

## Trends in Economic Well-Being in Canada in the 1990s

Lars Osberg and Andrew Sharpe

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Are we better off? In modern democracies, national systems of social and economic statistics have become a crucial part of the informational feedback loop of public policy. By providing measures of social and economic outcomes, statistical agencies provide decision-makers and voters with information that often defines the success or failure of public policies. Evidence of such successes or failures can be used to reallocate resources or to motivate the voting decisions that replace governments; hence the calculation of measures of economic well-being is an important issue. However, current measures — such as trends in per capita disposable income — may not necessarily be a guide to popular perceptions of trends in economic well-being.

Economics is only part of life, but it is more than the market. Since some scarce resources are produced and consumed in non-market contexts, the concept of economic well-being is much broader than that of GDP or monetary income. However, economic well-being is less inclusive than the concept of quality of life or social progress,

although it certainly is part of these latter variables. Over the past several years, the Centre for the Study of Living Standards has developed an Index of Economic Well-Being (IEWB) and constructed estimates for Canada and the provinces, the United States, and selected OECD countries.<sup>1</sup>

The objective of this paper is to examine trends in this Index and its components in the 1990s in Canada and relate these developments to overall economic performance. While the motivation behind the development of the Index and its basic components will be outlined in this article, readers are referred to our earlier work (especially Osberg and Sharpe 1998) for detailed discussion of the methodology used to construct the Index. The article is divided into four main parts. The first part provides the motivation behind the Index. The second part discusses very briefly the basic components of the Index. The third part examines trends in the various components of the Index in Canada in the 1990s. The fourth and final part relates these trends to economic performance in the 1990s.

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## MOTIVATION BEHIND THE INDEX OF ECONOMIC WELL-BEING

The IEWB originated in a research paper one of us wrote for the MacDonald Commission in the mid-1980s (Osberg 1985). This paper was motivated by the belief that commonly used indicators of economic welfare, such as GDP per capita, were not truly capturing trends in economic well-being.

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The core problem of statistical agencies is that of deciding what information to record and how to present it. Knowing that all statistics summarize a complex reality, and that there are wide variations among the public in which aspects of social reality are considered to be of greatest importance, statistical agencies still have to decide what to count, and what not to count, as part of a measure of economic well-being.

For many years, the System of National Accounts (SNA) has been the accounting framework within which most discussions of trends in economic well-being are conducted, and Gross Domestic Product (GDP) per capita has been the most frequently used summary measure of economic trends. The compilers of the national accounts have often protested that their attempt to measure the aggregate value of marketed economic output was never intended as a full measure of economic well-being. Nevertheless, it has frequently been used as such, and the GDP accounting exercise has attracted a great deal of criticism as a misleading indicator of economic well-being. Dissatisfaction with the GDP as a measure has led to a number of proposals for substitute measures (e.g., the Genuine Progress Indicator).

Summarizing the economic well-being of a complex society inevitably

requires a series of ethical and statistical judgements. There are many different dimensions to well-being, which are valued to different degrees by different observers. With a single index number it may be difficult to disentangle the relative importance of value judgements in the construction of the index. Furthermore, in thinking about the appropriate public policy response, it is not particularly useful to know that well-being has gone “up” or “down” without also knowing which aspect of well-being has improved or deteriorated.

In our view, the construction of measures of economic well-being is a problem in the optimal aggregation of information. If the objective is to improve the quality of public decision-making and political debate, excess aggregation is not helpful because it does not enable the separation of value judgements and statistical judgements. Furthermore, excess aggregation offers no guide to policy priorities.

In 1985 Osberg proposed an index of economic well-being based on indices of consumption, accumulation, inequality and insecurity, *with the explicit recognition that the weights attached to each component will vary, depending on the values of different observers.*<sup>2</sup> The underlying hypothesis is that public debate is likely to be enhanced if issues of fact, analysis and values are as clearly separated as possible. Measurement of the current level, or trend, of economic well-being can be seen as the first stage of a three-stage discussion in which a society asks: (1) Where are we? (2) Do we want to go somewhere else? (3) How do we get there?

Issues of measurement, values and analysis may be conceptually distinct, but in a single index of economic well-being

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they often become hopelessly entangled. If the democratic debate on economic policy is to be fruitful, it would seem desirable to separate issues of measurement (question 1) from the debate on ends (2) and the discussion of means (3).

If the discussion is organized in this way, those people who fundamentally care most about a particular aspect of well-being can discuss the facts about that aspect without confusing the discussion with simultaneous discussion of other issues. (For example, those who are concerned most with the bequest of this generation to future ones can discuss whether the best way to safeguard sustainability is to emphasise environmental regulation, or capital accumulation, without simultaneously considering distributional issues.) Such discussions of measurement issues are of a fundamentally different nature from discussions of *values* (which aspect of economic well-being *should* receive greatest weight) or *policies* (how society *can* achieve given objectives).

This basic framework — that a society's well-being depends on societal consumption and accumulation and on the individual inequality and insecurity that surround the distribution of macroeconomic aggregates — is consistent with a variety of theoretical perspectives. We therefore avoid relying on a specific, formal model.

### BASIS COMPONENTS OF THE INDEX OF ECONOMIC WELL- BEING

Gross Domestic Product is a measure of the aggregate marketed income of a soci-

ety. However, "income" is a flow variable that does not directly consider the aggregate value of the bequest of this generation to its descendants. Although those living today clearly care about the level of their own consumption, they also care (in varying degrees) about the well-being of future generations. Furthermore, trends in average income do not reveal an individual's chances of personally sharing in the prosperity of the average. People are justifiably concerned about where they might sit in the distribution of income and the degree to which their personal economic future is secure.

Therefore, the four components or dimensions of economic well-being are:

- effective per capita consumption flows, including consumption of marketed goods and services, and effective flows of household production, leisure and other unmarketed goods and services;
- net societal accumulation of stocks of productive resources, including net accumulation of tangible capital, housing stocks, net changes in the value of natural resources stocks, environmental costs, net change in level of foreign indebtedness, and accumulation of human capital and R&D investment;
- income distribution, including the intensity of poverty (incidence and depth) and the inequality of overall income;
- economic insecurity, including economic security from job loss and unemployment, illness, family break-up and poverty in old age.

There are two conceptually distinct stages to considering these components of well-being. The first issue is whether it is useful to consider these four underlying

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TABLE 1

Summary of Trends in the Components of the Index of Economic Well-Being in Canada  
(average annual rate of change)

	Consumption	Wealth	Equality	Security	Overall Index (equal weighting)	GDP Per Capita
1971-81	1.91	2.06	0.09	0.63	0.65	2.69
1981-89	1.09	0.25	1.24	1.14	1.00	1.89
1989-99	0.85	1.04	-0.67	-3.03	-0.14	1.13
1989-95	0.42	0.40	-1.03	-4.72	-0.88	0.25
1995-99	1.50	2.01	-0.14	-0.44	0.96	2.45

Source: CSLS.

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components of economic well-being separately. The second issue is how much weight to put on one component relative to another. The first issue is an analytic one, whereas the second depends primarily on personal values. We distinguish these four main dimensions of economic well-being to enable persons with differing value judgments (e.g., a greater or lesser preference for intergenerational bequest or for the reduction of poverty, compared to increases in consumption) to account explicitly for those values. Each dimension of economic well-being is itself an aggregation of many underlying trends.

In our discussion in this article, we start with an equal weighting of all four components of the Index. Earlier versions of the Index started from a different weighting — consumption was more heavily weighted (0.4) and stocks of wealth was underweighted (0.1), while equality and security were equally weighted (0.25). The two sets of weights paint a very similar picture of trends, but in general a key issue in the construction of the IEWB is the weighting of the four components. Trends in the aggregate Index can be sensitive to the weights given the four components — particularly the weights assigned to equality and security.

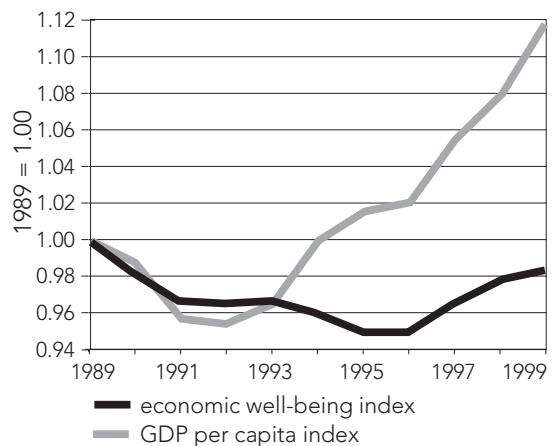
## TRENDS IN THE INDEX OF ECONOMIC WELL-BEING IN CANADA IN THE 1990s

### Trends in the Overall Index

In contrast to upward advances in the IEWB in the 1970s (0.7 percent per year) and in the 1980s (1.0 percent), the Index declined in the 1990s (Table 1). It fell 0.2 percent per year from the 1989 cyclical peak to 1999, the most recent year for which the Index has been estimated.<sup>3</sup> It also performed much more poorly than real GDP per capita, which rose at a 1.1 percent rate over the decade (Chart 1).

CHART 1

Trends in the Index of Economic Well-Being and GDP Per Capita in Canada



## Trends in Economic Well-Being in Canada in the 1990s

The 1990s decline in the Index took place during the first half of the decade, with the Index regaining some lost ground in the second half. In the six-year period between 1989 and 1995, the Index fell at a 0.9 percent average annual rate (a cumulative decline of 5.4 percent), while in the four-year period from 1995 to 1999 it advanced 0.9 percent per year (a cumulative recovery of 3.6 percent). The 1990s were a period of divergent trends in the first and second halves of the decade.

In the 1990s the decline in the IEWB was greater than the fall-off in real GDP per capita, the most commonly used measure of living standards. The 1.3 percentage point drop in the Index between 1981-89 and 1989-99 compares with a mere 0.9 point decline in real per capita GDP growth. Thus trends in GDP growth underestimate the decline in economic well-being in Canada in the 1990s.

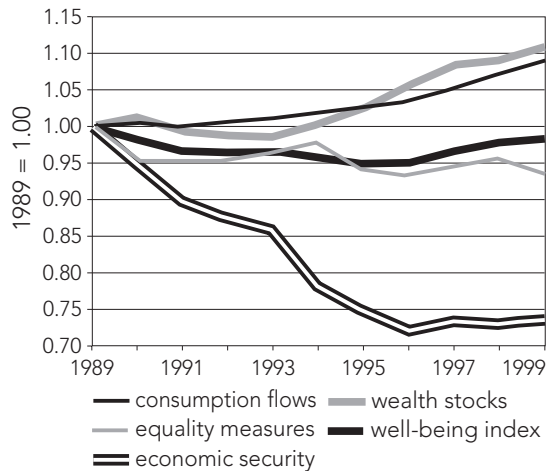
The decline in economic well-being in the 1990s was broadly based, according to the IEWB. Indeed, three of the four components of the Index (consumption, equality and economic security) performed more poorly in the 1990s than in the 1980s and the Index for the latter two of these components declined in absolute terms (Chart 2).

### Trends in Consumption Flows

The concept of total consumption used in the IEWB is much broader than the concept of personal consumption found in the System of National Accounts. The SNA does not include any adjustments to personal consumption for changes in life expectancy, for the change in household economies of scale associated with changes in household size, for trends in certain regrettable expenditures (cost of commuting, auto accidents, crime, household pollution abatement) and the addition of

**CHART 2**

Trends in the Index of Economic Well-Being Index and its Components in Canada



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current government spending on goods and services, for changes in the value of unpaid work (both volunteer work outside the home and the quantitatively important work in the home), or for the value of changes in working time. The IEWB makes adjustments for all these issues.

Total consumption, based on the definition used in the IEWB, advanced at 0.9 percent per year in the 1990s (Table 2), down only 0.2 points from the 1980s, at 1.1 percent, and 1.0 points from the 1970s. In contrast, the national accounts definition of personal consumption grew at only a slightly faster rate in the 1990s (1.1 percent), but the slowdown from the rate of increase experienced in the 1980s (2.0 percent) was much greater (0.9 points).

In the 1990s, the IEWB adjusted personal consumption upward because of increased life expectancy, but adjusted it downward because of declining household size and the regrettables mentioned above. This adjusted personal consumption advanced at an annual rate of only 0.6 percent over the decade.

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**TABLE 2**  
Trends in Total Consumption and Its Components  
(average annual rate of change on a per capita basis)

	Personal Consumption	Adjusted Personal Consumption	Government Consumption	Unpaid Work	Total Consumption
1971-81	2.76	2.62	2.16	0.75	1.93
1981-89	2.03	1.94	1.29	0.04	1.09
1989-99	1.06	0.55	-0.52	2.24	0.85
1989-95	0.22	-0.38	-0.28	1.86	0.42
1995-99	2.34	1.96	-0.87	2.85	1.50

Source: CSLS.

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The large cuts in government spending in the 1990s were felt in government expenditures on current goods and services, which fell 0.5 percent per year compared to an increase of 1.3 percent in the 1980s. There was little change in average working time in the 1990s, so the imputation for this variable had little effect on consumption. A perhaps surprising development in the 1990s was rapid growth in unpaid work. After experiencing virtually no change in the 1980s, the value of unpaid work advanced at a 2.2 percent annual rate in the 1990s.

The weakness of total consumption growth was much more pronounced in the 1989-95 period than in the 1995-99 period (0.3 versus 1.5 percent). The value of both personal consumption and unpaid work advanced at a slower rate in the earlier period. In contrast, government consumption actually declined at a faster pace in the second half of the 1990s.

### Trends in Accumulation of Stocks of Wealth

The IEWB attempts to measure the change in stocks of real productive assets in Canada. The non-financial wealth of society is made up of the residential and non-res-

idential physical capital stock, the stock of R&D knowledge, the stock of natural resources and the human capital of the population. Canada's net international debt represents a liability to foreigners, so it reduces our national wealth. All these variables are measured in terms of constant dollars so they can be aggregated. In constructing the IEWB, we have either used Statistics Canada data or developed our own estimates for all these stocks (see Osberg and Sharpe 2000 for details).

In 1999, the per capita value, expressed in 1992 dollars, of the total wealth of Canadians was \$127,863. The most important component of this wealth was human capital, representing 58.9 percent of the total. This was followed by physical capital (35.4 percent), natural resources (11.6 percent) and R&D (1.5 percent). International debt reduced wealth by 7.5 percent. The key asset of the Canadian economy lies in the skills of the workforce, not in our factories and natural resources.

Unlike total consumption flows, the growth rate of total wealth stocks (Table 3) actually picked up in the 1990s (1.0 percent per year), surpassing the pace experienced in the 1980s (0.3 percent). This development

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**TABLE 3**  
**Stocks of Wealth**  
(average annual rate on change in real per capita terms)

	Physical Capital	R&D	Natural Resources	Human Capital	Inter'l Debt	Total
1971-81	3.08	3.39	4.04	1.09	4.14	2.06
1981-89	1.80	4.29	-5.35	1.04	1.09	0.25
1989-99	0.90	2.54	-0.05	1.17	-0.08	1.04
1989-96	0.75	2.62	-3.22	1.20	2.78	0.40
1995-99	1.13	2.42	4.90	1.12	-4.23	2.00

Source: CSLS.

was due to three factors. There was a small pick-up in the pace of human capital accumulation (1.2 versus 1.0 percent). Since the value of natural resource stocks depends on both the size of reserves and any changes in their prices, the big difference between the 1980s and 1990s was that the fall in the value of energy resources over the 1980s did not continue. Hence the decline in the value of natural resources (-0.1 versus -5.4 percent) was much smaller. As well, there was a small decline in net international debt compared to an increase in the 1980s (-0.1 versus 1.1 percent). In contrast, the growth rates of both physical capital and R&D stocks fell off in the 1990s relative to the 1980s (0.9 versus 1.8 percent for the former and 2.5 versus 4.3 percent for the latter), reflecting the slower pace of investment over the decade associated with the weaker economic growth.

Total wealth stocks grew at a much more rapid pace in the second half of the 1990s than in the first half: 2.0 versus 0.4 percent. This development reflects the significant decline in international debt, the pick-up in investment in physical capital and the rapid growth in the value of natural resources due to higher prices for certain commodities such as oil.

### Trends in Equality

The income inequality component of the IEWB includes two measures of inequality for the overall population. The first is poverty intensity, where poverty is defined in a relative sense as the proportion of households with less than one half median equivalent income. This variable sheds light on trends at the lower end of the income distribution. The second is the after-tax Gini coefficient, a well-known measure of income distribution which captures trends in the overall distribution of income. The first variable is given four times the weight of the second variable.

Both the intensity of poverty and the Gini coefficient increased in the 1990s, indicating a decline in equality (Table 4). Poverty intensity increased 1.7 percent per year between 1989 and 1999 due to an increase in both the poverty rate and the poverty gap. The Gini coefficient rose 0.4 percent per year. In the 1980s, poverty intensity declined while the Gini coefficient remained basically unchanged.

The increase in the intensity of poverty in the 1990s took place throughout the decade, with an initial decline in the first half of the decade during the period of weak economic

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**TABLE 4**  
Trends in Equality for the Overall Population  
(average annual rate of change)

	Poverty Intensity	Income Inequality (Gini coefficient)	Equality Index
1971-81	0.0	-0.61	0.09
1981-89	-1.7	0.04	1.24
1989-99	1.7	0.39	-0.67
1989-95	1.6	0.24	-1.03
1995-99	1.7	0.62	-0.14

Source: CSLS.

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growth, and further change after 1995 as social assistance payments were cut back. Recessions and periods of slow growth tend to disproportionately affect persons at the bottom of the income distribution. In contrast to poverty intensity, overall income inequality, as captured by the Gini coefficient, increased more in the second half of the 1990s than in the first half (0.6 versus 0.2 percent per year).

### Trends in Economic Security

The economic security component of the IEWB consists of four sub-components: the risk of unemployment, the risk of financial insecurity due to illness, the risk of single-parent poverty and the risk of poverty in old age.<sup>4</sup> Each risk is weighted by the extent of the population affected into the overall economic security component.

As noted earlier, it was the economic security component of the IEWB that posted the largest decline in the 1990s among the four components of economic well-being (-3.0 percent per year). Table 5 reveals that it was the risks of unemployment and financial insecurity due to illness that were responsible for this large decline in economic security. Both the risk of single-parent

poverty and the risk of poverty in old age declined in the 1990s.

The index for the risk to economic security from unemployment plummeted 6.9 percent per year in the 1990s, after a 4.5 percent increase in the 1980s. This index comprises three variables, the employment/population ratio, the Unemployment Insurance (UI) or Employment Insurance (EI) coverage rate — that is, the proportion of the unemployed who are receiving regular benefits — and the benefits rates — that is, average weekly benefits as a proportion of average weekly earnings. The variables are given equal weights and combined in a multiplicative manner. The decline of the index in the 1990s was largely driven by the decline in EI coverage, from 84 percent of the unemployed in 1989 to 43 percent in 1999. The benefits rate was relatively stable, in the 42-44 percent range, while the employment/population ratio rate was still somewhat below the 1989 peak by 1999.

The risk to financial security from illness is proxied in the IEWB by the proportion of disposable income devoted to medical expenses. An increase in this proportion is considered an indication of a decline in financial security. The ratio in fact rose from 3.30 percent of disposable personal income in 1989 to 4.42 percent in 1999, in part because of the delisting of certain medical services by provincial governments and large increases in the price of drugs, for which many Canadians are not fully insured. The rate of growth of this variable from the point of view of financial security was thus -3.0 percent per year in the 1990s, compared to -2.7 percent in the 1980s. The lion's share of the decline took place in the first half of the decade.



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**TABLE 5**  
Trends in Economic Security  
(average annual rate of change in unweighted sub-index)

	Unemployment	Illness	Single-Parent Poverty	Elderly Poverty	Overall Index
1971-81	2.57	-0.42	-7.48	0.23	0.63
1981-89	4.45	-2.73	-0.70	10.11	1.14
1989-99	-6.94	-2.96	5.21	10.20	-3.03
1989-95	-8.14	-4.12	5.00	16.13	-4.72
1995-99	-5.11	-1.25	5.52	0.52	-0.44

Source: CSLS.

In contrast to the declines in economic security in the areas of unemployment and illness, the risk to economic security from single-parent poverty and poverty in old age actually declined in the 1990s. The variables included in the index of risk for single-parent poverty are the divorce rate, the poverty rate for single-parent families, defined in relative terms as households with less than one half median equivalent income, and the poverty gap for single-parent families. These latter two variables combined represent poverty intensity. The variables are given equal weights and combined in a multiplicative manner.

The index for the economic security of single-parent families from poverty increased 5.2 percent in the 1990s, after falling 0.7 percent in the 1990s. This development reflected declines in all three determinants of the Index. The divorce rate declined 25 percent over the period, from 1.3 per cent of married couples in 1989 to 0.95 percent in 1999. The poverty rate for families with children headed by a single mother, while still very high at around one half of such families, fell 5 percent, while the poverty gap fell 9 percent. The overall pace of decline in this risk to economic security was similar in the first and second halves of the decade.

The major success story in the fight against economic insecurity in the 1990s, as was the case in the 1980s, was the large decline in the risk of poverty in old age. The variables included in the index of risk for poverty among those 65 and over in the IEWB are the poverty rate for this group, defined in relative terms as households with less than one half median equivalent income, and the poverty gap. These latter two variables combined represent poverty intensity. From 1989 to 1999 economic security for the elderly rose at a 10.2 percent average annual rate, almost identical to the 10.1 percent pace of decline in the 1980s. The poverty rate for the elderly fell 52.3 percent, from 19.7 percent in 1989 to 9.4 percent in 1999, while the poverty gap decreased 28.6 percent over the period.

### INDEX OF ECONOMIC WELL-BEING AND ECONOMIC PERFORMANCE

From the point of view of this article, economic performance is defined as trends in the rate of growth of output, income in absolute and per capita terms, and employ-

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ment and productivity. The evolution of the IEWB reflects the performance of these variables both directly and indirectly, and also reflects discretionary policy decisions that are largely unrelated to current economic performance in Canada and longer-run social trends. These discretionary policy changes and longer-run social changes may well be influenced by economic performance in the long run, but such feedbacks operate on a longer time scale than a decade. This section of the article attempts to allocate the main developments affecting the IEWB in the 1990s into the following categories: strongly influenced by current domestic economic performance; somewhat influenced by domestic economic performance in this decade; and largely independent of current economic performance in Canada (but not necessarily economic performance in other countries), because they are driven by either longer-run social trends or discretionary policy choices. As might be expected, not all developments neatly fall into one of these categories.

#### **Well-Being Developments Strongly Influenced by Domestic Economic Performance**

At least six variables that make up the IEWB were strongly influenced by the weak economic performance of the 1990s. Poor performance, at least relative to the 1980s, led to a decline in either relative or absolute terms of the contribution of these variables to economic well-being. The slower economic growth in the 1990s directly reduced personal consumption growth and reduced government revenues, forcing governments to cut back on current expenditures of goods and

services. Slower growth also reduced corporate profits, thus lowering the rate of growth of business investment and R&D spending, which in turn slowed the pace of physical capital and R&D stock accumulation. Weak demand growth reduced employment growth, leading to a fall in the employment-to-population ratio through rising unemployment and falling labour-force participation. Because the economically vulnerable tend to be particularly hard hit by a weak economy and weak labour demand, the poverty rate and poverty gap, even measured in relative terms, increased during these periods.

#### **Well-Being Developments Somewhat Influenced by Domestic Economic Performance**

Four of the variables that make up the IEWB were somewhat influenced by economic developments in the 1990s but were also affected by longer-run social and technological trends. The rise in unpaid work, a trend which in itself is a positive to economic well-being as it increases consumption flows, may be partly related to higher unemployment and falling labour-force participation, particularly among older workers. Part of the increase in forced leisure may have been used for volunteer work and unpaid household activities. Government spending cuts believed necessary because of large deficits caused by the high interest rates and weak economy undoubtedly contributed to the rise in the proportion of disposable income going to medical expenses, given the cutbacks in the health area. The rise in income inequality, as evidenced by the Gini coefficient, in part reflects the influence of

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**FIGURE 1**  
**Relationship Between Economic  
Performance and Economic Well-Being**

### Well-Being Developments Strongly Influenced by Current Domestic Economic Performance

- > decline in personal consumption growth
- > absolute decline in current government spending on goods and services
- > declines in capital stock growth
- > decline in R&D stock growth
- > poverty intensity of the overall population
- > employment/population ratio

### Well-Being Developments Somewhat Influenced by Current Domestic Economic Performance

- > increase in unpaid work
- > stabilization of international debt levels
- > increased income inequality (Gini coefficient) for the overall population
- > rising proportion of disposable income going to medical expenses

### Well-Being Developments Little Influenced by Current Policy Choices or Current Economic Performance

- > increased life expectancy
- > declining household size
- > stabilization in the value of natural resource stocks
- > stability of human capital accumulation
- > falling divorce rate

### Well-Being Developments Dominated by Current Policy Choices

- > falling poverty intensity for the elderly
- > falling poverty intensity for single-parent families
- > falling EI coverage rate
- > stable EI benefits rate

and domestic interest rates produced substantial capital inflows and an overvalued currency. As interest rate differentials returned to more normal levels there was less borrowing abroad. The result was a decline in the net claims of foreigners on Canada's future output.

### Well-Being Developments Little Influenced by Current Economic Performance in Canada or Current Policy Choices

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While not completely immune to the influence of current domestic economic performance, some variables are more influenced by social, cultural and demographic developments outside the economic realm. These may in turn be influenced by economic performance or economic policy decisions in the longer term, but, if so, the time scale involved is likely more than a decade. In this first category one might put the rising life expectancy in the 1990s (improved medical technology), the falling divorce rate (possibly due to changing norms regarding the costs and benefits of divorce), declining household size (increased aging of the population) and the stability of human capital accumulation (increased recognition of the importance of formal educational credentials for economic success).

weak economic growth, but also was influenced by secular trends in the relative demand for skilled labour.

Finally, the stabilization of the level of Canada's international debt in the second half of the 1990s has to be seen partly in the context of its rapid increase in the late 1980s, as a historically high differential between US

Economic developments outside Canada are the key determinant of the value of our natural resources, which are determined by commodity prices set in world markets based on global supply and demand forces. Weak world growth tends to lower commodity prices while strong growth increases them.

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## Well-Being Developments Dominated by Current Policy Choices

For at least four variables, discretionary government policies were the main determinants in the 1990s: the large drop in poverty intensity among the elderly (indexation of pension benefits and expansion of public pensions); the small decline in poverty intensity among single-parent families (enrichment of certain benefits for this group such as the children's benefit); the fall in EI coverage (policy decision to tighten EI eligibility requirements and length of benefits); and the stability in the EI benefits rate (policy decision not to make changes to this rate).

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## CONCLUSION

After advancing in the 1970s and 1980s, the Index of Economic Well-Being declined in the 1990s. While nearly all of the 20 components of this Index are influenced by numerous factors, including non-economic factors, this article has shown that the poor economic performance of the 1990s, as manifested by the relatively slow rate of economic growth, contributed significantly to the fall in overall economic well-being, by reducing consumption and investment growth and forcing governments to cut spending on social programs and on the purchase of goods and services.

## NOTES

1 In the fall of 1998 the Centre for the Study of Living Standards (CSLS) introduced a new indicator of sustainable development for Canada

(Osberg and Sharpe 1998), appropriately called the Index of Economic Well-Being. Since then, the CSLS has continued to develop the IEWB, producing estimates for the United States (Osberg and Sharpe 1999), the provinces (Osberg and Sharpe 2000*b*), OECD countries (Osberg and Sharpe 2000*a*, 2001*b*), and updated estimates for Canada and the United States (Osberg and Sharpe 2001*a*). The original empirical work on the Index was funded by the Applied Research Branch of Human Resources Development Canada, which published the first estimates for Canada (Osberg and Sharpe 1998). Subsequent work has not received external funding. The IEWB has stimulated much interest among researchers and policy analysts, particularly at the international level. In addition to the large number of presentations made on the Index to Canadian audiences, it has been presented at conferences and seminars in England, France (OECD), Spain, the Netherlands, Poland, Hong Kong and the United States.

- 2 By specifying additive sub-indices, we are implicitly assuming that preferences for social outcomes are separable in their components (e.g., that the weight placed on consumption does not depend on the weight placed on inequality). We do not explicitly constrain the weights to be assigned to each component of well-being, since we think of them as the preferences of different observers. However, some observers may, if they are consistent, have linked preferences — for example, *if* attitudes to insecurity are driven solely by risk aversion, then the weight an individual places on inequality and the weight they place on insecurity will both depend on the second derivative of their utility function.
- 3 It is important to note that because of long lags in the production of data, data for 1999 and in certain cases for 1998 were not available. Data for these years have been extrapolated or assumed to

be the same as the most recent actual data. For complete information on years for which data have been estimated and the methodology used, see the tables in Osberg and Sharpe 2001.

- 4 Although public opinion polling can reveal that many people feel economically insecure, and that such insecurity decreases their subjective state of well-being, the concept of economic insecurity is rarely discussed in academic economics. Consequently, there is no generally agreed definition of economic insecurity. We argue that economic insecurity is, in a general sense, “the anxiety produced by a lack of economic safety — i.e., by an inability to obtain protection against subjectively significant potential economic losses.” In this sense, individuals’ perceptions of insecurity are inherently forward looking, the result of their expectations of the future and their current economic context — hence only imperfectly captured by measures such as the *ex post* variability of income flows. Ideally, one would measure trends in economic security with data which included (for example) the percentage of the population who have credible guarantees of employment continuity and the adequacy of personal savings to support consumption during illness or unemployment. However, such data are not widely available. For these reasons, rather than attempt an overall measure of economic insecurity, this article adopts a “named risks” approach, and addresses the change over time in four key economic risks identified by the United Nations’ Universal Declaration of Human Rights.

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