequality — the Gini coefficient or index. The original GPI developed an index that measured the change in the relative share of the poorest 20 percent of households. The Gini index (also known as the index of income concentration), developed by the U.S. Department of Commerce is one of two methods used to measure income inequality, the other being the share of aggregate income received by households (or families).

The Gini index is the difference between actual distribution of income and equal distribution by income quintiles. The Gini index ranges from 0.0, when every family (household) has the same income, to 1.0, when one family (household) has all the income. Thus the higher the Gini index the greater the income inequality or the greater the portion of aggregate income earned by the top household (family) income bracket. It incorporates detailed aggregate income shares data into a single statistic, which summarizes the dispersion of income across the entire income distribution. It compares current income distribution with an ideal equal distribution of aggregate income giving equal weight to all income levels by calculating the square root of the sum of the squared differences of each quintile from a 20% share.
While the original GPI adopted the low income quintile index since it gives special weight to the plight of the poorest members in society, the use of the Gini index may be more appropriate since it reflects on the changes in the distribution of income across all income groups. It thus provides a basis for which to reflect on how growing income inequality between not only rich and poor but between the rich and the middle income groups can lead to the erosion of social cohesion in a society. Since one of the goals of the GPI is to assess how changes in equity may affect genuine societal well-being, and indeed social cohesion, the use of the Gini coefficient is attractive.

**Personal Consumption Weighted for Income Distribution**

Personal consumption expenditures are adjusted to account for income inequality or the changes in the distribution of the share of aggregate income by household income groups or quintiles. The Income Distribution Index (distributional inequality) is used to weight personal consumption by dividing personal consumption figures by the index of distributional inequality multiplied by 100. The reason for dividing rather than multiplying is that larger numbers indicate greater inequality. A third column becomes the base number (adjusted personal consumption) from which the remaining factors in the GPI are either added or subtracted.
Appendix D: Australian GPI Methodology for Income Distribution

Like the U.S. GPI, the Australia GPI by Hamilton and Denniss, include an adjustment to GDP for income inequality found in Tracking Well-being in Australia The Genuine Progress Indicator 2000. Appendix A of that report contains a complete set of Australia GPI data organized into a series of columns. Thus, references to “columns” in the description below relate to the columns as presented in the above mentioned publication. For complete details see Tracking Well-being in Australia The Genuine Progress Indicator 2000 prepared by Clive Hamilton and Richard Denniss, Australia Institute, 2000. The Australian GPI for 2000 estimated by Hamilton and Denniss estimate the “cost” of rising income inequality using the Atkinson Index and adjusting the GDP (personal consumption expenditures) downwards as inequality increases. The following outlines their methodological approach.

Income distribution (Column B)

The standard measures of welfare, GDP and GNP (Gross National Product), treat each additional dollar of expenditure as an equal contribution to national well-being irrespective of who spends it. Yet most people would agree that an extra dollar to a poor family will increase national welfare by more than an extra dollar to a wealthy family. Economics recognises this in the notion of the diminishing marginal utility of consumption.

In the GPI, personal consumption spending is adjusted for the distribution of income. In the US GPI and UK ISEW inclusion of a measure of changes in distributional inequality has been a major factor explaining the divergence of the estimated GPI from real GDP per capita. In the Swedish ISEW it has had the opposite effect.

Measurement of changes in distributional equality is often difficult; it is particularly awkward when an index covering the period 1950 to 2000 is required since no robust data are available prior to 1979-80. In the 1996 GPI we constructed an index of income distribution using the share of taxable income of the lowest quintile of income earners. This index was based on unpublished tax data stretching back to 1950. We acknowledged that there are serious problems with using tax data to estimate changes in distribution (Hamilton 1997).

In the 2000 GPI we employ a more sophisticated approach to measuring changes in income distribution, the Atkinson index, a method used by Jackson et al. (1997) in the up-dated UK ISEW. This appears to be the first time the Atkinson index has been used as a measure of income inequality in Australia.

In contrast to most other measures of inequality, such as the Gini coefficient, the Atkinson index recognises that a measure of inequality should reflect not only the distribution of income between income groups but society’s preferences for more or less equality. Thus in two countries with the same (unequal) distribution of income, social welfare will be lower in the country with a greater aversion to inequality. Put another way, for a single country, an increase in inequality (through, for example, adoption of a less progressive tax system) may be offset by a decline in society’s aversion to inequality, so that social welfare may be unchanged.

The Atkinson inequality index is given by:

\[ I = 1 - 1/ \bar{X} \left[ \sum X_i^{1-\varepsilon} \right]^{1/1-\varepsilon} \]
where \( X_i \) is the mean equivalised income of income unit \( i \) (i.e. the mean income of households in the \( i \)th decile adjusted to account for the number of people in each household), \( \bar{X} \) is the mean of all equivalised income groups (in this case deciles), and \( \varepsilon \) is a parameter. The parameter \( \varepsilon \) captures society’s preference for equality, or aversion to inequality. It can be interpreted as the amount that society would be willing to see lost in the process of transferring income from a richer person to a poorer person (Cowell and Gardener 1999).

The Atkinson inequality index \( I \) can be used to convert total income \( Y \) into a measure of total welfare \( W \) that reflects the degree of inequality and the weight society places on inequality. Thus \( W = Y(1 - I) \).

It is apparent from the definition that \( I \) will vary with changes in the distribution across income groups (the \( X_i \) values) and the parameter \( \varepsilon \). In a society in which income is distributed perfectly evenly, \( I = 0 \) and social welfare is equal to income. Similarly, if society has no aversion to inequality then \( \varepsilon = 0 \) and \( I = 0 \) so that \( W = Y \).

The parameter \( \varepsilon \) is especially important for it allows us to capture society’s level of preference for equality. However, it is not easy to measure. Cowell and Gardener (1999) discuss the various possible approaches, including direct inquiry (through survey evidence), inference from private behaviour (such as expressed risk aversion) and revealed social values. Evidence for the UK suggests that the value of \( \varepsilon \) lies in the range 0.5 (weak inequality aversion) to 4 (very strong aversion to inequality).

An argument can be made that social values are revealed or can be inferred from public policy decisions, particularly those aimed directly at redistribution. The income tax scales can be interpreted this way if one assumes that they are based on a principle such as equal absolute sacrifice in which the higher tax paid by a rich person has the same impact on their welfare as the lower tax paid by a poorer person (Cowell and Gardiner 1999: 24). An objection to interpreting the income tax scales as an expression of society’s preference for equality might be that wealthier individuals have more influence over income tax policy, in which case the estimated value would be an under-estimate of society’s aversion to inequality.

In the absence of alternatives, the Atkinson index of inequality used in the GPI employs an estimate of \( \varepsilon \) using the 1997-98 tax scales and the distribution of disposable income that applied in 1997/1998, the latest for which data are available (see Appendix for details of the method of calculating \( \varepsilon \)). The estimated value is 0.83.

The Atkinson index also requires data on the distribution of disposable income. Disposable income data by decile (equivalised using the OECD method) have been supplied by the ABS from unpublished sources for the years 1986, 1990, 1994, 1995, 1996, and 1997. Applying the estimated value of \( \varepsilon = 0.83 \) to 1997 income distribution data gives an Atkinson index of 0.154. Thus \( W = 0.846Y \) for 1997/98. Using a constant \( \varepsilon = 0.83 \) the Atkinson index has been estimated for each of the years for which data on income distribution are available. For other years back to 1968 an index has been formed using estimates of Gini coefficients as supplied by the ABS, and prior to 1968 and index is estimated employing the one used in the 1996 Australian GPI (i.e. based on the share of the lowest quintile in taxable income). It is assumed that the index value for years after 1997 is unchanged.
The principle of equal absolute sacrifice can be expressed as follows assuming a constant elasticity of marginal (social) utility:
\[
y^{1-\varepsilon} - [y - T(y)]^{1-\varepsilon} = \text{constant}
\]

Where \( y \) is taxable income and \( T(y) \) is the tax function.

Cowell and Gardiner (1999, Appendix A2) show that \( \varepsilon \) is given by the slope of a curve estimated by applying ordinary least squares to the following equation
\[
-\ln(1 - T'(y)) = \varepsilon \ln \frac{y}{y - T(y)}
\]

Where \( T'(y) \) is the marginal tax rate. Cowell and Gardiner indicate that in estimating the best fitting curve the intercept should be constrained to zero. Using Australian data, constraining the intercept increases the estimate of \( \varepsilon \) from 0.83 to 2.8, a very large change. We have not constrained the intercept. While constraining the intercept is mathematically correct, we can regard the estimate of \( \varepsilon \) without constraining the intercept as the estimate of equality aversion over the relevant range of incomes.

**Weighted personal consumption (Column C).**

This column weights personal consumption in Column A by the index of income distribution in Column B. Note that the other components of GDP – public final consumption expenditure, gross fixed capital expenditure (private and public) and exports less imports\(^1\) – are dealt with elsewhere in the GPI (under ‘Net foreign lending’ (Column AA), ‘Net capital growth’ (Column Z) and ‘Services of public capital’ (Column J)).

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\(^1\) GDP also includes changes in stocks, but since they more or less balance out over time, changes in stocks are not considered in the GPI.
Appendix E: GPI Atlantic

Researchers at GPI Atlantic, headed by Dr. Ron Colman, are also advancing the methodological framework for GPI accounting considering 22 core social, economic and environmental components in their accounting system. One of these is income distribution. As with the U.S., Australian and Alberta GPI estimates, GPI Atlantic considers rising income inequality in Nova Scotia as a loss in societal well-being as social cohesion is eroded. The following is the abstract on income distribution in Nova Scotia found on the GPI Atlantic website at http://www.gpiatlantic.org/ab_incdist.shtml. The full report can be purchased from GPI Atlantic.

Income Distribution in Nova Scotia
(59 pages including charts; July 18, 2001; $25)

Economic growth statistics are the most widely used measure of wellbeing and progress. When the Gross Domestic Product (GDP) is growing, we are assumed to be "better off" as a society. But the GDP only reports the total income generated by all economic activity. It tells us nothing about how income is shared. The GDP can grow even while most people are getting poorer, while inequality grows, and while profits flow out of the region and country.

This report shows that only the incomes of the wealthy have been positively correlated with economic growth in the last decade. Although it has often been asserted that "growth is a tide that lifts all boats," most Nova Scotians’ real income has fallen and inequality has increased even as the economy has grown, a clear indicator that GDP is an inadequate measure of societal wellbeing.

The Genuine Progress Index (GPI), by contrast, does measure income distribution as one of its 22 core social, economic and environmental components. Increases in poverty and inequality are seen in the GPI as a loss in "social capital." Because they are often highly correlated with illness, crime, poor educational attainment and low productivity, poverty and inequality can also be costly to the economy and society. By contrast, greater equity and livelihood security have been associated with improved economic performance and social stability.

(All figures in this report are in real 1998$ after adjustment for inflation)

Regional Income Gap Grows

The income gap between the richest provinces (Ontario and Alberta) and the rest of the country grew in the 1990s. In 1990, Nova Scotians had 82 cents for every $1 of disposable income in Ontario. In 1998 they had 73 cents. The average Nova Scotian disposable household income dropped $3,000 in the 1990s (down 8%), while Ontarians saw a $1,800 increase (up 4%) and Albertans a $2,100 increase (up 5%).

However, it is the gains of the richest 20% of Ontarians and Albertans that have raised "average" incomes in those provinces. Poor and middle income Ontarians actually lost real income in the 1990s, while the richest 20% gained an average of $9,400 per household (up 11%). In Alberta, the incomes of the poorest 20% fell, middle incomes stagnated, and the richest 20% gained an average of $9,800 (up 12%). Alberta now has the widest income gap between rich and poor in the country, and Ontario ranks as the most unequal province using the GINI measure of inequality.
Poor and Middle Income Nova Scotians Lose Most – NS Poor are Poorest in Canada

Since 1990, middle income Nova Scotians have lost the most income in absolute terms (average $3,600) and the poorest 20% have lost the most in percentage terms (29% of their disposable income). The poorest 20% of Nova Scotian households are the poorest in the country, with an average disposable income (just $8,205) 12% lower than that of the poorest 20% in Newfoundland and 20% lower than that of the poorest households in PEI and New Brunswick. The poorest 40% of Nova Scotian households have lost more income in both absolute and percentage terms since 1990 than the bottom 40% in any other province, and the bottom 60% of Nova Scotian households have an average income lower than that in any other province in Canada.

NS Income Gap Grows - Rich Increase their Share of Pie

Inequality has grown sharply. In 1990 the richest 20% of Nova Scotian households had an average disposable income 6.2 times greater than the poorest 20%. By 1998, the income of the rich was 8.5 times greater. This is the second widest income gap between rich and poor in the country after Alberta. The richest 20% of Nova Scotian households have 42% of the total annual disposable income in the province up from 39.2% in 1990. The poorest 20% have just 4.9% of the income, down from 6.4% in 1990. The richest 20% of Nova Scotian households average $70,000 a year in disposable income (after taxes), compared to $8,205 for the poorest 20%. The richest 20% of Ontarians average nearly $100,000 in disposable income.

Inequality Grows Across Canada

These are national trends. In the 1990s, the poorest 20% of households saw their income share fall in every province except Saskatchewan, and the next 40% saw their income share fall in every single province. In fact, middle income households in every province have less disposable income now than they did 20 years ago, while the richest 20% of households have increased their income share in every province. The income gap has grown across the country. Prince Edward Island is a notable exception to the national trends. PEI is the most equitable province in the country with the smallest income gaps between rich and poor and between men and women, as well as the lowest poverty rates in Canada for both sexes, and the lowest rate of child poverty. It is also the only province in which the poorest households average higher incomes today than they did in 1980 and 1990.

Market Income Drops Most Sharply – Down 50% for Poor

The decline in disposable income in Nova Scotia is due primarily to a drop in market income (wages, salaries and income from self-employment and investment.) The poorest 20% of Nova Scotian households have seen their market income fall by more than 50% in real terms since 1990, the sharpest drop in the country. As a percentage of disposable income, market income for the poor is now just 31%, the lowest level ever recorded. Middle income Nova Scotian households have seen their market income drop by 20% (or $6,000) since 1990, also the sharpest drop in the country.

Middle and Higher Income Nova Scotians Get More Cash Transfers than Poor

Government cash transfers (including EI, CPP, Old Age Security, social assistance, and child tax benefits) to middle income groups have increased by 73% since 1990, while transfer payments to the poorest households have fallen by 15%. Middle income Nova Scotian households actually
receive an average of 45% more in government cash transfers than the poorest 20% of Nova Scotians. Even the second wealthiest 20% of Nova Scotian households receive an average of 8.5% more in transfers than the poorest 20%. Further investigation into the demographic and policy factors behind these changes is required.

**Has An Increasingly Open and Unregulated Market Improved Wellbeing?**

It is generally asserted that free trade and other elements of an increasingly open and unregulated market improve the wellbeing of Canadians. However, income analysis does not support this assertion. In the 1980s, before the Canada-US Free Trade Agreement and the North American Free Trade Agreement, market income and disposable income increased for Canadians and Nova Scotians in all income groups. The income gap between rich and poor also narrowed, and equality grew. In every province, including Nova Scotia, the poorest 20% of households increased their share of income in the 1980s.

Since the free trade agreements, incomes for poor and middle income households have fallen sharply in real terms, and inequality has grown. 80% of Nova Scotian households are worse off since free trade, with declines in both market income and disposable income. Only the wealthiest 20% have done better since free trade.

Income is affected by many factors, and these simple correlations do not prove that free trade caused incomes to fall and inequality to increase. However, the income statistics provide no evidence that free trade has improved the economic wellbeing of the vast majority of Canadians and Nova Scotians, as is generally asserted, and they indicate that the reverse may be true. The negative income and equality trends of the last decade demand further investigation into the impacts of an increasingly open and unregulated market on economic wellbeing.

**The Gender Gap: More Women Live in Poverty**

Despite relative educational parity, Nova Scotian women earn only 80% of the hourly wages of men. Even with identical education, field of study, employment status, work experience, job tenure, age, job duties, industry and occupation, female hourly wages are still 11% lower than equivalent male wages. Full-year full-time working women in Nova Scotia earn 70% of male wages, with 21% of these women earning less than $15,000 a year ($8 per hour or less) and 38% earning less than $20,000 a year ($10 per hour or less).

One in six Nova Scotian women lives below Statistics Canada’s low-income cut-off, a low income rate that is 50% higher than that for men (by far the widest low-income gender gap in the country) and 26% above the national average for women. The female poverty rate in Nova Scotia is the highest in Atlantic Canada and the second highest in the country after Quebec. Single mothers and unattached elderly women have the highest poverty rates, with 70% of Nova Scotian single mothers living below the low-income cut-off.

Nearly half the province’s 40,000 poor children live in single parent families, and a child living with a single mother is nearly four times as likely to be poor as a child living with both parents. Overall, nearly one in five Nova Scotian children under 18 live in poverty, the fourth highest rate in the country after Newfoundland, Quebec and Manitoba, and an improvement over 1997 when Nova Scotia had the highest rate of child poverty in the country.
Poverty and Inequality Adversely Affect Health and Health Care

Poverty and income inequality are among the most reliable predictors of poor health. Low-income earners have poorer physical and mental health and higher rates of hospitalization and health service usage. Concerted public policy has dramatically lowered poverty rates among seniors. Similarly, improving social supports for single mothers, who have particularly high rates of poverty, is one of the most cost-effective strategic investments governments can make to reduce long-term health care costs.

Growing economic disparities may lead to a growing disparity in the quality of health care available to rich and poor Canadians in two different ways. With nearly 30% of Canada’s health care spending now in the private sector and growing, low income Canadians are less able to afford certain health care costs. Secondly, only the rich provinces may be able to afford high quality public health care as federal transfers fail to compensate adequately for growing regional disparities. Recruiters from Alberta are now offering Nova Scotia health care workers $5 more per hour than they receive here.
Endnotes

1 Market income is total earnings (from paid employment or self-employment), investment income, retirement income (private pension plan) and "other income." It excludes government transfers. It is also known as income before taxes and transfers. (Statistics Canada, 2000)


3 According the Debbie Larocque of the Alberta Foodbank Association there were roughly 74 registered foodbanks in Alberta in 2000, based on personal communication, November 18, 2000

4 Personal communication with Debbie Larocque, November 18, 2000

5 Annual salaries for the wealthiest individuals and families is estimated assuming a modest 8% return per annum on their estimated net worth and then estimating an hourly wage based on assumption of a 240 day work year and 8 hour work day.

6 Data is from various sources see endnote 5. We assume in all cases an average annual workdays of 240 workdays working 8 hours per day.


8 His book Poverty in Canada (2nd edition) can be found on the Fraser Institute website http://www.fraserinstitute.ca/publications/books/poverty/index.html

9 This quotation appeared on the document prepared by Canada’s National Anti-Poverty Organization (NAPO) presentation to the 50th Anniversary of the UN Declaration: Human Rights Meltdown in Canada, November 16, 1998 and is quoted by Mel Hurtig in his book “Pay the Rent or Feed the Kids: The Tragedy and Disgrace of Poverty in Canada.” 1999.

10 This quote appeared in the UN submission by NAPO and is found in Hurtig (1999; 8).

11 Child poverty figures were derived from Statistics Canada, Cat. 13-569-XPB.

12 If we were to adjust the living wage threshold for a two-parent-two-child family by the ratio of average Canadian family size of 3.05/4.00 multiplied by $24,335 this would yield an estimated average household living wage threshold of $18,555 per annum


14 ibid 63.