

**Draft**

**Economic Performance and the Wellbeing of Canadians**

Dr. Ronald Colman, GPI Atlantic and

Hans Messinger, Statistics Canada

Canadian Economic Association Annual Meeting,  
Toronto, Ontario,  
June 2004

## Abstract

*Simon Kuznets, Nobel prize-winning architect, and other pioneers in the field of National Accounting never conceived that Gross National Products could or should serve as a measure of economic or social welfare. Yet real per capita GDP is commonly used as a measure of living standards and hence, economic wellbeing. There is some notion that an increase in GDP is like a rising tide that lifts all boats. The returns generated by an expanding market economy trickles down to benefit all. In a democratic society government policies and programs serve as an added safeguard to ensure equitable sharing of economic resources and sustainable development. Canada enjoys one of the highest GDP per capita in the world as the economy has gone through two decades of relatively uninterrupted low-inflationary growth. Yet when we look at progress from a social wellbeing perspective, we find that there has been almost no overall advance real after-tax income of Canadian families and individuals, problems of low-income persist and there are serious concerns about our health care system, the quality of our environment and the sustainability of our natural resources which continue to play a key role in Canada's economic development – national, regional and local.*

## 1. Introduction

Post-war prosperity in highly industrialized western societies raised doubts in the late 1960's and early 1970's about economic growth as the major goal of societal progress. The appropriateness of GDP as a measure of economic welfare became the subject of much discussion and debate. A study testing the validity of GDP as an aggregate indicator of societal well being, was conducted by two noted Yale economists, Nordhaus and Tobin in the Measure of Economic Welfare (MEW). This research in the early 1970's concluded that there was sufficient correlation between MEW and GDP such that the latter can be reasonably construed as an indicator of economic welfare trends. **“If the Economy is Up, Why Is America Down?”** (Atlantic Monthly, October 1995) re-kindled the debate about the validity of using GDP as a proxy measure of economic welfare. The Genuine Progress Indicator (GPI) developed by the Center for Redefining Progress, San Francisco, showed a widening gap between GDP and sustainable economic welfare. More recent work in Canada, for example, Osberg and Sharpe (Centre for the Study of Living Standards), Colman (GPI Atlantic) and others, clearly demonstrate that the measurement of wellbeing is indeed complex. The National Roundtable on the Environment and the Economy endorses a capital modelling approach to measuring and monitoring sustainable development.

The proposed analytical framework for a Canadian Index of Wellbeing (CIW) brings together indicators that monitor wellbeing values and outcomes. These outcomes broadly fall under the domains of: social inclusion; population health and education; personal safety and security; ecological integrity; economic security, equity and prosperity; and legacy (intergenerational equity). These are linked to determinants of wellbeing that in

some way (directly or indirectly) affect outcomes – one of the most prominent being the economy. A capital model approach measuring sustainable development, addresses the issue of legacy or intergenerational equity. These measures encompass a broad range of social, economic and environmental dimensions.

The economy, as measured by Gross Domestic Product, is not in itself an outcome in the CIW, but a far reaching determinant that impacts on virtually all categories of wellbeing. This paper focuses on performance of the economy and some of the more direct impacts on the wellbeing of Canadians such as income, work and government spending on social programs. The market economy generates income and jobs and creates wealth. Furthermore the economy generates government revenue through personal and corporate income taxes, a range of indirect taxes and royalties. These revenues provide the means of providing social services (health, education, income security etc.), sustaining economic development and protecting the environment.

The next section of the paper describes the basic framework of the Canadian Index of Wellbeing with particular focus on the economy as a determinant or driver of wellbeing outcomes. Section three looks specifically at economic performance and wellbeing in the context of four elements or themes: sustainable economic and social development; qualitative dimensions of economic performance; work and leisure; and income and equity. Empirical evidence will focus primarily on the later two elements.

## **2. Basic Summary of the Canadian Index of Wellbeing**

The development of a framework for the Canadian Index of Wellbeing is work-in-progress as proposals go through stages of consultation and feedback. In the CIW measures of wellbeing are focussed on outcomes that reflect values in our society:

- Population Health (status (measured and self-rated), medical care provisions)
- Educational Attainment (formal education, skills training, continuous learning)
- Social Inclusion (freedom and rights, participation, communities, culture and recreation)
- Personal Security (basic necessities and personal safety)
- Economic Security, Equity and Prosperity (meaningful employment, income security, adequate income and wealth)
- Time Balance (work paid and unpaid, personal care and leisure, choice about time use)
- Ecological Integrity (natural resources, quality of air, water and land)
- Legacy (intergenerational equity, sustainable economic and social development)

Below the broad outcome domains there are sub-categories important to each. In many instances these have been well defined in Canada and elsewhere by Statistics Canada, research institutes and agencies, NGOs, academic institutions and international organizations.

Statistics Canada, for example, releases its health information according to four broad categories:

- Health status
- Non-medical determinants of health
- Health system performance
- Community and health system characteristics

Each sub-category of each outcome domain is defined by a set of selected indicators that represent the data elements by which we monitor and measure progress. The next stage of developing the CIW is to select these indicators which again, in many cases, are well defined by both domestic and international institutions and organizations, including Statistics Canada. In general, the criteria for indicator selection are determined by data availability and quality, interpretability, public policy relevance and perceived importance to Canadians.

Indicators used to monitor and measure wellbeing outcomes are in turn affected or driven by economic, social environmental and external factors that help explain changes. In order to change or move toward a desired outcome policy levers are often aimed at determinants that are directly or indirectly linked to those outcomes. For example, health status is very much affected by lifestyles (healthy diet, fitness, substance abuse) and preventative measures (immunization, sanitary conditions, clean air and water etc.).

The economy in some way impacts on virtually all wellbeing outcome domains specified in the CIW – in some cases more directly than others. Although we are concentrating primarily on the economy in terms of economic security, equity, prosperity and labour market opportunities, these factors also impact on important social and environmental domains. Linkages between income and health status and educational attainment are well documented. The environmental consequences of economic growth are a major concern in Canada and other industrialized nations.

First and foremost, the economy generates income, creates jobs and wealth. From a wellbeing perspective, the health of the economy is not only looked at in terms of economic growth, but an equitable distribution or sharing income and employment. Table 1 and Appendix Table 1 display a summary of growth in aggregate GDP, compared to growth in per capita GDP, and family income after-tax including transfer payments.

<b>TABLE: 1</b>			
<b>GDP and Family Income</b>			
<b>Average Growth</b>	<b>GDP</b>	<b>GDP Per capita</b>	<b>After-tax Income</b>
<b>1981-85</b>	2.8	1.8	-0.9
<b>1986-90</b>	2.9	1.5	0.3
<b>1991-95</b>	1.7	0.6	-0.8
<b>1996-2001</b>	3.8	2.8	2.3
<b>1981-2001</b>	2.8	1.7	0.3

Source: Statistics Canada

Over the past two decades real after-tax income of Canadian families and individuals has on average remained virtually unchanged. The economy over the same period has averaged growth rates of nearly 3 percent despite economic recessions in the early 1980's and 1990's. Real after-tax income deteriorated significantly in the 1981-95 period, highly accentuated by the recessionary years. There were only four of those fifteen years where after-tax income showed appreciable gains (Appendix Table 1). Overall real after-tax income only experienced a sustained upward drive from 1997-2001 as the economy went through successive years of robust low-inflationary growth and relatively low rates of unemployment. The gains are, however by no means equitable across the income distribution as seen in Table 2.

<b>TABLE: 2</b>						
<b>Market, Total and After-tax Family Income</b>						
<b>Bottom and Top Quintiles</b>						
<b>Average Growth</b>	<b>Bottom Quintile</b>			<b>Top Quintile</b>		
	<b>Market</b>	<b>Total</b>	<b>After-tax</b>	<b>Market</b>	<b>Total</b>	<b>After-tax</b>
<b>1981-85</b>	-3.7	1.0	0.9	-0.2	-0.1	-0.5
<b>1986-90</b>	2.4	1.5	1.2	1.2	1.2	0.2
<b>1991-95</b>	-5.8	-0.7	-0.6	-0.3	-0.3	-0.5
<b>1996-2001</b>	6.9	0.1	0.0	2.7	2.6	3.1
<b>1981-2001</b>	0.3	0.5	0.4	0.9	0.9	0.7

Source: Statistics Canada

The difference in measured progress between the top and bottom quintiles for real after-tax income is very similar on average over the entire period examined – the sub periods are quite different. During the 1980's families and individuals in the bottom quintile actually fared better than those at the top, implying that social programs and the personal income tax system played an effective role in protecting and improving the income security of lower income Canadians. The data clearly shows that lower income

Canadians are particularly vulnerable to economic downturns. In the 1990's, those in the bottom quintile really fell behind. In the first half of the 1990's sharp losses in market income were largely offset by tax and transfer programs. In the latter half of the 1990's, however, a steep rise in market income of lower income Canadians translated into no gains on a post-tax and transfer basis. Meanwhile those in the top quintile enjoyed real after-tax income growth that exceeded market income advances. It should also be noted that Canadian families and individuals in the middle three quintiles averaged no gains in real after-tax income over the entire period examined (see Appendix Table 2).

<b>TABLE: 3</b>							
<b>Low-Income Families and Individuals</b>							
<b>Average Growth</b>	<b>Incidence of Low Income - After-tax</b>				<b>Ratio of Bottom to Top Quintile</b>		
	<b>&lt;18</b>	<b>18-64</b>	<b>65+</b>	<b>Total</b>	<b>Market</b>	<b>Total</b>	<b>After-tax</b>
<b>1981-85</b>	14.6	11.4	17.4	12.8	2.5	10.7	13.0
<b>1986-90</b>	12.7	10.3	11.8	11.1	2.5	11.0	13.7
<b>1991-95</b>	15.0	12.1	9.2	12.5	1.5	10.7	13.7
<b>1996-2001</b>	14.0	12.1	8.0	12.1	1.8	9.6	12.0
<b>1981-2001</b>	14.1	11.5	11.4	12.1	2.1	10.4	13.1

Source: Statistics Canada

Canada as a nation has done very well in improving the economic status of its elderly population. The incidence of low-income continues to decline indicating that social policies and programs are doing an effective job. Furthermore, increase wealth of the working age population through investments in private pensions, Registered Retirement Savings and financial and capital markets has greatly improved the income status of Canada's senior citizens. For Canada's youth there has been little progress. The working age population has actually seen an overall deterioration in the 1990's as the changing industrial structure of the economy and changes in social programs have made it increasingly difficult for many Canadians, particularly young labour market entrants and older displaced workers to find and maintain economic security. Strong economic performance in the final four years of the twentieth century, however, resulted in significant gains in mitigating the low-income status of Canada's youth and working age populations. These issues are discussed in the following section of this paper. In a relative perspective, those in the bottom income quintile lost considerable ground vis-à-vis those in the higher income quintiles on a post tax-transfer basis in the latter half of the 1990's. Year-by-year summaries of these results are contained in Appendix Table 3.

A major role of government is to help provide income security for all Canadians through social and taxation programs that redistribute income returns from GDP to protect those who cannot share equitably in economic gains while still rewarding effort in terms of work, investment and innovation. Revenues equivalent to about 40 percent of GDP is collected by governments mostly through taxes (income, consumption, property, etc.). A major portion if this government revenue flows into social, economic and environmental policies and programs that cross all wellbeing outcome domains. As shown in Table 4

and Appendix Table 4, Government spending directly impacting on identified wellbeing outcomes represented, on average from 1989 to 2003, 29 percent of Gross Domestic Product and 73 percent of total government revenues at all levels of government. Income security, health and education are the dominant areas of spending as shown Appendix Table 4.

Looking over the entire period, the mid 1990's marked a major turning point in Canada's social program spending. From the first to the latter half of the 1990's public spending on wellbeing related domains fell from nearly one-third to 27 percent of GDP and tumbled from 80 percent to 69 percent of total government revenue. The difference can be explained in part by economic conditions. Economic growth in the first part of the decade was less than half the average pace for the 1996-2001 period, largely due to a recession in the early 90's. Nevertheless, there were changes in policies and programs, prompted by deficit and debt reduction measures that dampened spending in various social programs. This will be discussed later in the paper.

<b>TABLE: 4 Government Revenue and Expenditures on Social Wellbeing</b>			
	<b>Revenue Share of GDP</b>	<b>Spending Share of GDP</b>	<b>Spending Share of Revenue</b>
<b>Averages</b>			
<b>1991-95</b>	40.9	32.6	79.7
<b>1996-2001</b>	39.8	27.4	68.8
<b>1989-2003</b>	39.7	29.1	73.2

Source: Statistics Canada

### **3. Limitations of Gross Domestic Product as a Measure of Wellbeing**

Gross Domestic Product (GDP), is a *quantitative* aggregation of the market value of all goods and services produced within a country's borders. Economic growth as measured by GDP, provides details on industry sources of the value of production, income returns to factors of production, categories of final expenditures and inter-industry transactions, but makes no *qualitative* distinctions, as to how the economy impacts on the wellbeing of Canadians. GDP was never intended, even by its architects, to serve as a composite index of economic welfare and prosperity, let alone a measure of social wellbeing. In the words of Nobel Prize winner, Simon Kuznets, one of the principle architects of national income accounting:

*“The welfare of a nation can scarcely be inferred from a measurement of national income.... Distinctions must be kept in mind between quantity and quality of growth, between its costs and return and between the short and the long run. Goals for ‘more’ growth should specify more growth of what and for what.*

The early pioneers of new indicator systems perhaps saw their contributions more clearly as challenges to conventional economic theory and as instruments of change than does the current generation of indicator practitioners. Hazel Henderson's Country Futures Index (CFI) and Daly and Cobb's remarkable book, *For the Common Good*, both included ground-breaking critiques of GDP-based measures of progress that were quite explicitly intended to expose the limitations and flaws of existing GDP-based measures of progress. Beyond their discussion of indicators, Henderson, Daly and Cobb provided a profound critique of conventional economic theories and policies, and pointed towards a new kind of economics for the future, an economics that took into account the value of the environment, the community, and the wellbeing of future generations.

In this way, these pioneers demonstrated the power of indicators as instruments of change and to their capacity to establish and shape policy priorities. Conversely, they noted that false or incomplete indicators of progress can send misleading signals to policy makers and the general public alike. Similarly, New Zealand's Marilyn Waring analyzed the System of National Accounts to reveal the profound implications for women of excluding the value of unpaid work from our economic accounting systems. Her seminal 1993 book, *Counting for Nothing: What Men Value and What Women are Worth*, showed that existing GDP-based measures ignored the world's largest productive economic sector simply because no money was exchanged.

Other early indicator work that revealed its policy relevance included:

- The natural resource accounting work of the World Resources Institute;
- Local and regional quality of life indicator initiatives including Sustainable Seattle, Oregon Benchmarks, and Hamilton-Wentworth Vision 2020; and by the Jacksonville Community Council, Ontario Social Development Council, and Edmonton Social Planning Council;
- Full-cost accounting studies for the transportation sector in particular, which revealed the practical policy relevance and utility of counting hidden social and environmental costs.

Perhaps because they all occurred outside national government frameworks, these and other initiatives did not hesitate to point to the policy implications of their work, and to use their results to promote change.

During the same period, governments began to recognize the need for: better, more accurate and more comprehensive measures of progress that include environmental and social realities. These initiatives gradually penetrated some key mainstream organizations. In the process, however, the policy relevance of the new indicators, and the challenge to conventional economic policy and theory, received less attention, and the exercise became increasingly academic. This is not to detract from the substantial contributions and methodological advances in many of these governmental initiatives. But it does indicate that, if a new Canadian Index of Wellbeing is intended as an



instrument of change, it may wish to maintain its independent status and non-governmental governance, while cooperating fully with government agencies as needed.

The mainstream penetration of the new indicators is revealed in the United Nations System of National Accounts, which in 1993 recommended the extension of the national balance sheets and the construction of satellite accounts to account for the value of natural resources and unpaid work. The World Bank co-sponsored a major international seminar on environmental accounting for sustainable development. The Asian Development Bank produced a remarkable handbook on the economic valuation of environmental impacts. An entirely new academic field emerged in ecological economics and Statistics Canada itself developed a new Canadian System of Environmental and Resource Accounts, and a Total Work Accounts System that included both paid and unpaid work.

These and other initiatives indicated that there has been little resistance to the proposed new measurement systems, and that governments, non-profit groups, academics, and individual researchers have all contributed to the plethora of outstanding activity worldwide in developing the new measures.

Using GDP levels and economic growth rates to measure progress takes no account of the value of natural, human and social capital, including environmental assets, unpaid work, free time, and the quality of health, and education. It does not allow policy makers to distinguish the costs and benefits of different economic activities, and can mask underlying changes in income distribution and labour market conditions. The limitations of GDP as a direct measure of wellbeing include:

- GDP is a subset of total production as growth statistics ignore the value of unpaid work.
- GDP shows no relationships between economic growth and free or leisure time.
- GDP tells us how much income is produced but not how that income is shared.
- The depletion of natural wealth is counted as economic gain.
- Because crime, war, sickness, pollution, greenhouse gas emissions, and natural disasters may contribute to economic growth, spending on these and other liabilities is frequently misunderstood to contribute to wellbeing and prosperity.
- The faster goods wear out, and the more waste there is, the more compensatory production there is, which again may be misunderstood as a contribution to wellbeing and prosperity.

It must again be emphasized that these are not flaws in GDP measures as such, but rather its misuse as a benchmark of economic and social health, prosperity and welfare. When GDP is incorrectly interpreted as a measure of wellbeing and progress, it can lead to policy decisions that invest in economic activities that carry hidden social and environmental costs. What we count and measure is usually interpreted as a sign of what we value. By focusing on quantitative material growth as a primary measure of progress, we may under-value the human, community, and social values, and environmental

quality. These elements represent the true basis of long-term wellbeing, prosperity and wealth.

In the Canadian Index of Wellbeing framework, a healthy economy *is* seen as a determinant or driver of social wellbeing. However that economic health is not simply defined as growth per se, but by the ability to achieve defined wellbeing outcomes like secure and meaningful employment, adequate income, access to health and education services and an acceptable standard of living for all Canadians. Growth may or may not achieve those outcomes. Some forms of economic growth, are accompanied by a disappointing expansion of job creation or may rely on the expansion of temporary, contingent, insecure jobs or outsourcing of labour services at the expense of secure employment. This was witnessed in the U.S. economy in the expansionary periods of 2003.

### ***3.1 Sustainable Development***

GDP measures current production in terms of industry output and its associated income and expenditure flows. GDP does not account for changes in stocks of capital whether it be: financial, plant and equipment, infrastructure, natural resources, human abilities and skills, and social institutions and networks. Within the context of Gross Domestic Product in the system of national accounts, investment in and depreciation of produced capital (houses, buildings, roads, machinery and equipment etc.) are accounted for, but does not value natural, human, and social resources as capital assets subject to depletion and depreciation. In the case of natural capital, it counts what we *extract* from our natural resource base (e.g. timber and fish), and fails to count what we leave behind (healthy forests and fish stocks). As such, GDP measures fail to send warning signals to policy makers indicating a need for re-investment in natural, human, and social capital. Even from a conventional standpoint, it is simply bad accounting to measure the depletion of wealth as if it were economic gain. This is analogous to a factory owner selling off machinery and equipment and then counting it as profit, without regard for the fact that future production will be imperilled.

Repetto and Austin (1997) remark:

*"A country could exhaust its mineral resources, cut down its forests, erode its soils, pollute its aquifers and hunt its wildlife and fisheries to extinction, but measured income would not be affected as these assets disappeared."*

According to James Gustave Speth, President of the World Resources Institute, relying solely on the GDP as a measure of society's progress creates:

*"... a flawed framework for appraising the sustainability of economic growth. While it measures how such man-made assets as factories and equipment depreciate as they are used in current production, it leaves out the effects of resource depletion and degradation. For example, national*

*income accounts record timber output, fish harvest and crop production as income but ignore the costs of deforestation, over fishing and soil erosion. A nation's depletion of its natural resources – consumption of natural capital – can therefore masquerade as growth for decades, even though it will clearly reduce income prospects from resource sectors in the future. Just as ignoring the deterioration of man-made assets skews economic assessments, so does overlooking the degradation of natural assets." (Cited in Repetto and Austin 1997)*

### *The Canadian Economy Continues Expand on its Wealth of Natural Resources*

Canada holds a wealth of natural resources. Since confederation, the economy developed largely on the basis of its natural resources. Canada's expanse of lands and waters supported lucrative agriculture and fishing industries. Exploration led to the discovery of minerals and energy resources hidden beneath the surface of our lands and waters. Even with the subsequent development of a high-skilled manufacturing and services producing sectors of the economy, natural resources remain a key element of sustained economic growth and regional development. The recent discovery and development of offshore oil and gas reserves in Atlantic Canada and diamonds in the Northwest Territories had profound impact on economic growth in those regions. The key questions from a wellbeing perspective are the extent to which the benefits of economic growth in those regions are filtering down to local communities and the sustainability of growth.

### *Economic growth based on natural resources can have serious consequences*

Economic performance of Newfoundland and Nova Scotia benefited from record fish landings up to the very moment of the collapse of the Atlantic ground-fish stocks. The depletion of fish stocks was not recorded in the National Wealth Balance Sheets of our System of National Accounts. Similarly, the more trees we cut down, the faster the economy will grow. Measured from a consumption perspective, the more voraciously we consume energy, fish, timber, and other resource products, the "better off" we are assumed to be – at least for the moment.

The value of a forest can depreciate through over-harvesting (depletion) or through the replacement of a valuable multi-species, old-growth natural forest by a lower value, single-aged, single-species plantation (degradation). This may result in an immediate economic benefit, but switching from clear-cut harvest methods to selection harvest eco-forestry methods might be viewed as a re-investment in long-term forest health.

In a somewhat similar way, human capital is subject to depreciation as the changing structure of the economy demands new workforce skills and the health of the population or education standards decline. Social capital depreciates in value if crime increases or the level of voluntary work declines. A long-term view of depreciation and return on investment is part of standard accounting procedures for businesses assessing investment needs in plant and equipment. Public and private expenditures on health, education and

other social services are recorded in GDP but not as investments, and hence, are currently excluded from the assets and liabilities recorded in our National Balance Sheets.

The National Balance Sheets continue to expand bringing in new dimensions of natural and cultural capital, but need to go further in the context of sustainable economic development and more importantly sustainable well being. The National Round Table for the Environment and the Economy recommended the development of six sustainable development indicators. More important was its recommendation for an expanded set of capital accounts for Canada to include measures of human, social, and natural capital.

### ***3.2 Qualitative Distinctions of Economic Growth***

GDP in itself is a quantitative measure that does not distinguish qualitative changes which impact on social well being, both in the mix of economic activity and in the quality of goods and services produced, including ecosystem services. Economic activity associated with pollution, sickness, crime, accidents, natural disasters, and other liabilities can actually be counted and interpreted as contributions to economic prosperity. The *Exxon Valdez*, for example, contributed far more to the Alaska GDP by spilling its oil than if it had delivered its oil safely to port, because all the clean-up costs, media activity, legal expenses, and salvage operations made a huge contribution to the state's economic growth statistics. This does not mean, however, that we would be better off had had there not been a clean-up of this catastrophic disaster.

Thus, water pollution and bottled water sales may appear as being "better for the economy," according to our economic growth statistics, than free, clean water, simply because more money is spent on the former. Repairing the damage from extreme weather events and natural disasters due to climate change contributes to economic growth, and is therefore misinterpreted as a contribution to prosperity and wellbeing whenever the GDP is used to assess how "well off" we are. This happens because the GDP records all money spent as a contribution to the economy, without assessing whether this spending actually signifies an improvement in wellbeing or a decline.

In sum, this failure to account for qualitative changes means that increases in crime, divorce, gambling, road accidents, natural disasters, disease, obesity, mental illness, and toxic pollution all contribute to GDP, simply because they produce additional economic activity. More prisons, security guards, burglar alarms, casinos, accident costs, storms, natural disasters, dieting pills, anti-depressants, lawyers, oil spill and pollution clean-ups, and the costs of setting up new households after family break-ups, all add to the GDP and are thus conventionally interpreted as contributions to "progress."

This anomaly led Robert Kennedy to remark more than 30 years ago:

*Too much and too long, we have surrendered community excellence and community values in the mere accumulation of material things....The (GNP) counts air pollution and cigarette advertising and ambulances to clear our highways of carnage. Yet the gross national product does not*

*allow for the health of our children, the quality of their education, or the joy of their play. It measures neither our wit nor our courage; neither our wisdom nor our learning; neither our compassion nor our devotion to our country. It measures everything, in short, except that which makes life worthwhile.*

In short, because GDP statistics make no qualitative distinctions, they do not reveal whether expenditures signify an improvement in wellbeing or a decline. Standard economic growth measures are not designed to send meaningful signals about natural resource health, and distinguishing between gains and losses in wellbeing. Indeed, resource yield statistics, conventionally used to signal industrial health, may not be in the best interest from a perspective of long-term sustainability.

This incongruity extends to ordinary household purchases. In the expenditure-based measures of GDP, the cost of consumer purchases of major items such as automobiles, household furniture and appliances are recorded in the period that the purchases are made. Over the past two years, historically low interest rates have prompted massive consumer spending on big-ticket items, which have made a significant contribution to economic growth. In reconfigured measures of GDP included in expanded measures of economic welfare, such as the Total Income System of Accounts (TISA), Robert Eisner and the Genuine Progress Indicator (GPI), Cobb, Halstead and Rowe, the actual spending on consumer durable goods were replaced by estimates of service flows resulting from these major purchases. These measures are based on an estimated value of depreciation and opportunity cost. Regardless of measure, there is no doubt that the addition of cars, furniture and appliances, which add to the stock of consumer wealth, do yield a benefit that improves well being in an aggregate sense. There are two important issues, however, that must be factored into the well being equation. First, there is no recorded relationship between the cost of consumer durables as capital investments and the quality of services they provide. This leads to the paradox that the quicker things wear out and have to be replaced, the better for the GDP. Second, spending on big-ticket items has prompted heavy borrowing leaving consumer debt ratios at record levels, which increases the uncertainty or future of sustained wellbeing.

### ***3.3 Work, Leisure and the Economy***

Another limitation of using GDP-based measures to assess prosperity is that GDP excludes most non-monetary production. Not only does this understate the total value of productive activity of Canadians, but it also records shifts in productive activity from the household and non-market sectors to the market economy as economic growth. During the latter part of 1960's and the 1970's in particular, economic growth was bolstered by the increase of labour market participation rates of women. Thus, paid child care, hired domestic help, and restaurant food preparation all add to the GDP, while the economic values of unpaid child-care, unpaid housework, home food preparation, and all forms of volunteer work remain invisible in the economic accounts. Thus, many activities

currently counted as “growth” do not actually signify increased production, but rather a shift from the unpaid household or volunteer sector to the paid market economy.

This leads to the anomaly noted by classical economist Cecil Pigou that if we hire someone to clean our house, the GDP goes up, but if we marry our housekeeper, the GDP goes down. As Pigou noted in 1932:

*“The services rendered by women enter into the dividend when they are rendered in exchange for wages, whether in factory or in the home, but do not enter into it when they are rendered by mothers and wives gratuitously to their own families. Thus, if a man marries his housekeeper or his cook, the national dividend is diminished.”*

This paradox is not just theoretical. It has a direct impact on our official growth estimates because unpaid work appears to be “counter-cyclical” in relation to economic growth. According to Statistics Canada, the premise for this hypothesis is that:

*“When the market economy is growing rapidly, activity in the non-market sector grows more slowly or declines and vice-versa. The market sector draws resources from the non-market sector in periods of expansion and releases them in periods of decline. As a result, measured economic growth rates, which essentially track the course of the market economy, will tend to exaggerate the magnitude of economic cycles.”*

This means that current growth rates are likely to be exaggerated, while the unpaid sector cushions some of the recessionary effects during economic slowdowns. For example, if both married partners work full-time they may have shifted from home meal preparation to fast food take-out in order to save time. Though actual economic consumption and output remain relatively unchanged, GDP will measure the shift as economic growth. If one partner is laid off, they may revert to home-cooked meals. The GDP registers this shift to home cooking as absolute economic decline even if the identical meal is prepared and consumed at home.

These shifts between the household and market economies require a reassessment of actual GDP growth rates. A pioneering Finnish study cited international studies to calculate that the annual growth rate of GDP has been 0.2 – 0.3 percentage points slower than the official growth figures, if the value of household production is included. Statistics Canada calculated that between 1961 and 1992, the increase of GDP overstates economic growth between 0.6 to 0.8 percentage points a year in Canada, assuming no increase in household productivity. With a one percent annual gain in productivity, the ‘bias’ would be smaller and more in line with the Finnish estimates.

The omission of unpaid work from GDP-based measures of progress also has important implications for gender equality. As women still do nearly two-thirds of the unpaid household work in most industrialized societies, the lack of value ascribed to unpaid work effectively means that a large portion of women’s work is not valued, even though raising and nurturing children and families is essential for the functioning of a healthy

market economy. When unpaid child-care and domestic work – traditionally regarded as “free” – are shifted to the market economy, they are generally still done by women and fetch among the lowest rates of pay, even though skilled child-care is arguably one of the most challenging and important social tasks.

Even though the market economy lends itself to the well established accounting frameworks of the Systems of National Accounts, the measurement of production from a well being perspective should acknowledge that households are productive units, producing goods and services that have economic and social value. This idea is by no means recent. Simon Kuznets, a pioneer of modern national accounts, recognized this necessity as early as 1941:

*“The productive activities of housewives and other family members, rendered within the family circle...are an important complement to the market-eventuating process in supplying goods to ultimate consumers, and should be considered in any attempt to evaluate the net product of the social system in terms of satisfying wants with scarce means.”*

The importance of valuing total time (rather than only paid work) reveals a fourth limitation in GDP-based measures of progress. Market productivity gains may result in greater output *or* increased leisure, but the GDP counts only the former. Longer paid working hours add to GDP growth by increasing output and spending, but free time is not valued in our measures of progress, so its loss counts nowhere in our accounting system. This is a crucial omission, as free time is an essential prerequisite for wellbeing and a high quality of life. Given this imbalance in conventional reporting mechanisms, it is not surprising that the substantial economic productivity gains of the last 40 years have manifested in increased output, incomes, and spending, while the length of the paid workweek has hardly changed. In fact, when the combined paid and unpaid work hours of dual earner families are considered, there has been a decline in household leisure time during this period.

Omitting the value of free time from any measure of progress again has particularly important implications for the changing role of women in the economy, who have entered the paid workforce in growing numbers without a corresponding decline in their share of unpaid work. Canadian time use surveys demonstrate that women have experienced an increase in their total workload, higher rates of time stress, and an absolute loss of leisure time, with working mothers registering the highest rates of time stress among all demographic groups.

Interestingly, the failure to value leisure time is directly related to natural resource and environmental health. Rapid economic growth and the quest for material gain have been the major anthropogenic forces fuelling ecological degradation, including the depletion and deterioration of vital natural resources and the dangerous warming of the planet. Re-examining work patterns in industrialized nations to value increased leisure is a key to

wellbeing rather than income growth alone, and can potentially make a vital contribution to ecological health and stability by reducing the pressures on our natural resource base.

In 2000, both mates worked in 65.6 percent of two-partner families in Canada compared to just over 30 percent in 1967. Between 1967 and the late 1980s, the proportion of two-partner families with dual-earners steadily increased, reflecting rising labour force participation of women. By the end of the 1980s this trend levelled off.

Due to the doubling of female labour force participation in the last 40 years, and the fact that total household work hours have not markedly diminished since the turn of the century, dual-earner couples with children are working longer total (paid plus unpaid) hours today than their counterparts did 100 years ago.

In the U.S. the situation is similar. According to Juliet Schor, between 1979 and 2000 the total paid work hours of married couples between the ages of 25 and 54 years increased by 12 percent. Among middle-income earners, paid work hours increased by more than 20 percent.

Statistics Canada's time use surveys indicate that married couples (25-44 years of age) with children under 25 years of age spend an average of 67 hours a week on unpaid household work. When combined with paid work, married couples with children have far less time for leisure than unmarried individuals or those without children. For this reason many couples with children today are constantly struggling to balance work and family life.

There was also an overall polarization in hours that peaked around 1996. Since 1996, there has been a decline in this polarization of hours, and a trend back towards standard work hours, though the proportion of the work force working standard hours is still considerably smaller than it was 25 years ago. This trend is also evident overall in the paid work hours of men and women without children and men with children. There a number of factors influencing the movement of hours after 1996, including a trend toward more part-time work and more employment in the service sector. Gains by youth in finding work have also biased the numbers toward shorter hours. In addition those at the upper end of an aging population tend to work fewer hours.

According to Statistics Canada's Labour Force Survey data, in 1994 about 20 percent of dual-earner couples (with or without children) worked at least 90 hours a week for pay. Approximately 70 percent worked between 60 and 89 hours and 10 percent worked less than 60 hours. Statistics Canada reported that in 1994 the average combined workweek of all dual-earner couples varied only slightly with the presence of children. The differences that did exist were solely attributable to the hours worked by the female members of these dual-earner couples. Women in dual-earner families without children worked an average of 35.6 hours. Among mothers whose youngest child was between 6-15 years, the average declined to 33.6 hours per week and for those with preschoolers, to 32 hours.



The Labour Force Survey shows that when both full-time and part-time work are combined, married couples with children together tend to work about one hour less per week than married couples without children. But when only full-time employed couples are considered, the situation is reversed, with parents working slightly longer than non-parents, as summarized in Table 5.

**Table 5: Usual Paid Weekly Hours of Prime age (25-44 year old) Dual-earner Couples with and without Children, Labour Force Survey, Canada and Nova Scotia, 2002.**

Category	Combined Paid Hours/ Week
<b>Full-Time and Part-Time Employed:</b>	
Couple with Children	75.1
Couple without Children	77.2
<b>Full Time Employed Only:</b>	
Couple with Children	81.2
Couple without Children	80.7

Source: Statistics Canada. *Labour Force Survey, 1976-200* - (unpublished data from Statistics Canada custom tabulation).

According to time-use data collected in Statistics Canada's 1998 General Social Surveys, using the time diary method rather than the time-estimate method of the Labour Force Surveys, full-time dual earner parents work a total of 87.4 paid hours a week when both their workloads are combined. This method yields results for paid work that are about six hours longer per week than those reported in the Labour Force Surveys. *Paid work and work related activities* include commuting to and from work, travel on the job, idle time before and after work, meals/coffee breaks, looking for work, and training on the job. This could account for the difference.

When unpaid work hours are added, the total rises to 144.6 combined paid and unpaid hours weekly. Table 6 summarizes the findings of the time-use data for 1998. The table shows that fathers employed full-time averaged 48.6 hours per week of paid work and work-related activities and mothers employed full-time averaged 38.8 hours per week. For many people in this group – full-time employed prime aged (25-44 year-old) parents – an increase in paid work was accompanied by an increase in unpaid work of about one-half hour per week more in 1998 than in 1992. Men spent an average of 22.8 hours a week on unpaid work and women 34.4 hours per week (Table 6).

**Table 6: Weekly Paid and Unpaid Work Hours of Full-time Dual-Earner Parents, aged 25-44, Based on Time-use Data, Canada, 1998.**

	<b>HOURS OF WORK/WEEK</b>	<b>TOTAL WORK HOURS</b>	<b>TOTAL COMBINED HOURS</b>
Paid work, fathers	48.6	71.4	144.6
Unpaid work, fathers	22.8		
Paid work, mothers	38.8	73.2	144.6
Unpaid work, mothers	34.4		

*Note:* Total work hours of both men and women are 144.6 hours. It should be noted that this represents the hours of parents who both work full-time, and is therefore higher than the 137.2 hours cited previously in Table 5, which includes both full and part-time working parents.

Source: Statistics Canada. 1999 General Social Survey: Time Use Module

Lone-parent mothers, aged 25-44, who were employed full-time, did slightly more combined paid and unpaid work (75 hours a week) than their married counterparts, and had the least amount of free time of any demographic group.

According to Robin Douthitt, lone-parent mothers who are employed experience a different kind of poverty than their non-employed counterparts. Douthitt defined "time poverty" as the time below the minimum necessary for basic household production, including food preparation and cleanup, house cleaning, laundry, and shopping. She found that, when time and income are both considered, poverty rates of working single mothers in Canada are 70 percent higher than official estimates, approaching the poverty rates of non-employed single mothers. When sleep deprivation is taken into account, she found that working single mothers experience nearly twice the absolute time-poverty rates of their non-employed and married counterparts. Recognizing the extraordinary time pressures on employed single mothers, Douthitt argued for the inclusion of "time poverty" in Canadian poverty measures. Indeed, the dramatic recent increase in employment rates among Canadian single mothers with infants aged 0-2 (from 25.7 percent in 1993 to 46 percent in 2001), and of those with very young children aged 3-5 (from 44.6 percent in 1993 to 60.8 percent in 2001) makes Douthitt's recommendation more urgent today than when her study was published in 1993.

Of course it can be argued that some of the massive changes seen over the last 30 years in the labour market, particularly as they relate to women, mark positive progress. For instance, the increase in the labour force participation of women can be viewed as a positive development. However, as previously discussed, it has also resulted in an absolute loss of free time and increased stress levels due to the double burden of paid and unpaid work. In addition, the nation-wide increase in female employment is not spread evenly among all age groups and educational levels. In fact, women with university degrees are more than twice as likely to be employed, than those who did not completed high school. In 2001, 75.4 percent of female university graduates had a job, compared with 79.3 percent of male graduates. By contrast, women with less than a Grade 9

education are less than half as likely to be employed as their male counterparts – 13.6 percent of women compared to 29.4 percent of men.

Another positive development over the last three decades has been the increasing educational attainment of women relative to men. There were over four times as many female university graduates, aged 25 and over, in 1996 as there were in 1971. By contrast, men doubled their rate of university graduation during this period. Nevertheless, the gender wage gap persists as women's hourly wages overall have remained at 81 percent of males. Statistics Canada analysts found that after controlling for hours worked, educational attainment, work experience, job tenure, industry, occupation, supervisory role, and a wide range of other employment characteristics and socio-demographic factors, roughly one half to three quarters of the gender wage gap cannot be explained. This unexplained component, says Statistics Canada, is referred to as an estimate of the gender based labour market discrimination.

### ***3.4 How is National Income Distributed – the Issue of Work Effort and Equity***

#### ***3.4.1 Growing Inequality***

Wealth is defined by Statistics Canada as assets minus debts - a measure of financial security that, in part, indicates the capacity of Canadians to weather a crisis precipitated by loss of income due to illness, job loss, or death of a partner. Overall the data indicate that the rich have become richer, and the poor poorer in this country. A recent report by the Canadian Centre for Policy Alternatives called *Rags and Riches: Wealth Inequality in Canada*, based on these Statistics Canada data, shows that the richest 50 percent of families now own 94.4 percent of the country's wealth and the bottom half own the remaining 5.6 percent. Between 1970 and 1999 the poorest 10 percent of Canadians saw their average net wealth (adjusted for inflation) decline by 28 percent from a debt of \$8,031 in 1970 to a debt of \$10,656 in 1999.

According to a 2002 Statistics Canada report on wealth (defined as assets minus debts), several factors may have contributed to the growth in wealth inequality in Canada since 1984:

- Young people stayed in school longer, delaying their entrance into the full-time labour market.
- The decreased incomes and increased student debts of youth lowered their wealth.
- Stock market increases in the 1990s led to an upward revaluation of financial assets, thus adding to the wealth of those who already had stocks and bonds.
- Easy access to credit added to the debt load of many families, thus lowering their net worth, or wealth.
- Increasing contributions to RRSPs by middle-income Canadians increased the gap between them and lower-income families.

Growing inequality, declining real incomes, and increasing indebtedness among the poorest Canadians during much of the 1990s, brought increased financial insecurity for many Canadians, and even concerns about how to feed themselves. Statistics Canada's National Population Health Survey found that in 1998/99, 10 percent of Canadians, or 3 million people, experienced "food insecurity" – not being able to get enough food to eat or being unsure about getting it.

Statistics Canada's most recent income data for 2001 shows that the average real disposable incomes of all families (economic families and unattached individuals) in Canada stagnated or declined between 1992 and 1997, except for the highest quintile which registered improvements starting in 1995. Between 1997 and 2001, improvements in disposable income were seen for all quintile groups. However, the data confirms that throughout the 1990s the greatest gains were enjoyed by the highest quintile. Between 1996 and 2001, inequality in income distribution between the quintiles grew. Statistics Canada found that the after-tax (disposable) income of the highest 20 percent (fifth quintile) of families in Canada in 1996 was 8 times that of the lowest quintile. By 2001 the richest 20 percent had disposable incomes that were 8.7 times that of the lowest 20 percent. Between 1993 and 2001 the gains by the highest quintile were largest and gains by the lowest quintile were smallest, contributing to further growth in inequality.

The recent improvements in disposable income for the highest quintiles have not been experienced by the poorest 40 percent of households in Canada. In fact, the increase in income inequality and the growing gap between rich and poor has become increasingly pronounced in the last decade.

### ***3.4.2 Sources of Inequality***

#### *Polarization of Hours of Work*

Statistics Canada found that the increase in earnings inequality that took place in the 1980s and 1990s occurred in conjunction with changes in the distribution of annual and weekly hours worked. The standard workweek (35-40 hours) is shrinking while the proportion of workers working long hours (50 hours or more) and short hours rose, particularly between 1976 and 1996. Although there has been some reversal of this trend in recent years, the proportions of long-hours and short-hours workers in 2001 are still considerably greater than they were 25 years ago. Statistics Canada found that the growing inequality in weekly earnings during the 1980s in Canada was tied to three factors: 1) The decline in the real hourly wages of young workers; 2) The decline of the standard workweek coupled with hours polarization; 3) A growing tendency for workers with high wages to work longer hours and for lower-wage workers to work below average hours.

#### *Low Income*

Low-Income Cut-Offs (LICO) are the after-tax income level at which a family may be in "straitened circumstances" because it spends a higher proportion of its income on basic necessities (food, shelter, and clothing) than the equivalent average family. The LICO is a

relative measure/definition of “straitened circumstances” that changes through time. In 1968 (the year of its inception) the LICO included those spending 70 percent or more of income on basic necessities, and in 1992 (the most current LICO reference) includes individuals and families spending 54.7 percent or more of income on these necessities.

According to Statistics Canada’s Low-Income Cut-Offs (LICO) in 2001, an estimated 646,000 families of two or more people had low income in 2001, down from 666,000 in 2000. Of these families, 786,000 were children (under 18 years of age) in low-income families in 2001, down from 868,000 in 2000. The low-income rate for families also declined, from 10.7 percent in 1996 to 7.6 percent in 2001, the lowest since 1989 when it was 7.5 percent. It was the fifth consecutive year in which low-income rates declined. Table 7 shows the breakdown in the number of families with low income in 2001. It is estimated that of the 512,000 lone-parent families headed by women in Canada, 32 percent had low income in 2001, down from 34 percent the previous year, and 49 percent in 1996. However, of those without jobs and wage earnings, 90 percent had low income.

Although the low income rate dropped between 2000 and 2001, the overall financial situation of families below the low-income cut-off deteriorated somewhat. The average after-tax income of low-income families fell 33 percent below the LICO, deteriorating slightly from the 1996-2000 period.

Table 7 below indicates that single mothers have the highest rates of low income among all demographic groups in Canada, but also shows that low-income rates declined from 2000 to 2001.

**Table 7: Low Income by Main Family Type, Canada. 2001**

Family Type	Low Income Rate	Number in Low Income (000s)	% Change from 2000
Economic families, two or more persons	7.6 %	646	- 3.0
Elderly families	3.3 %	38	1.2
Non-elderly couples without children	5.8 %	113	3.7
Two-parent families with children	6.7 %	208	- 10.7
Female lone-parent families	32 %	164	- 8.9
Unattached individuals	27.6 %	1,127	- 2.5

**Note:** Table uses 1992 base after-tax income LICO.

Source: Statistics Canada; Income in Canada, 2001 - Catalogue no. 75-202-XIE.

In both Canada and the United States, low-paid employment is more common than in European countries. Table 8 presents 1994 data on low-paid work in various countries, as reported by the OECD. The U.S. ranks the highest at 25 percent, and Sweden and Finland the lowest at 5.2 percent and 5.9 percent respectively. Japan has the greatest disparity between male and female rates of low-paying work, and Canada has the second highest

rate of low-paying work for women after Japan. According to the OECD classification, more than one-third of women in Canada work for low pay, compared to 8 percent of Swedish women.

**Table 8: Incidence of Low-Paid Employment in OECD countries - 1994**

Country	Total	Men	Women	Under 25 Years Old
Canada	23.7	16.1	34.3	57.1
Finland	5.9	3.3	8.7	27.1
France	13.3	10.6	17.4	49.5
Germany	13.3	7.6	25.4	50.4
Japan	15.7	5.9	37.2	36.4
Netherlands	11.9	-	-	-
Sweden	5.2	3.0	8.4	18.7
United Kingdom	19.6	12.8	31.2	45.8
United States	25.0	19.6	32.5	63.0

Source: OECD. 1996. Employment Outlook

### *Changes in Real Disposable Income*

Between 1990 and 1998 the real wages of working Canadians fell by 3 percent before taxes and by 7 percent after taxes. Between 1990 and 1998, the real disposable incomes of low-income earners also fell proportionately more than the disposable incomes of higher-income earners.

Statistics Canada's most recent income data for 2001 show that the average real disposable incomes of all families (economic families and unattached individuals) in Canada stagnated or declined between 1992 and 1997, except for the highest quintile which saw improvements starting in 1995. Between 1997 and 2001, improvements in disposable income were seen for all quintile groups. However, the data confirms that throughout the 1990s the greatest gains were enjoyed by the highest quintile. Statistics Canada found that the after-tax (disposable) income of the highest 20 percent (fifth quintile) of all families in Canada rose by \$18,127 – an increase of 21.7 percent from 1993 to 2001. In the same time period, the lowest quintile fared the least well on the basis of after-tax income with an increase of \$182 or 1.6 percent. The middle three quintiles had increases of 11-14 percent in disposable income. In summary gains by the highest quintile were largest and gains by the lowest quintile were smallest, contributing to further growth in inequality.

Interestingly, the stagnation or decline in real incomes in the early to mid-1990s occurred despite increases in real GDP, and challenges the widely held assumption that economic growth necessarily benefits the poor. For most of the 1990s, only the incomes of the

wealthy in Canada were correlated with economic growth. The poorer the household was in the 1990s the less correlation there was with economic growth. In fact, between 1990 and 1998, for the poorest 40 percent of households there was a negative correlation between disposable income and GDP per capita. Although there has been some improvement in the incomes of low-income Canadians since 1997, the data for most of the 1990s indicate that GDP can increase even while most people are worse off and while inequality grows.

### *Social Programs*

In Canada, transfer payments have provided substantial assistance to low-income families. When transfer payments such as Employment Insurance (EI), social assistance, and pensions are excluded, inequality in Canada has risen much more dramatically than changes in total income (including transfers) and disposable income (after transfers and taxes) indicate. Using Statistics Canada data, Linda McQuaig found that the richest 20 percent of Canadians saw their incomes increase by 17 percent between 1973 and 1993 when transfers are excluded, while the poorest 20 percent saw their incomes fall by 53 percent. When transfers are included, the gap between rich and poor actually got smaller between 1973 and 1993. During that period, the incomes of the poorest 20 percent rose by 39 percent and the incomes of the richest 20 percent rose by 16 percent. McQuaig concludes: "This clearly suggests that Canadian social programs have played a crucial role in acting as a bulwark against the rising inequality in the private marketplace."

But between 1993 and 1996, dramatic changes were made to Canada's social programs that undermined the social safety net that had sustained so many low-income families in previous years. In a study on child poverty, Statistics Canada found that cuts to Employment Insurance (EI) in the 1990s, was the single most important reason for loss of income to low-income families. As Table 9 indicates, between 1993 and 1996, EI was cut by 44% to low-income families. Overall, the total incomes of low-income families fell by 7.5 percent. Cuts to EI and social assistance in the 1990s led to increased inequality in Canada. By contrast, in the 1980s, even though real wages were falling for low-income Canadians, the social safety net kept poverty levels from increasing and even reduced child poverty.

According to a recent study by the Canadian Labour Congress (CLC), insurance coverage for unemployed Canadians has been cut in half since the early 1990s, when Ottawa began changing the rules and the hours of work required to qualify for benefits. The study also found that in 2001 only 44 percent of affected men and 33 percent of affected women had access to EI benefits, compared with 45 percent and 39 percent respectively in 1996.

**Table 9: Average Income of Low-income Families with Children, Canada - 1993-1996 (\$1996), based on Statistics Canada's Low Income Cut-offs**

	Sources of Income
--	-------------------

	Earnings \$	Employment Insurance \$	Other transfers less taxes \$	Total Income \$
1993	8,107	2,560	9,368	20,035
1996	8,276	1,436	8,831	18,543
\$ Difference	+ 169	- 1,124	- 537	- 1,492
% Difference	2%	- 44%	- 5.7%	- 7.5%

**Note:** According to a recent study by the CLC higher eligibility requirements have resulted in reduced insurance protection for the unemployed in Canada. The study found that EI reduced insurance protection to 39% by the end of 2001. Coverage fell further to 38% in 2002. This is down from 1990 when 74% of unemployed received benefits.

Source: Canadian Labour Congress. 1999. Unemployment Insurance Bulletin. Vol. 2, no. 1, Ottawa.

### 3.5 Equity from a Sustainability Perspective

GDP tells us how much income the economy generates, but not how that income is shared. Because it does not account for income distribution, GDP growth may mask growing inequality. GDP may rise substantially, as it did in most industrialized countries in the 1990s, even while many people are getting poorer and experiencing an actual decline in real wages and disposable income. The benefits of what experts refer to as “strong and robust” economic growth, based on GDP measurements, may not necessarily benefit all or benefit Canadian in a disproportional manner. The trend towards rising inequality in a period of strong economic growth has been even more pronounced in the United States than in Canada. The results are shocking at a global level where 20 percent of the world’s people account for 86 percent of total private consumption expenditures, while the poorest 20 percent account for just 1.3 percent. The richest one-fifth consumes 58 percent of total energy, the poorest one-fifth less than 4 percent.

Current reporting draws too sharp a line between environmental, social, and economic reporting, and thus prevents such important analytical connections from being drawn. For example, the National Round Table on the Environment and the Economy’s Environment and Sustainable Development Indicators initiative did not recommend social indicators and rejected inclusion of equity issues. Not surprisingly, the Round Table indicators provide no help in drawing the empirical connections between sustainability and equity issues. For example, the Round Table’s greenhouse gas indicator confines itself to total Canadian emissions without acknowledging the equity dimension of the indicator, and the Round Table rejected an ecological footprint indicator that could also have highlighted equity issues. Similarly, income distribution data are currently reported in Statistics Canada’s *Income in Canada* and *Income Trends in Canada* reports, but these, too, do not draw links with environmental and resource consumption data.

Current reporting, therefore, does not systematically address the disparities and differing levels of environmental impact by income group and therefore implicitly absolves higher-income groups from their greater responsibility for resource use and waste production. This lack of integration again blunts the policy initiatives that could potentially achieve



the greatest reduction in environmental impacts. By integrating social, economic, and environmental data, the proposed Canadian Index of Wellbeing should aim to fill this void.

Again, measures now exist that make this integration possible. Relatively newer tools like ecological footprint analysis now make it possible to relate resource consumption, waste production, and impacts on the environment directly to income disparities. Even from a purely environmental standpoint, ecological footprint is an essential complement to natural resource accounts, as the latter tend to approach sustainability from the supply side, while the footprint measures the environmental impact of consumption patterns and therefore adds the essential demand side to the equation. While resource accounts *ipso facto* tend to place responsibility for sustainable development largely on the shoulders of producers (farmers, foresters, and fishermen are expected to harvest in a more sustainable manner), ecological footprint analysis spreads the burden of responsibility to all consumers, and particularly to the largest consumers.

Interestingly, even though neither Statistics Canada nor the Round Table currently include ecological footprint analysis in their reporting, Canada is particularly well placed to lead the way in this field, as it has highly developed input-output tables that allow an ecological footprint to be calculated using new and more accurate methods than those hitherto available. A ground-breaking study undertaken by Kathryn Bicknell and her colleagues at Lincoln University in Canterbury, New Zealand, used input-output tables to calculate a New Zealand ecological footprint. Interestingly, the New Zealand analysis, using an entirely different method from the original methodology proposed by William Rees and Mathis Wackernagel at the University of British Columbia, produced comparable results to the original UBC analysis. Although major methodological challenges remain, sufficient groundwork has been done to begin using this important measure to assess the equity dimension of sustainable development.

These shortcomings and others led to a joint declaration by 400 leading economists, academics, and leaders, including Nobel Laureates:

*Since the GDP measures only the quantity of market activity without accounting for the social and ecological costs involved, it is both inadequate and misleading as a measure of true prosperity.... New indicators of progress are urgently needed to guide our society*

## **BIBLIOGRAPHY**

Canadian Labour Congress. 2003. *Falling Unemployment Insurance Protection for Canada's Unemployed*. Canadian Labour Congress. Ottawa. Available from <http://www.unemployed.ca/>. Accessed October 23, 2003.

Centre for the Study of Living Standards. (2001). *Proposed Framework on Human Capital Indicators*. National Round Table on the Environment and the Economy, Environment and Sustainable Indicators Initiative (ESDI). Available: [http://www.nrtee-trnee.ca/eng/programs/Current\\_Programs/SDIndicators/Program\\_Research/CSLS\\_HumanCapital\\_E.pdf](http://www.nrtee-trnee.ca/eng/programs/Current_Programs/SDIndicators/Program_Research/CSLS_HumanCapital_E.pdf).

Cobb, Clifford, Ted Halstead, and Jonathan Rowe, *The Genuine Progress Indicator: Summary of Data and Methodology*, Redefining Progress, San Francisco, California, 1995.

Cobb, Clifford, Ted Halstead, and Jonathan Rowe. 1995. "If the GDP is Up, Why is America Down?" *The Atlantic Monthly*. Available from [www.theatlantic.com/atlantic/election/connection/ecbig/gdp.htm](http://www.theatlantic.com/atlantic/election/connection/ecbig/gdp.htm).

Cobb, Clifford, Mark Glickman, and Craig Cheslog. *The Genuine Progress Indicator, 2000 Update*. Redefining Progress Issue Brief. December, 2001. Available from [http://www.redefiningprogress.org/publications/2000\\_gpi\\_update.pdf](http://www.redefiningprogress.org/publications/2000_gpi_update.pdf). Accessed August 24 and 25, 2003.

Colman, Ronald. 1999a. *If the Economy is Up, Why are Canadians Down? Impact of Job Casualization on Canadian Workers*. Genuine Progress Index Atlantic. Halifax.

Colman, R. (2001). *The GPI Atlantic Natural Resource and Environmental Accounts: Experience and Lessons Learned in Nova Scotia*. GPI Atlantic for the National Round Table on the Environment and the Economy. Available: [http://www.nrtee-trnee.ca/eng/programs/Current\\_Programs/SDIndicators/Program\\_Research/GPI\\_Atlantic\\_E.pdf](http://www.nrtee-trnee.ca/eng/programs/Current_Programs/SDIndicators/Program_Research/GPI_Atlantic_E.pdf).

Colman, R. (2004)

Colman, R. and Messinger, H. (2004). *Discussion Paper: Towards a New Canadian Index of Wellbeing*. Prepared for The Atkinson Charitable Foundation

Daly, Herman and John Cobb Jr., *For The Common Good: Redirecting the Economy Toward Community, the Environment, and a Sustainable Future*, Boston: Beacon Press 1989.

Douthitt, Robin. 1993. "The Inclusion of Time Availability in Canadian Poverty Measures." In *Time Use Methodology: Toward Consensus*. Istituto Nazionale di Statistica. Rome.

Eisner, Robert 1991. "Total Income System of Accounts" Survey of Current Business, U.S. Bureau of Labour Statistics

Kennedy, R., 1993, "Recapturing America's Moral Vision," in *RFK: Collected Speeches*, Viking Press, New York.

Kuznets, Simon, *The New Republic*, Oct. 20, 1962

McQuaig, Linda. 1995. *Shooting the Hippo: Death by Deficit and other Canadian Myths*. Viking. Toronto.

McQuaig, Linda. 1998. *The Cult of Impotence. Selling the Myth of Powerlessness in the Global Economy*. Viking. Toronto.

Messinger H. (1997). *Measuring Sustainable Economic Welfare: Looking Beyond GDP* Statistics Canada, Canadian Economic Association, St. John's Newfoundland, June 1997

Morissette, Rene, Xuelin Zhang and Marie Drolet. 2002. "Are Families Getting Richer?" *Canadian Social Trends*. Statistics Canada. Catalogue no. 11-008. Ottawa.

Morissette, Rene, Xuelin Zhang, and Marie Drolet. 2002a. *The Evolution of Wealth Inequality in Canada, 1984-1999*. Catalogue no. 11F0019, no. 187. Table 4. Minister of Industry. Ottawa.

Myles, John and Garnett Picot. 2000. *Social Transfers, Earnings and Low Income Intensity among Canadian Children, 1981-1996*. Analytical Studies Branch Research Paper Series. no. 144. Statistics Canada. Minister of Industry. Ottawa.

Nordhaus William, and James Tobin, "Is Growth Obsolete?" in *Economic Growth, Fiftieth Anniversary Colloquium*. National Bureau of Economic Research, Columbia University Press, New York. 1972.

OECD. 2002. *OECD Employment Outlook*. OECD. Paris.

Osberg, L. (2001). *Needs and Wants: What Is Social Progress and How Should It Be Measured?* Centre for the Study of Living Standards. Available: <http://www.csls.ca/repsp/1/02-osberg.pdf>.

Picot, Garnett. 1998. "What is Happening to Earnings Inequality and Youth Wages in the 1990s?" *Canadian Economic Observer*. Catalogue no. 11-010-XPB. Statistics Canada. Ottawa.

Pigou, A. C., *The Economics of Welfare*, 4<sup>th</sup> edition, London: MacMillan. 1932, cited in Statistics Canada, *Households' Unpaid Work*,

Redefining Progress. *Why Bigger isn't Better – The Genuine Progress Indicator: 1999 Update*. Available from <http://www.rprogress.org/projects/gpi/updates/gpi1999.html>. Accessed August 24, 2003.

Redefining Progress. *The Genuine Progress Indicator – 2000 Update*. Available from [http://www.rprogress.org/publications/2000\\_gpi\\_update.pdf](http://www.rprogress.org/publications/2000_gpi_update.pdf). Accessed August 24, 2003.

Redefining Progress. 2000. *Eroding Economic Security: Genuine Progress Indicator uncovers Dangers Hidden Behind Last Year's Economic Boom*. Press Release. Available from [www.rprogress.org/media/releases/00125gpi.html](http://www.rprogress.org/media/releases/00125gpi.html). Accessed January 9, 2003.

Rees, William E. 1995. "More Jobs, Less Damage. A Framework for Sustainability, Growth and Employment." *Alternatives Magazine*. Vol. 21, no. 4. Waterloo, Ontario.

Repetto, R., W.B. McGrath, et al., *Wasting Assets: Natural Resources in the National Income Accounts*, World Resources Institute, Washington, D.C., 1989.

Repetto, R. and Austin, D. (1997). *The Costs of Climate Protection: A Guide for the Perplexed*. World Resources Institute, Washington, D.C.

- Statistics Canada. 1995. *Survey of Work Arrangements*. Minister of Industry. Ottawa.
- Statistics Canada. 1997. *Labour Force Update. Hours of Work*. Vol. 1, no. 2 Catalogue no. 71-005-XPB. Minister of Industry. Ottawa.
- Statistics Canada. 1997a. "Earning Characteristics of Two-Partner Families." *The Daily*. August 26, 1997. Available from <http://www.statcan.ca/Daily/English/970826/d970826.htm>. Accessed June 8, 2003.
- Statistics Canada. 1997b. *On Poverty and Low Income*. Available from <http://www.statcan.ca/English/concepts/poverty/pauv.htm>. Accessed December 9, 2002.
- Statistics Canada. 1998. *Work Arrangements in the 1990s*. Catalogue no. 71-534, no. 8. Minister of Industry. Ottawa.
- Statistics Canada. 1998a. *The General Social Survey 1998, Cycle 12 –Time Use Survey, Appendix L. 1998 Activity Classification Structure*. Minister of Industry. Ottawa.
- Statistics Canada. 1999. *Overview of the Time Use of Canadians in 1998*. General Social Survey. Catalogue no. 12F0080X1E. Minister of Industry. Ottawa.
- Statistics Canada. 1999a. *Income Trends in Canada 1980-1997*. Catalogue no. 13F0022XCB. Minister of Industry. Ottawa.
- Statistics Canada. 1999b. "General Social Survey: Time Use." *The Daily*. November 9, 1999. Available from <http://www.statcan.ca/Daily/English/>. Accessed April 30, 2003.
- Statistics Canada, *Households' Unpaid Work – Measurement and Valuation*, Studies in National Accounting, Catalogue no. 13-603E, No. 3 – occasional, 1995.
- Statistics Canada, Material and Resource Flow Accounts, in *Econnections: Linking the Environment and the Economy: Concepts, Sources and Methods of the Canadian System of Environmental and Resource Accounts*, Catalogue no. 16-505-GPE, December, 1997.
- Statistics Canada. 1999c. *General Social Survey: Overview of the Time Use of Canadians*. Table 1: Canada, regions and provinces: Special tabulations for GPI Atlantic.
- Statistics Canada. 1999f. "Supplementary measures of unemployment." *Labour Force Update*. Catalogue no 71-005-XPB. Vol. 3, no. 3. Summer
- Statistics Canada. 2000. *The Daily*. Thursday September 28, 2000. Available from <http://www.statcan.ca/Daily/English/000928/d000928b.htm>. Accessed April 3, 2003.

Statistics Canada. 2000a. "Family Income." *The Daily*. October 30, 2002. Available from <http://statcan.ca/Daily/English/021030/d021030a.htm>. Accessed December 9, 2002.

Statistics Canada. 2000b. *Human Activity and the Environment*. Minister of Industry. Catalogue no. 11-509-XPE. Ottawa.

Statistics Canada. 2000c. *Spending Patterns in Canada*. Catalogue no. 62-202. Table 1 and 2. Minister of Industry. Ottawa.

Statistics Canada. 2000d. *Income in Canada, 1989-1998*. Catalogue no. 75-202-XIE, Table 7.2. Minister of Industry. Ottawa.

Statistics Canada. 2001. *General Social Survey. An Overview*. Catalogue no. 89F0115X1E. Minister of Industry. Ottawa.

Statistics Canada. 2001a. *Low Income Cut-offs (LICOs)*. Available from <http://www.statcan.ca/english/census2001/dict/fam021.htm>. Accessed May 7, 2003.

Statistics Canada. 2001b. *User Guide. Survey of Household Spending, 2000*. Income Statistics Division. Statistics Canada. Minister of Industry. Ottawa.

Statistics Canada. 2002. *Labour Force Historical Review 2001*. Catalogue no. 71F0004XCB. Minister of Industry. Ottawa.

Statistics Canada. 2002a. *Guide to the Labour Force Survey*. Catalogue no. 71-543-G1E. Minister of Industry. Ottawa.

Statistics Canada. 2002b. *Income in Canada, 2000*. Catalogue no. 75-202-X1E. Minister of Industry. Ottawa.

Statistics Canada. 2002c. *Women in Canada: Work Chapter Updates*. Catalogue no. 89F0133-XIE. Minister of Industry. Ottawa.

Statistics Canada. *The Daily*. February 22, 2002. Minister of Industry. Ottawa.

Statistics Canada. *Incidence of Low Income among the Population Living in Private Households, Provinces and Territories*. Census Tables. Available from <http://www.statcan.ca/english/Pgdb/famil60a.htm>. Accessed December 9, 2002 and November 3, 2003.

Statistics Canada. 2003. *Average Weekly Employment Insurance Benefits*. CANSIM II, Table 276-0016. Available from <http://www.statcan.ca/english/Pgdb/labor17.htm>. Accessed April 8, 2003.

Statistics Canada. 2003a. *Labour Force Survey, 1976-2002*. Unpublished Data. Table V0603\_16. Minister of Industry. Ottawa.

Statistics Canada. 2003b. *Survey of Employment, Payrolls and Hours*. Table 281-0031. Minister of Industry. Ottawa.

Statistics Canada. 2003c. *Family Income, 2001*. The Daily. June 25, 2003. Available from <http://www.statcan.ca/Daily/English/030625/d030625b.htm>. Accessed November 11, 2003.

Statistics Canada. 2003e. *Income Trends in Canada, 1980-2001*. Catalogue no. 13F0022XCB. Minister of Industry. Ottawa.

Statistics Canada. 2003f. *Income in Canada, 2001*. Catalogue no. 75-202-XIE. Minister of Industry. Ottawa.

Statistics Canada. "Non-wage Job Benefits, 2000." *The Daily*. May 21, 2003. Available from <http://www.statcan.ca/Daily/English/030521/d030521c.htm>. Accessed December 8, 2003.

Statistics Canada. *Average Market Income by Economic Family Types, Canada, 1981-2000*. Available from <http://www.statcan.ca/english/Pgdb/famil22d.htm>. Accessed June 5, 2003.

Statistics Canada. *Average Market Income by Selected Economic Family Types, Nova Scotia, 1981-2000*. CANSIM II. Table 202-0202. Minister of Industry, Ottawa.

Statistics Canada. *Average After-tax Income in 2001 Constant Dollars*. CANSIM II. Table 202-0603. Minister of Industry. Ottawa.

Taimio, Hilka, *Kotitaloustuostanto Ja Taloudellinen Kasvu*, (Household Production and Economic Growth: A Survey of Methods of Measurement and Empirical Results with an Estimate of Household Production in Finland in 1860-1987), Helsinki: Elinkeinoelämän Tutkimuslaitos, The Research Institute of the Finnish Economy, Sarja B 74 Series, 1991

Waring, Marilyn, *Counting for Nothing: What Men Value and What Women are Worth*, Bridget Williams Books, 1993; National Film Board of Canada, Kent Martin (producer), *Who's Counting: Marilynn Waring on Sex, Lies and Global Economics*, videotape, 1995.

## APPENDIX TABLES

<b>TABLE: 1 GDP and Personal Income Summary</b>						
Year	Growth in Real GDP	Growth in Real GDP Per Capita	Growth in Real GDP Hour Worked	Personal Income		
				Market Income	Total Income	After Tax Income
1981	3.5	2.4	1.8	-1.1	-0.9	-1.0
1982	-2.9	-3.9	-4.2	-4.3	-2.3	-2.5
1983	2.7	1.8	1.6	-2.9	-2.3	-2.7
1984	5.8	4.8	4.7	-0.2	0.2	0.3
1985	4.8	3.8	3.8	2.5	2.2	1.6
1986	2.4	1.4	1.3	1.6	1.5	0.3
1987	4.3	3.0	3.1	1.1	1.0	-0.4
1988	5.0	3.7	3.8	1.9	1.8	1.9
1989	2.6	0.8	0.9	2.6	2.6	1.8
1990	0.2	-1.3	-1.1	-2.4	-1.5	-2.1
1991	-2.1	-3.2	-3.0	-4.7	-3.2	-3.1
1992	0.9	-0.3	-0.1	-0.7	0.0	0.7
1993	2.3	1.2	1.4	-2.9	-2.3	-2.2
1994	4.8	3.6	3.7	2.0	1.7	1.2
1995	2.8	1.7	1.7	0.7	-0.1	-0.2
1996	1.6	0.6	0.5	-0.1	0.1	0.3
1997	4.2	3.2	3.0	2.5	1.9	1.9
1998	4.1	3.2	3.1	4.6	3.9	3.4
1999	5.5	4.7	4.4	2.4	1.5	2.2
2000	5.3	4.3	4.0	4.1	3.2	2.7
2001	1.9	0.8	0.5	1.1	1.2	3.5
2002	3.3	2.2	1.8			
2003	1.7	0.9	0.6			
<b>Averages</b>						
1981-85	2.8	1.8	1.5	-1.2	-0.6	-0.9
1986-90	2.9	1.5	1.6	1.0	1.1	0.3
1991-95	1.7	0.6	0.7	-1.1	-0.8	-0.8
1996-2001	3.8	2.8	2.6	2.4	2.0	2.3
1981-2001	2.8	1.7	1.7	0.4	0.5	0.3



**TABLE: 2****Personal Income by Quintile****Income Growth by Quintile  
Market Income**

<b>Year</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
1981	5.9	0.7	-1.6	-1.2	-1.5
1982	-21.3	-10.3	-6.9	-4.4	-1.3
1983	-26.2	-11.9	-4.5	-2.3	-0.2
1984	3.2	0.0	0.7	-0.2	-0.6
1985	19.6	5.0	1.7	2.3	2.2
1986	3.6	0.7	1.1	1.8	1.7
1987	4.4	1.6	0.4	0.6	1.4
1988	-8.1	0.9	2.3	2.5	1.8
1989	26.2	7.8	2.4	0.7	2.2
1990	-14.0	-7.5	-3.5	-1.2	-1.3
1991	-25.8	-11.6	-6.8	-4.5	-2.3
1992	-23.4	-3.4	-0.7	0.1	-0.2
1993	-13.8	-6.8	-4.0	-2.7	-1.8
1994	1.3	0.6	3.2	2.5	1.5
1995	32.5	5.6	-1.2	-1.0	1.1
1996	-4.4	-4.9	-1.5	0.2	0.9
1997	4.5	2.6	1.0	1.1	3.6
1998	8.2	6.9	4.2	3.9	4.9
1999	25.2	5.6	3.9	2.1	1.1
2000	17.5	7.8	3.7	3.3	3.8
2001	-9.6	0.8	0.3	0.2	2.0
<b>Averages</b>					
1981-85	-3.7	-3.3	-2.1	-1.2	-0.2
1986-90	2.4	0.7	0.6	0.9	1.2
1991-95	-5.8	-3.1	-1.9	-1.1	-0.3
1996-2001	6.9	3.1	1.9	1.8	2.7
1981-2001	0.3	-0.5	-0.3	0.2	0.9

**TABLE: 2 Continued****Personal Income by Quintile****Income Growth by Quintile  
Total Income**

<b>Year</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
1981	5.9	0.2	-2.1	-1.1	-1.4
1982	-2.4	-4.0	-3.8	-3.1	-0.7
1983	-7.1	-6.2	-3.7	-2.0	-0.4
1984	3.6	0.7	0.6	0.1	-0.3
1985	5.0	2.7	1.6	2.0	2.1
1986	1.9	1.0	1.2	1.4	1.7
1987	2.0	1.2	0.5	0.5	1.3
1988	0.8	1.7	1.8	2.2	1.7
1989	6.1	3.8	2.8	1.4	2.6
1990	-3.2	-2.8	-1.9	-0.7	-1.2
1991	-4.4	-4.0	-4.9	-3.5	-1.9
1992	-1.3	-0.1	0.7	0.4	-0.3
1993	0.0	-3.5	-3.8	-2.3	-1.6
1994	1.4	1.4	3.2	1.8	1.3
1995	0.5	0.4	-1.7	-1.1	0.9
1996	-7.2	-2.4	-0.5	0.7	1.3
1997	1.3	1.0	0.3	0.9	3.4
1998	3.5	3.9	3.3	3.2	4.6
1999	0.3	2.7	2.4	1.5	1.0
2000	4.9	3.0	2.6	2.8	3.6
2001	-2.1	0.9	1.0	0.6	2.0
<b>Averages</b>					
1981-85	1.0	-1.3	-1.5	-0.8	-0.1
1986-90	1.5	1.0	0.9	1.0	1.2
1991-95	-0.7	-1.2	-1.3	-0.9	-0.3
1996-2001	0.1	1.5	1.5	1.6	2.6
1981-2001	0.5	0.1	0.0	0.3	0.9

**TABLE: 2 Continued**  
**Personal Income by Quintile**

**Income Growth by Quintile**  
**After-Tax Income**

<b>Year</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
1981	5.9	0.0	-2.1	-1.4	-1.4
1982	-2.5	-3.3	-3.4	-3.1	-1.5
1983	-6.8	-5.9	-3.7	-2.2	-1.1
1984	3.2	1.0	0.7	0.1	-0.3
1985	4.8	1.7	0.8	1.4	1.6
1986	1.4	-0.4	-0.3	0.2	0.6
1987	1.6	0.4	-0.6	-0.9	-0.4
1988	1.5	2.2	2.3	2.3	1.4
1989	3.4	2.7	1.9	1.0	1.7
1990	-1.9	-2.6	-2.2	-1.6	-2.4
1991	-4.1	-3.7	-4.5	-3.4	-2.0
1992	-0.8	0.7	1.5	1.1	0.2
1993	0.2	-3.2	-3.6	-2.4	-1.6
1994	1.6	1.4	2.5	1.2	0.4
1995	0.4	-0.2	-1.5	-1.0	0.7
1996	-7.8	-1.6	-0.3	1.2	1.7
1997	-0.9	0.6	0.4	1.3	3.5
1998	3.9	3.3	2.6	2.8	4.1
1999	1.1	3.0	3.1	2.1	1.7
2000	1.6	2.1	1.9	2.2	3.6
2001	2.2	2.1	2.9	3.3	4.3
<b>Averages</b>					
1981-85	0.9	-1.3	-1.5	-1.0	-0.5
1986-90	1.2	0.5	0.2	0.2	0.2
1991-95	-0.6	-1.0	-1.1	-0.9	-0.5
1996-2001	0.0	1.6	1.8	2.2	3.1
1981-2001	0.4	0.0	-0.1	0.2	0.7

**TABLE: 3  
Low-Income Summary**

Year	Ratio of Bottom to Top Quintile			Incidence of Low Income After-tax			
	Market	Total	After-tax	<18	18-64	65+	Total
1980	3.1	10.3	12.4	12.0	10.0	20.8	11.5
1981	3.4	11.1	13.3	12.3	9.8	20.7	11.5
1982	2.7	10.9	13.2	14.0	10.8	17.5	12.3
1983	2.0	10.1	12.4	15.5	12.4	18.9	13.9
1984	2.1	10.5	12.9	15.8	12.4	15.9	13.6
1985	2.4	10.8	13.3	15.5	11.6	14.2	12.8
1986	2.5	10.9	13.4	13.4	11.1	12.9	11.9
1987	2.5	10.9	13.6	13.6	11.0	12.3	11.8
1988	2.3	10.8	13.7	12.0	9.9	12.5	10.7
1989	2.8	11.2	13.9	11.5	9.3	10.9	10.0
1990	2.5	11.0	14.0	13.0	10.2	10.2	10.9
1991	1.9	10.7	13.7	14.2	11.5	10.4	12.1
1992	1.4	10.6	13.5	14.0	11.7	9.2	12.0
1993	1.3	10.8	13.8	15.7	12.3	10.8	12.9
1994	1.3	10.8	13.9	14.7	12.2	7.9	12.3
1995	1.6	10.7	13.9	16.3	12.9	7.7	13.1
1996	1.6	9.8	12.6	16.7	13.9	9.1	14.0
1997	1.6	9.6	12.1	16.0	13.5	8.6	13.5
1998	1.6	9.5	12.0	13.6	11.9	8.3	11.9
1999	2.0	9.5	12.0	13.5	11.8	7.6	11.7
2000	2.3	9.6	11.7	12.5	11.0	7.3	10.9
2001	2.0	9.2	11.5	11.4	10.6	7.3	10.4
<b>Averages</b>							
1981-85	2.5	10.7	13.0	14.6	11.4	17.4	12.8
1986-90	2.5	11.0	13.7	12.7	10.3	11.8	11.1
1991-95	1.5	10.7	13.7	15.0	12.1	9.2	12.5
1996-2001	1.8	9.6	12.0	14.0	12.1	8.0	12.1
1981-2001	2.1	10.4	13.1	14.1	11.5	11.4	12.1

<b>TABLE: 4 Government Spending in Wellbeing Outcome Domains</b>									
<b>YEAR</b>	<b>Government Revenues Share of GDP</b>	<b>Government Expenditures - Shares of GDP</b>						<b>Government Spending linked to Wellbeing Outcomes Share GDP</b>	<b>Government Spending linked to Wellbeing Outcomes %Govt Rev</b>
		<b>Health</b>	<b>Education</b>	<b>Social Services Housing</b>	<b>Personal Protection</b>	<b>Recreation Culture</b>	<b>Environment Resource Conservation Industr. Dev.</b>		
1989	37.6	5.7	5.9	10.9	1.1	0.8	3.2	27.5	73.3
1990	40.2	6.0	6.2	11.4	1.1	0.9	3.2	29.0	72.1
1991	42.2	6.5	6.8	12.4	1.3	1.0	3.1	31.2	74.0
1992	41.9	7.0	7.3	13.8	1.3	1.0	3.7	34.1	81.4
1993	41.1	7.0	7.4	14.0	1.2	1.0	3.3	34.1	82.7
1994	39.6	6.7	7.0	13.6	1.1	1.0	3.1	32.6	82.4
1995	39.6	6.4	6.9	12.5	1.1	1.0	2.9	30.8	77.8
1996	40.4	6.3	6.6	12.1	1.1	1.0	2.8	30.0	74.4
1997	39.8	6.1	6.1	11.6	1.0	0.9	2.4	28.2	70.8
1998	40.8	6.2	6.1	11.3	1.0	1.0	2.2	27.7	67.7
1999	39.2	6.0	5.9	10.8	0.9	0.9	2.2	26.8	68.2
2000	38.5	6.0	5.6	10.1	0.9	0.8	2.1	25.6	66.4
2001	40.2	6.3	5.6	10.3	1.0	0.8	2.2	26.2	65.3
2002	37.7	6.8	5.5	10.2	1.0	0.9	2.3	26.6	70.5
2003	36.3	6.7	5.4	10.0	0.9	0.8	2.1	25.9	71.4
<b>Averages</b>									
1991-95	40.9	6.7	7.1	13.3	1.2	1.0	3.2	32.6	79.7
1996-2001	39.8	6.2	6.0	11.0	1.0	0.9	2.3	27.4	68.8
1989-2003	39.7	6.4	6.3	11.7	1.1	0.9	2.7	29.1	73.2

