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INTERNATIONAL COMPARISONS OF TRENDS IN  
ECONOMIC WELL-BEING \*

**ABSTRACT.** This paper develops a new measure of economic well-being for selected OECD countries for the period 1980 to 1996 and compares trends in this new Index to GDP per capita. We argue that the economic well-being of a society depends on the level of average consumption flows, aggregate accumulation of productive stocks, inequality in the distribution of individual incomes and insecurity in the anticipation of future income. However, the weights attached to each component will vary, depending on the values of different observers. We argue that public debate would be improved if there is *explicit* consideration of the aspects of economic well-being obscured by average income trends and if the weights attached to these aspects were made visible and were open for discussion.

Has economic well being increased or decreased in recent years?  
How would one know and why might it be useful to know?

In 1980 Ronald Reagan asked the American people a seemingly simple question: "Are you better off today than you were four years ago?" Although U.S. per capita disposable real income was, in 1980, some 7.6 per cent higher than in 1976, his audiences answered "No!" Similarly, Bill Clinton in 1992 ran on the slogan "It's the economy, stupid." Both politicians were implying that their government would "do better". Whether or not it is possible for a country to do better is an issue that is often resolved by pointing to how well other countries have done. International comparisons of trends in

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\* An earlier version of this paper was presented at the annual meeting of the American Economic Association, January 5–7, 2000, Boston, Mass. In order that this paper be self-contained and provide a full explanation of the methodology used to estimate the index of economic well being, it draws on material from earlier papers which develop the index (Osberg, 1985; Osberg and Sharpe, 1998, 1999). These latter two papers are available on the CSLS website at [www.csls.ca](http://www.csls.ca) under indexes on economic well-being. We would like to thank Dmitry Kabrelyan for the extensive data development he did for this paper.



well being are thus crucial to knowing whether a country could “do better”.

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 the information that often defines the success or failure of public policies. Evidence on such successes or failures can be used to reallocate resources, or to replace governments; hence the calculation of measures of economic well being is an important issue. However, as the Ronald Reagan quotation above indicates, current measures – such as trends in per capita disposable income – may not necessarily be a good guide to popular perceptions of trends in economic well being.

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 have been conducted, and Gross Domestic Product (GDP) per capita has been an often 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 often been used as such, and the GDP accounting exercise has attracted a great deal of criticism as being a misleading indicator of economic well-being (e.g. Waring, 1988). 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 only that well being has gone “up” or “down”, without also knowing which aspect of well being has improved or deteriorated.

This paper sees construction of measures of economic well being as 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 value judgements and statistical judgements to be separated. Furthermore, excess aggregation offers no guide to policy priorities.

Osberg (1985) therefore proposed that an index of economic well-being should be 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*. The underlying hypothesis is that public debate is likely to be improved 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, of values and of analysis may be conceptually distinct, but in a single index of economic well being, 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 (issue 2) or the discussion of means (item 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 of well being, without confusing the discussion with other 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.

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 macro economic aggregates – is consistent with a variety of theoretical perspectives. We therefore avoid a specific, formal model.

As part of a larger project on the state of living of standards and the quality of life in Canada, the Centre for the Study of Living Standards (CSLS) has constructed the index of economic well-being proposed by Osberg (1985) for Canada (Osberg and Sharpe, 1998) and for all provinces and for the United States (Osberg and Sharpe, 1999). This paper now extends the index to other countries, with a base year of 1980.

Data availability and comparability problems mean that the construction of an international index of economic well being is a much more arduous undertaking than construction of an index at the national level, or even for two similar countries such as Canada and the United States. A crucial data requirement for the index is comparable estimates of poverty rates and poverty gaps for all members of society, the elderly, and single-parent families. Comparable estimates require comparable micro-data files and the only international source of such files is the Luxembourg Income Study (LIS). Consequently, the 14 countries covered by the LIS (Australia, Belgium, Canada, Denmark, Finland, France, Germany, Italy, Netherlands, Norway, Spain, Sweden, United Kingdom, and the United States) represent the maximum number of countries for which estimates of the index of economic well being can be constructed.

Because the number of years of micro-data tapes available for many of these countries is limited, the construction of a reliable time series for all 14 countries is not possible. Only some countries (Canada, the United States, the United Kingdom, Australia, Germany, Norway and Sweden) have a large enough number of public-use micro-data files accessible from the LIS for construction of reliable long-run time series. Consequently most of the discussion in the paper focuses on trends in these seven countries. Appendix B found in the website version of this paper presents tables on seven other countries (Belgium, Denmark, Finland, Italy, Netherlands, France and Spain) in which the data is largely based on backward

and forward extrapolation and interpolation techniques (extrapolated and interpolated estimates are given in *Italics*). The data in both the main body of the text and Appendix A of the unabridged version of the paper are derived from underlying raw data which are presented, for all 14 countries in tables available on the Web at [www.csls.ca](http://www.csls.ca). We hope that over time, it will be possible to “fill in the blanks” and that more reliable estimates for more countries will become available.<sup>1</sup>

#### AN INDEX OF ECONOMIC WELL-BEING

GDP is a measure of the aggregate marketed income of a society and most of its proposed substitutes (such as the GPI) are also primarily measures of adjusted average annual “income” flows [where the adjustments are meant to capture issues (such as environmental degradation) that GDP now ignores]. However, “income” is a flow variable that does not directly consider the aggregate value of the bequest which this generation will leave to its descendants. Although those now alive clearly care about the level of their own consumption, they also care (in varying degrees) about the well being of future generations. Furthermore, although trends in average income are important, individuals are justifiably concerned about the degree to which they personally will share in the prosperity of the average, and the degree to which their personal economic future is secure. The four components or dimensions of economic well being in the ideal index of economic well being are, therefore:

- effective per capita consumption flows
- net societal accumulation of stocks of productive resources
- income distribution – poverty and inequality,
- economic insecurity,

We recognize that the System of National Accounts has, thanks to many years of development effort by international agencies, produced an accounting system for GDP which is rigorously standardized across countries. Internationally comparable statistics on other dimensions of economic well being are far less complete. However, using GDP per capita as a measure of well being such would implicitly set the weight of income distribution or economic

insecurity to zero, by ignoring entirely their influence, which is surely a bad approximation of their actual importance to economic well-being.

### *Average Consumption Flows*

#### *Marketed personal consumption*

The starting point for this component of the index is aggregate real personal consumption per capita. Estimates of personal consumption per capita, expressed in national currency units, and in constant prices (base years differ among countries) have been taken from the OECD National Accounts publication. All countries experienced increases in real per capita marketed personal consumption over the 1971–96 period, but there was a large variations in the increase, ranging from a high of 100.2 per cent in Germany to a low of 26.4 per cent in Sweden.

The System of National Accounts provides a strong basis for estimating the consumption of marketed goods and the cost of providing government services. Estimates are more imprecise when one considers the value of a number of other factors that also influence consumption flows, such as life expectancy, economies of scale in household consumption, and working time.

*The value of increased longevity.* Life expectancy has increased significantly in recent years, and we have every reason to believe that having a long life is an important component of the well being. The economic value of these extra years of life should be included in the total consumption flows of individuals, since presumably people care both about how much they consume per year, and how many years they get to consume it. Between 1971 and 1996, all 14 countries enjoyed increased life expectancy. For all years after 1971, personal consumption per capita is adjusted upward by the increase in life expectancy relative to 1971.

*Reduced economies of scale in household consumption.* When individuals cohabit in households, they benefit from economies of scale in household consumption. When comparing the average effective consumption of individuals over time, the implication is that as households have shrunk in average size, economies of scale have

been lost. Trends in average per capita consumption should therefore be adjusted for the average loss over time of economies of scale in household consumption. Since economies of scale diminish in family size, the extent of change in economies of scale depends on where change occurs in the distribution of family sizes. The "LIS" equivalence scale (i.e. the square root of family size) has been applied to average family income to construct an index of equivalent family income (1981 = 100), which is used to adjust personal consumption per capita. The size of the downward adjustments to real per capita personal consumption are small, with the United Kingdom having the largest downward adjustment in 1996 relative to 1971, (10.8 per cent).

*Differences in working hours and economic well-being.* In developing the Index of Economic Well-being for Canada, Osberg and Sharpe (1998) recognized the importance of leisure for economic well-being and hence the potential impact of changes in working time on economic well-being. However, in Canadian data, the absence of any significant trend in average annual hours of work meant that inclusion of the aggregate value of leisure in the index would have had no major effect on the overall trend of the index. This paper extends the Index of Economic Well-being to OECD countries among which there are major differences in both the initial level and trends over time in the average annual number of hours worked. The methodology for integrating variation in working hours into an international index of economic well being is developed in the unabridged version of the paper.

#### *Government services*

The provision of non-marketed or heavily subsidized services by the government is part of the consumption flow. Current expenditure by all levels of government including defense and capital consumption allowances, but excluding debt service charges and transfer payments (which influence marketed consumption) are used. These data were taken from the OECD national accounts, expressed in constant prices in national currency units. The importance of government final consumption expenditures relative to personal adjusted consumption expenditures differs markedly among OECD countries. In addition, over the 1971–96 period there were major

differences in the rate of growth of real per capita government final consumption expenditures, ranging from a high of 172.3 per cent in Spain (which admittedly had a low base) to a low of 16.4 per cent for the United States.

#### *Total consumption flows*

Total per capita consumption is defined as the sum of personal consumption (adjusted for changes in average household size and life expectancy), government services, and the adjusted relative value of leisure.<sup>2</sup> Between 1980 and 1996 (since leisure adjustments are relative to 1980, this year will be used as the base), the increase in the real per capita total consumption flows has ranged from a high of 65.6 per cent in Germany to a low of 11.7 per cent in Sweden (Table I).

#### *Wealth Stocks, Sustainability and the Intergenerational Bequest*

In our view, measurement of trends in well being should include consideration of changes in the well being of generations yet unborn. This consideration of future generations can be justified either on the grounds that those now living care about the well being of future generations or on the grounds that a concept of “society” should include both present and future generations. Either way, wealth accumulation by this generation will increase the bequest left to future generations, and is an important component of well being. We would emphasize that this component of economic well being consists of those stocks of real productive assets that can generate real income for future generations – not the financial instruments that will determine the allocation of the return from those assets. The stocks of “wealth” left to the next generation, broadly conceived to include environmental and human resources as well as physical capital stock, will determine whether a society is on a long-run sustainable trajectory.

#### *Physical capital stock*

The physical capital stock includes both residential structures and machinery and equipment and non-residential, and both the business sector and the government sector. Between 1980 and 1996, the

increase in the fixed capital stock, on a per capita basis, ranged from a high of per cent 40.3 per cent in Italy to a low of 9.3 per cent in Denmark.

#### *Research and development capital stock*

Closely related to the physical capital stock is the concept of the research and development (R&D) capital stock. In an era of rapid technological change, expenditure on R&D is a crucial ingredient in the ability of society to innovate and create wealth. Statistical agencies do not produce R&D stock data. The Center for the Study of Living Standards has constructed a R&D stock series for 11 countries from OECD data on annual flows of total business enterprise expenditure on research and development. Between 1980 and 1996, the rate of change in the per capita real business enterprise R&D stock for business enterprises ranged from an increase of 233 per cent in Australia to a decline of 11 per cent in Germany.

#### *Value of natural resource stocks*

Current consumption levels could be increased by running down stocks of non-renewable natural resources or by exploiting renewable resources in a non-sustainable manner, but this would be at the cost of the consumption of future generations. A key aspect of the wealth accumulation component of economic well being is net changes in the value of natural resources. Unfortunately, there are currently no internationally comparable time series estimates of the value of natural resources for OECD countries, so this component of wealth stocks has not been included in the index of economic well being developed in this paper.

#### *Stocks of human capital*

The human capital accumulated by the workforce generates both current and future income. Trends in the stock of human capital, including both formal educational attainment levels and on-the-job training, are important determinants of current and future economic well being. This same approach has been followed for the OECD countries. OECD data on the educational attainment of the 25–64 population and expenditure per student (available in both local currency and U.S. dollars) for the early childhood, primary,

secondary, non-university tertiary and university level education have been used to estimate the per capita stock of human capital.<sup>3</sup>

*Net foreign indebtedness*

Since interest payments on the net foreign indebtedness of citizens of one country to residents of other countries will lower the aggregate future consumption options of those citizens, increases in the level of foreign indebtedness reduce economic well-being within a given country. These estimates have been converted to current price national currencies at market exchange rates and then deflated by the GDP deflator and adjusted for population to obtain real per capita estimates in the net international investment position, expressed in national currency units.

*State of the environment*

Like the excess depletion of natural resources, current consumption can be increased at the expense of the degradation of the environment, reducing the economic well being of future generations. Consequently, changes in the level of air and water pollution should be considered an important aspect of the wealth accumulation. Countries pass on from generation to generation both a natural and made-made national heritage. If this heritage were damaged, the economic well being of future generations would be reduced. Since it is very difficult, if not impossible, to put a monetary value on, for example, the pristine condition of national parks, or historic buildings, there will be no attempt to set an aggregate value to these assets. However, the issue of *trends* in well being is the *change* in such assets, which is easier to measure and for which indicators of environmental quality can be developed.

Probably the best-known environmental change is global warming arising from increased emissions of greenhouse gases, the most common of which is carbon dioxide emissions. Fortunately, data are available on these emissions and it is possible to estimate the costs of these emissions.<sup>4</sup> These costs can then be subtracted from the stock of wealth to obtain an environmentally adjusted stock of wealth.

*Estimates of total wealth*

As the estimates of the physical capital stock, the R&D capital stock, net foreign debt, and environmental degradation are expressed in value terms, they can be aggregated and presented on a per capita basis. Net foreign debt per capita is a negative entry, while the social costs of CO<sub>2</sub> emissions are subtracted from the stocks of wealth. For the 1980–96 period, estimates for the five components of the wealth stock included in this paper are available for seven countries. The rate of change for per capita real wealth stocks in national currency at constant prices for these countries ranged from an increase of 44.3 per cent in Norway to 15.6 per cent in Sweden.

*Inequality and Poverty*

The idea of a “Social Welfare Function” which is a positive function of average incomes and a negative function of the inequality of incomes has a long tradition in welfare economics. Since the economic well-being of the population is affected by inequality in the distribution of income and by the extent of poverty, there are two issues: (1) one’s perspective on the importance of inequality/poverty compared to trends in average income, and (2) one’s view of the relative weight to be placed on poverty compared to inequality. We therefore suggest that a compound sub-index to recognize explicitly these issues would place some weight ( $\beta$ ) on a measure of inequality in the aggregate distribution of income and some weight ( $1 - \beta$ ) on a measure of poverty.

The most popular measure of inequality in the distribution of income is undoubtedly the Gini index. For the purposes of the construction of the index of economic well being, we have chosen the Gini coefficient of after-tax household income.

Recently, Osberg and Xu (1997) have noted that the Sen-Shorrocks-Thon measure of poverty intensity is both theoretically attractive as a measure of poverty, and also convenient, since it can be decomposed as the product of the poverty rate, the average poverty gap ratio and the inequality of poverty gap ratios.<sup>5</sup> The poverty rate is the proportion of persons who fall below the poverty line, defined here as one half the median equivalent after-tax family income. The poverty gap ratio is defined as the percentage gap

between the poverty line and the income of those below the poverty line.

The poverty rate varies greatly among the 14 countries for which LIS data are available. For the most recent year for which micro-data tapes are available for each country, it ranged from a high of 18.0 per cent in the United States to a low of 5.0 per cent in Belgium. There was much less variation across countries in the average poverty gap ratio. For the most recent year for which micro-data tapes are available for each country, it ranged from a high of 38.9 per cent in Denmark to a low of 22.4 per cent in Belgium. The overall index of equality is a weighted average of the indices of poverty intensity for all units or households and the Gini coefficient, with the weights 0.75 and 0.25 respectively.

### *Insecurity*

If individuals knew their own economic futures with certainty, their welfare would depend only on their actual incomes over their lifetimes, since there would be no reason to feel anxiety about the future. However, uncertainty about the future will decrease the economic welfare of risk averse individuals. Individuals can try to avoid risk through social and private insurance, but such mechanisms do not completely eliminate economic anxieties. Given the value that individuals place on economic security, any increase in insecurity reduces economic well being.

Over fifty years ago, the United Nations' Universal Declaration of Human Rights declared:

*Everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing and medical care and necessary social services, and the right to security in the event of unemployment, sickness, disability, widowhood, old age or other loss of livelihood in circumstances beyond his control. [Article 25]<sup>6</sup>*

For this paper, we construct measures of the percentage change over time in the economic risks associated with unemployment, illness, "widowhood" (or single female parenthood) and old age. In each case, we model the risk of an economic loss associated with the event as a conditional probability, which can itself be represented as the product of a number of underlying probabilities. We weight the

prevalence of the underlying risk by the proportion of the population that it affects. The core hypothesis underlying the measure of economic insecurity proposed here is that changes in the subjective level of anxiety about a lack of economic safety are proportionate to changes in objective risk.

### *Unemployment*

The economic risk associated with unemployment can be modeled as the product of the risk of unemployment in the population and the extent to which people are protected from the income risks of unemployment. We have taken as a proxy for the risk of unemployment changes in the employment rate (employment/population ratio). Changes in this ratio reflect changes in the unemployment rate and changes in the participation rate (both cyclical and structural). The extent to which people have been protected by unemployment insurance (UI) from the financial impacts of unemployment can be modeled as the product of: (1) the percentage of the unemployed who claim regular UI benefits and (2) the percentage of average weekly wages replaced by UI.

Unfortunately, internationally comparable data on these two variables, particularly the first, have proven very difficult to obtain and are not included in this version of the paper as they were in earlier papers on Canada and the United States. Instead, an unpublished OECD series on the gross replacement rate for the unemployed has been used in the calculation of the risk of unemployment.

### *Illness*

Viewed from a longer-term perspective, the economic insecurities associated with illness in developed economies certainly dropped considerably with the introduction of universal health insurance in many countries. Since our other data series are often difficult to obtain prior to 1971, the period covered by the present study is 1971 to 1996. This period unfortunately largely omits the improvement in economic well being that universal health care represented. Nevertheless, it is still of interest to examine how the economic insecurities associated with illness have evolved over the last quarter century. We focus on the risk of large out of pocket health care costs, with the risk directly proportional to the share of private medical

care expenses in disposable income. Medical expenses as a proportion of disposable income in 1996 ranged from a high of 8.8 per cent in the United States to a low of 1.3 per cent in the United Kingdom.

#### *Single parent poverty*

When the UN Universal Declaration of Human Rights was drafted in 1948, the percentage of single parent families was relatively high in many countries, partly as a result of World War II. At that point in time, “widowhood” was the primary way in which women and children lost access to male earnings. Since then, divorce and separation have become the primary origins of single parent families. However, it remains true that many women and children are “one man away from poverty”, since the prevalence of poverty among single parent families is extremely high.

To model trends in this aspect of economic insecurity, we multiply (the probability of divorce) \* (the poverty rate among single female parent families) \* (the average poverty gap ratio among single female parent families). [The product of these last two variables is proportional to the intensity of poverty.]

The annual divorce rate ranged in 1996 (or the most recent year before 1996 for which data are available) from a high of 4.33 per cent of legally married couples in the United States to a low of 0.47 per cent in Italy. The poverty rate for single female parents in the most recent year (in brackets) for LIS micro-files ranged from a high of 44.0 per cent (1997) in the United States to a low of 2.8 per cent (1992) in Sweden. The average poverty gap ratio for single female parents in the most recent year (same year as for the poverty rate above) for LIS files ranged from a high of 41.6 per cent in Norway to a low of 18.2 per cent in Sweden.

#### *Poverty in old age*

Since income in old age is the result of a lifelong series of events and decisions, which we cannot hope to disentangle in this paper, we model the idea of “insecurity in old age” as the chance that an elderly person will be poor, and the average depth of that poverty. The poverty rate for the elderly in the most recent year (in brackets) for LIS micro-data files ranged from a high of 33.1 per cent (1994)

in Australia to a low of 2.6 per cent (1991) in the Netherlands. The average poverty gap ratio for the elderly in the most recent year for the LIS micro-data files ranged from a high of 48.7 per cent in Denmark to a low of 9.3 per cent in Norway.

#### *Overall Index of Economic Security*

The four risks discussed above have been aggregated into an index of economic security. The aggregation weights are the relative importance of the four groups in the population.

- For unemployment, the proportion of the 15–64 population in the total population.
- For illness, the proportion of the population at risk of illness, which is 100 per cent.
- For single parent poverty, the proportion of the population comprised of married women with children under 18.
- For old age poverty, the proportion of the population in immediate risk of poverty in old age, defined as the proportion of the 45–64 population in the total population.

#### *Estimates of Trends in the Overall Index of Economic Well-being*

##### *Weighting of components*

Trends in any index are determined by the choice of variables that are included in the index, the trends in those variables and the weights these variables receive. Since the four main dimensions of average consumption, intergenerational bequest, inequality/poverty and insecurity are separately identified, it is easy to conduct sensitivity analyses of the impact on perceived overall trends of different weighting of these dimensions. For discussion purposes, our “standard” weighting gives consumption flows a weight of 0.4, wealth stocks a weight of 0.1, and equality and economic security have each been given weights of 0.25.

As the sub-components of the consumption flows and wealth stocks are expressed in dollars, there is no need for explicit weighting. Their dollar values represent implicit weights. In terms of the inequality/poverty subcomponents, a somewhat Rawlsian perspective would assign greater importance to poverty than to overall inequality trends. On this basis,<sup>7</sup> and a weight of 0.1877

or ( $= 0.25 * 0.75$ ) has therefore been given poverty intensity and 0.0625 ( $= 0.25 * 0.25$ ) to the Gini coefficient. In other words, poverty is given three times the weight of inequality. The subcomponents of the economic security index are weighted by the relative importance of the specific population at risk in the total population.

Table I shows the indexes for all four components of the index of economic well being and the overall index. To put all the subcomponents to a common base of 1, the constant 2 has been added to the index of inequality to convert it to an index where an increase corresponds to a rise in economic well being.

#### *Trends in the overall index of economic well-being*

We are acutely conscious that the data sources available to us are far from what we would like. We know that restricting ourselves to internationally comparable data series has meant that we have neglected issues (such as the decline in UI coverage in Canada) which are important for some countries. We also know the reliance on interpolation between the data points available in the Luxembourg Income Study implies, necessarily, that we cannot detect year to year fluctuations in some components of our index. However, we hope that enough data remains to give a preliminary indication of trends in economic well being, from a broader perspective than that provided by GDP accounting.

Since we want to examine the sensitivity of a measure of economic well being to alternative possible weightings of accumulation, income distribution and insecurity, Figures 1 to 8 present both our “standard” and an “alternative” weighting. The “alternative” is much more heavily weighted to average consumption (0.7), has the same weighting on accumulation (0.1) and less heavily emphasizes income distribution (0.1) and insecurity (0.1). For each country, we compare trends in the “standard” and “alternative” indices with trends in GDP per capita.

For all countries, consideration of bequest, inequality/poverty and insecurity reduces the measured rate of growth of economic well being, compared to use of the GDP per capita index. Generally, the more heavily current average consumption is emphasized, the closer our index comes to GDP per capita. However, in every instance the consideration of a wider range of issues than those recognized in

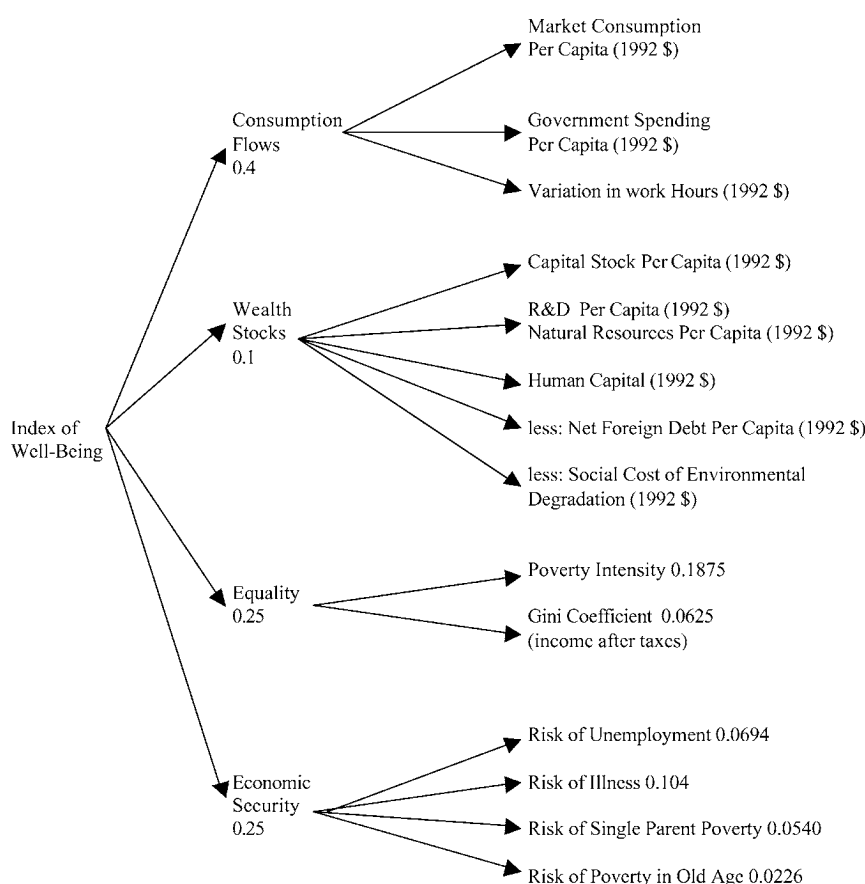


Figure 1. Weighting tree.

GDP accounting reduces the measured increase in economic well being.

In some countries, the change in perception of trends in well being that a broader measure produces is striking. In the United States, GDP per capita increased by approximately 30% over the 1980 to 1997 period, but our “standard” index is essentially flat, with a total increase of 3% over the period. In the UK, increases in per capita GDP were even larger (39.8%), but our “standard” weighting (which has a heavy emphasis on economic inequality and insecurity) shows a decline of about 10%. Both the US and UK have been marked by a substantial increase in economic inequality over this

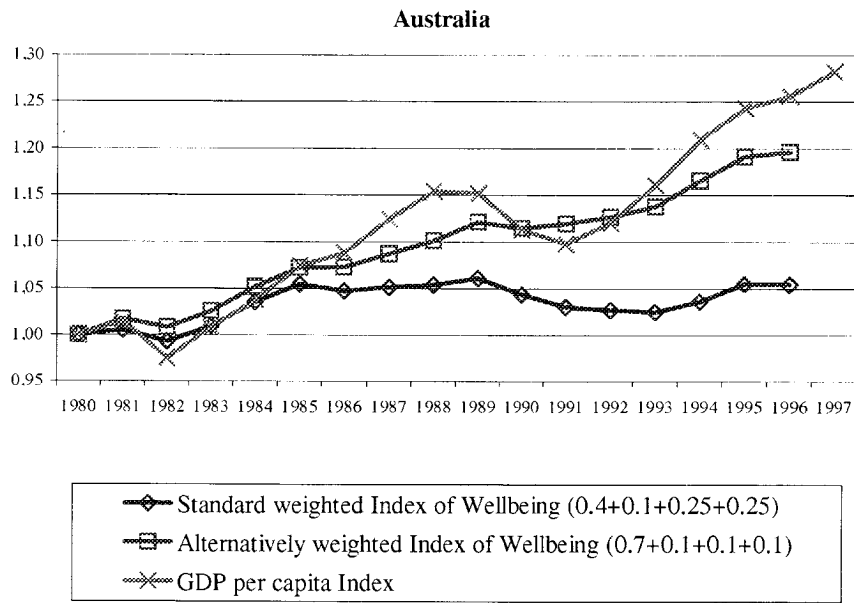


Figure 2.

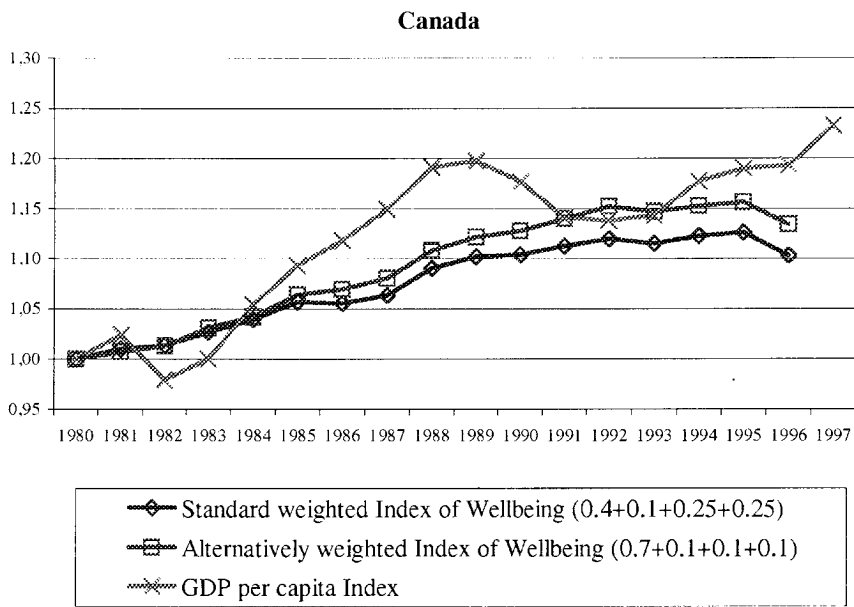


Figure 3.

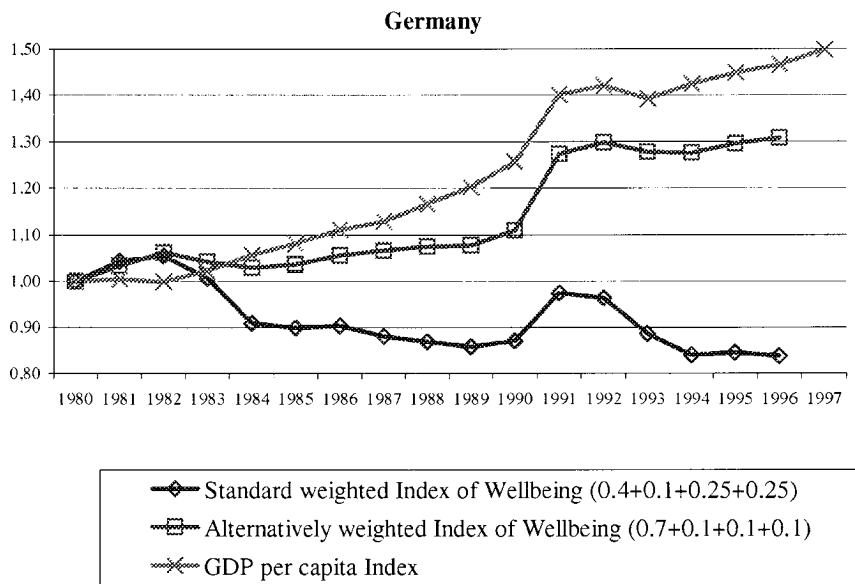


Figure 4.

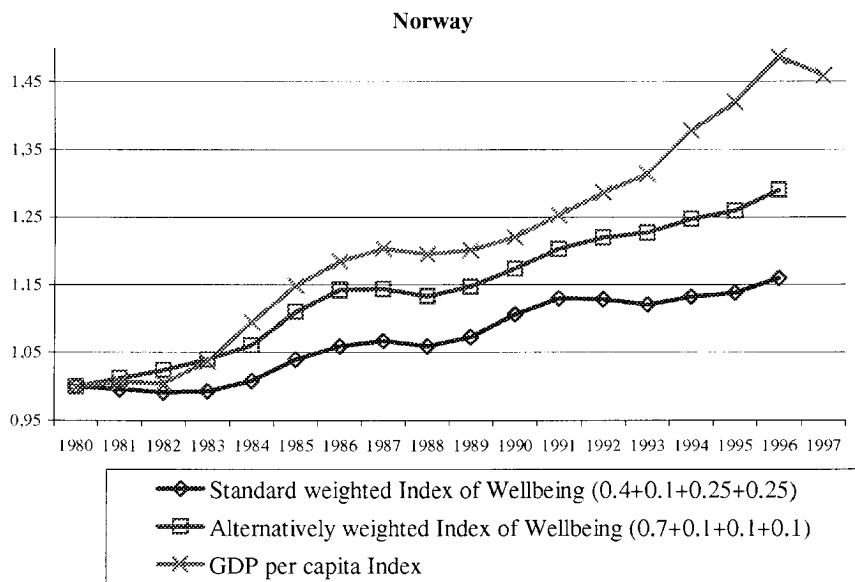


Figure 5.

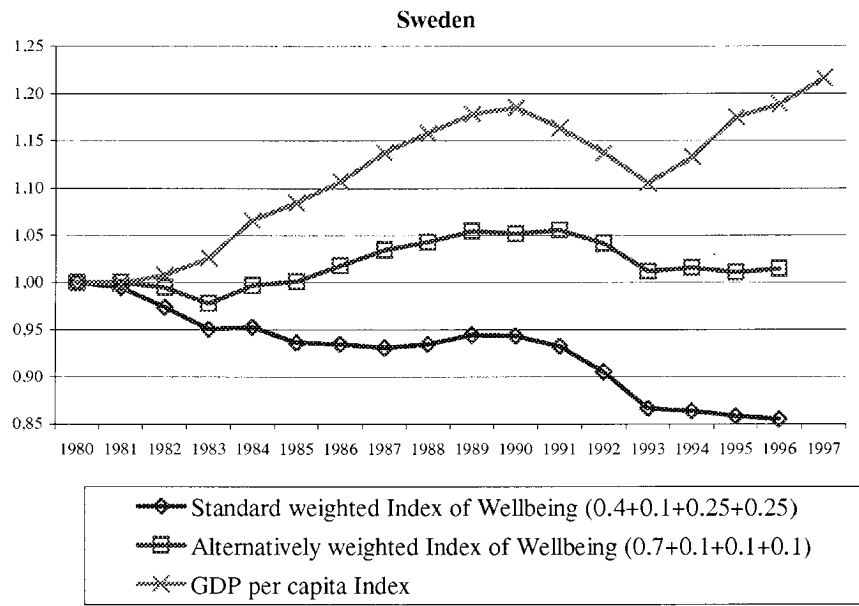


Figure 6.

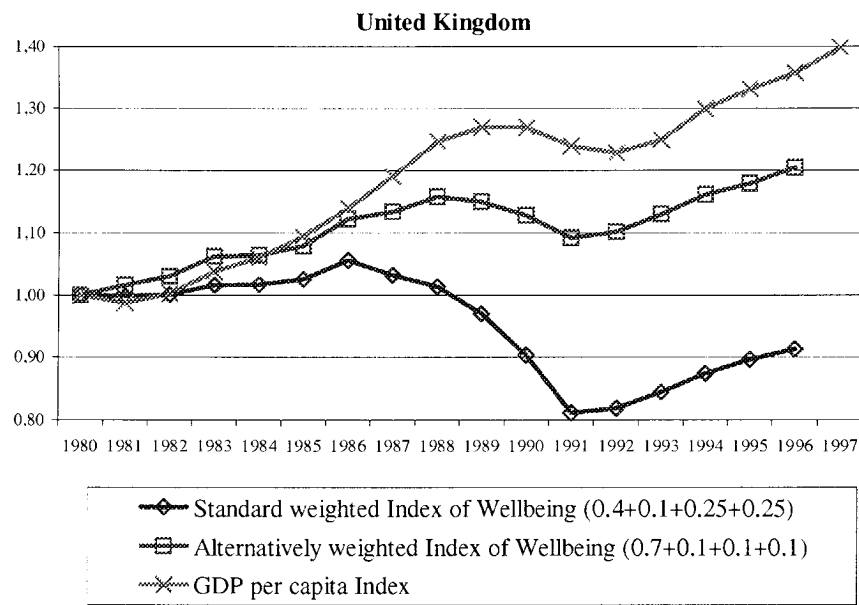


Figure 7.

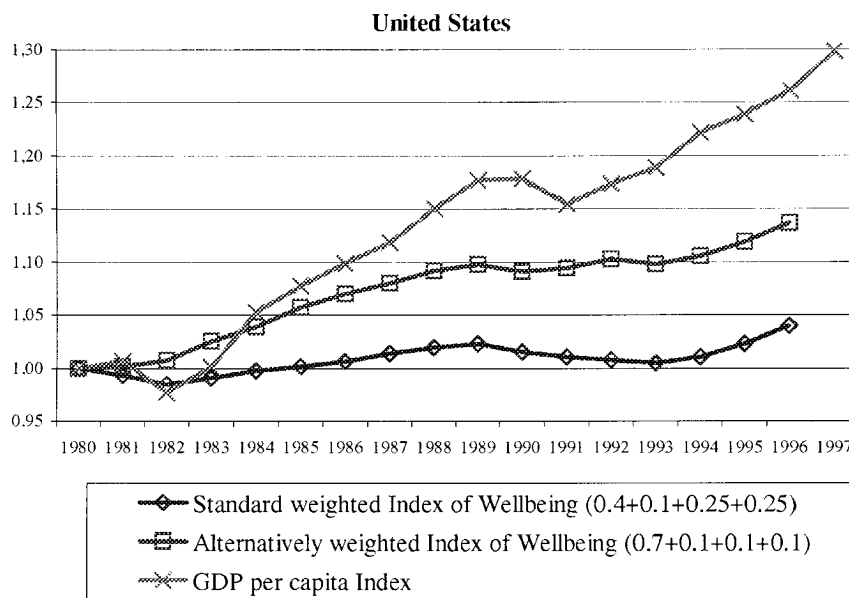


Figure 8.

period and increases in money income have been limited to the top end of the income distribution. As well, increases in money income in the US have been obtained at the cost of substantial increases in working hours. Hence, this is not an unreasonable finding.

For the UK and Sweden, GDP per capita rose, while our “standard” index of economic well being declined. In both cases, however, this qualitative result is quite sensitive to the relative weighting of current consumption compared to distribution and insecurity – the “alternative” index does not actually decline<sup>8</sup> (although it is almost flat in Swedish data).

Norway is a country where trends in economic well being are, more or less, scaled down versions of the trend in GDP per capita. In this case, our current estimates of trends in the Index of Economic Well Being could be said to provide relatively little “value added”, compared to trends in GDP per capita, since each index moves in much the same way over time (albeit showing much stronger growth in GDP per capita than in economic well being).

However, Australia and Canada – whose economies share a relative dependence on raw materials production – are noteworthy

in showing a greater cyclical sensitivity in GDP per capita than one finds in either measure of economic well being, or in GDP per capita in other countries. In Canada and Australia, the recessions of both the early 1980s and early 1990s show up clearly in per capita GDP fluctuations – to a much greater degree than Germany or Norway (the early 1980s recession is hard to find in UK or Swedish GDP per capita data). However, in both countries the trend in economic well being indices is much smoother, because changes in current income can be much more rapid than changes in wealth stocks, income distribution and insecurity. Canadian trends in economic well being are also quite similar for “standard” and “alternative” weightings of the index.<sup>9</sup>

#### *Level comparisons of economic well-being*

Comparisons of the level of well being across countries are inherently much more problematic than comparisons of the trends in various components of economic well being within countries. In across country comparisons, the institutional context of economic data differs to a far greater extent than in within country, over time comparisons. Calculations of purchasing power parity equivalence across several countries have greater uncertainty than comparisons of within country consumer price levels. Statistical agencies in different countries differ in their data availability and data gathering practices to a greater degree than they change those practices over time in the same country. For all these reasons, this paper avoids direct commentary on comparative levels of economic well being.

#### *Conclusion*

This paper has developed an index of economic well-being based on four dimensions or components of economic well-being for selected OECD countries, with the weight given each component in brackets—consumption flows, stocks of wealth including physical capital and natural resources, income distribution, and economic security.

We argue that providing explicit weights of these components of well being is important in enabling other observers to assess whether, by their values of what is important in economic well-being, they would agree with this assessment of trends in the

modern economy. Some events – like a major recession – may have adverse impacts on all four dimensions of well being, producing lower average consumption, more inequality, more insecurity and less accumulation of capital for the benefit of future generations. In such a case, values as to the relative weights to be assigned to the components of well being are of secondary concern. However, in other instances (such as environmental policy concerning global warming) the relative weights assigned to different dimensions of well being may be crucial. A major reason for being explicit about the weights to be assigned to dimensions of well being is to be clear about when there is, and when there is not, a conflict of fundamental values in the assessment of social trends.

In general, however, a key finding of this paper is that economic well-being, for at least two different sets of relative weights, has increased at a much slower rate over the last 25 years than real GDP per capita, a widely-used indicator of economic well-being.

#### NOTES

<sup>1</sup> Estimates of the index of economic well-being for Canada and the United States in this paper differ somewhat from our earlier estimates because the emphasis on international comparability of estimates has meant that some data originally used to construct the index for Canada and the United States, and not available for other countries, has not been used. Examples include estimates of the underground economy, commuting, human capital, and natural resources. These omissions can affect perceived trends. In a sense, the index of economic well being presented in this paper is less sophisticated than our earlier estimates – an unfortunate tradeoff needed if more countries were to be included.

<sup>2</sup> Unpaid work contributes to economic welfare and thus should also in principle be included in the total consumption flow component of an index of economic well being. Because of the unavailability of internationally comparable estimates of the value of unpaid work for countries other than Canada, this component has not been incorporated into the index of economic well being for OECD countries developed in this paper.

<sup>3</sup> In the valuation of human capital across countries, a choice must be made whether to use the local cost per student of education at the various levels (and then convert to U.S. dollars using purchasing power parities) or whether to apply the cost of education in the United States to all countries. If skills derived from educational attainment, like natural resources, are a marketable commodity because of international migration, foreign investment, and international trade,

then one can argue they should be subject to the law of one price and that their value is the cost of production in the country receiving the largest migratory inflow, that is the United States. This is the approach adopted in this paper.

<sup>4</sup> Fankhauser (1995) has estimated that the globalized social costs of CO<sub>2</sub> emissions (with no adjustment for different national costs) at \$20 US per ton in 1990. World Bank researchers (Atkinson et al, 1997) have applied this number to CO<sub>2</sub> emissions in developed countries to estimate the value of the loss of environmental services as a proportion of output and the measure of genuine saving. According to data from the International Energy Agency, world CO<sub>2</sub> emissions in 1997 were 22,636 millions of metric tons. Based on the \$20.00 U.S. per ton cost of CO<sub>2</sub> emissions, the world social costs of CO<sub>2</sub> emissions was \$452,720 million. This amount was allocated on the basis on a country's share of nominal world GDP, expressed in U.S. dollars. It was then converted into national currency at the purchasing power parity exchange rate and divided by population. As these costs represent a loss in the value of the services provided by the environment, they can be considered a deduction from the total stock of wealth of the society. For example, in 1997, per capita stocks of wealth in Canada were reduced by \$415 Canadian per cent because of the social costs imposed by CO<sub>2</sub> emissions according to this methodology.

<sup>5</sup> Furthermore, since the inequality of poverty gap ratios is essentially constant, poverty intensity can be approximated as twice the product of the poverty rate and the average poverty gap ratio.

<sup>6</sup> In the 1990s, the gender specificity of the language of 1948 will strike many people as odd – but Article 2 makes it clear that all Articles of the Universal Declaration of Human Rights are to be guaranteed to male and female persons equally.

<sup>7</sup> A pure Rawlsian would put all the weight on the well-being of the least well off.

<sup>8</sup> As well, we would caution that because we have not been able to get, for this paper, estimates of the income replacement provided under unemployment insurance in these countries, we may be over estimating the importance for economic insecurity of the rise in unemployment in these countries.

<sup>9</sup> But this paper does not capture the rise in economic insecurity produced by declining UI coverage.

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Andrew Sharpe

TABLE I

Overall Economic Well-being Index (Normal Subcomponents Weighting)

Year	Consumption flows 0.4 (A)	Wealth stocks 0.1 (B)	Inequality measures 0.25 (+2) (C)	Economic security (D) (0.25)	Well-being index
<b>Australia</b>					
1960	0,5596	0,1997	1,0000	1,1912	0,7517
1961	0,5797	0,1775	1,0000	1,1792	0,7539
1962	0,5965	0,1636	1,0000	1,1984	0,7718
1963	0,6144	0,1321	1,0000	1,2063	0,7841
1964	0,6282	0,0977	1,0000	1,2140	0,7950
1965	0,6453	0,0727	1,0000	1,2006	0,8010
1966	0,6672	0,0421	1,0000	1,1991	0,8124
1967	0,7005	0,0192	1,0000	1,1862	0,8248
1968	0,7150	0,0512	1,0000	1,2009	0,8414
1969	0,7413	0,1319	1,0000	1,2018	0,8602
1970	0,7538	0,2050	1,0000	1,1869	0,8688
1971	0,7781	0,3346	1,0000	1,1619	0,8852
1972	0,8067	0,4438	1,0000	1,1429	0,9030
1973	0,8412	0,6240	1,0000	1,1636	0,9398
1974	0,8621	0,7114	1,0000	1,1269	0,9477
1975	0,8950	0,7637	1,0000	1,0663	0,9509
1976	0,9107	0,8108	1,0000	0,8365	0,9045
1977	0,9259	0,8361	1,0000	0,9453	0,9403
1978	0,9516	0,4225	1,0000	0,9644	0,9140
1979	0,9689	0,9414	1,0000	0,9939	0,9802
1980	1,0000	1,0000	1,0000	1,0000	1,0000
1981	1,0222	1,0521	1,0000	0,9339	1,0050
1982	1,0131	1,0620	1,0226	0,9032	0,9929
1983	1,0318	1,0739	1,0450	0,9105	1,0090
1984	1,0572	1,1076	1,0671	0,9403	1,0355
1985	1,0820	1,1022	1,0890	0,9574	1,0546
1986	1,0854	1,1290	1,0578	0,9427	1,0472
1987	1,1075	1,1395	1,0264	0,9494	1,0509
1988	1,1300	1,1488	0,9949	0,9539	1,0541

TABLE I  
Continued

Year	Consumption flows 0.4	Wealth stocks 0.1	Inequality measures 0.25	Economic security 0.25	Well-being index
1989	1,1595	1,1763	0,9632	0,9543	1,0608
1990	1,1607	1,1735	0,9397	0,9075	1,0435
1991	1,1793	1,1718	0,9162	0,8486	1,0301
1992	1,1939	1,1801	0,8928	0,8320	1,0268
1993	1,2211	1,1451	0,8693	0,8175	1,0247
1994	1,2622	1,1522	0,8458	0,8174	1,0359
1995	1,2949	1,1661	0,8458	0,8356	1,0549
1996	1,3084	1,1270	0,8458	0,8280	1,0545
<b>Canada</b>					
1960	0,5271	0,3831	0,6669	0,5549	0,5546
1961	0,5446	0,3887	0,6669	0,8423	0,6340
1962	0,5610	0,3637	0,6669	0,8525	0,6406
1963	0,5768	0,3660	0,6669	0,8432	0,6449
1964	0,5917	0,3741	0,6669	0,8574	0,6552
1965	0,6151	0,3849	0,6669	0,8654	0,6676
1966	0,6421	0,3998	0,6669	0,8793	0,6834
1967	0,6642	0,4108	0,6669	0,8727	0,6917
1968	0,6909	0,7616	0,6669	0,8787	0,7389
1969	0,7130	0,7880	0,6669	0,9031	0,7565
1970	0,7350	0,8199	0,6669	0,9738	0,7862
1971	0,7506	0,8236	0,6669	1,0152	0,8031
1972	0,7871	0,8531	0,7032	1,0175	0,8303
1973	0,8330	0,8918	0,7380	1,0288	0,8641
1974	0,8697	0,9450	0,7715	1,0274	0,8921
1975	0,9039	0,9519	0,8035	0,9963	0,9067
1976	0,9366	0,9544	0,8438	1,0057	0,9325
1977	0,9582	0,9744	0,8836	0,9860	0,9481
1978	0,9757	0,9249	0,9230	0,9885	0,9596
1979	0,9873	0,9165	0,9617	1,0105	0,9796
1980	1,0000	1,0000	1,0000	1,0000	1,0000

TABLE I

Continued

Year	Consumption flows 0.4	Wealth stocks 0.1	Inequality measures 0.25	Economic security 0.25	Well-being index
1981	1,0066	0,9901	1,0377	0,9973	1,0104
1982	1,0000	1,0801	1,0490	0,9666	1,0139
1983	1,0260	1,1071	1,0601	0,9629	1,0269
1984	1,0360	1,1132	1,0713	0,9840	1,0395
1985	1,0673	1,0846	1,0824	1,0041	1,0570
1986	1,0816	1,0520	1,0935	0,9771	1,0555
1987	1,0960	1,0552	1,1046	0,9737	1,0635
1988	1,1198	1,1198	1,1143	1,0094	1,0908
1989	1,1316	1,1606	1,1242	1,0092	1,1020
1990	1,1401	1,1742	1,1342	0,9885	1,1041
1991	1,1521	1,2059	1,1443	0,9808	1,1127
1992	1,1703	1,1991	1,1483	0,9780	1,1196
1993	1,1704	1,1490	1,1524	0,9767	1,1153
1994	1,1742	1,1557	1,1564	0,9934	1,1227
1995	1,1766	1,1757	1,1564	0,9953	1,1261
1996	1,1800	1,2063	1,1564	0,9960	1,1032
<b>Germany</b>					
1960	0,4338	0,6754	0,2655	0,7168	0,4866
1961	0,4553	0,6819	0,2655	0,7280	0,4987
1962	0,4766	0,6838	0,2655	0,7086	0,5025
1963	0,4967	0,6848	0,2655	0,7528	0,5217
1964	0,5214	0,6859	0,2655	0,7432	0,5293
1965	0,5489	0,6830	0,2655	0,7388	0,5389
1966	0,5618	0,6803	0,2655	0,7190	0,5389
1967	0,5730	0,6815	0,2655	0,7245	0,5448
1968	0,5887	0,7076	0,2655	0,7328	0,5558
1969	0,6234	0,7284	0,2655	0,7382	0,5731
1970	0,6616	0,7512	0,2655	0,7505	0,5938
1971	0,6936	0,7711	0,2655	0,7653	0,6117
1972	0,7230	0,7984	0,2655	0,7229	0,6162

TABLE I  
Continued

Year	Consumption flows 0.4	Wealth stocks 0.1	Inequality measures 0.25	Economic security 0.25	Well-being index
1973	0,7477	0,8251	0,2655	0,7115	0,6258
1974	0,7618	0,8563	0,4103	0,6551	0,6567
1975	0,7896	0,8829	0,5490	0,5919	0,6894
1976	0,8227	0,9081	0,6816	0,6052	0,7416
1977	0,8600	0,9303	0,8079	0,8148	0,8427
1978	0,8930	0,9523	0,9281	0,7531	0,8728
1979	0,9401	0,9753	0,9625	0,9503	0,9518
1980	1,0000	1,0000	1,0000	1,0000	1,0000
1981	1,0273	1,0271	1,0407	1,0735	1,0422
1982	1,0337	1,3700	1,1312	0,8859	1,0548
1983	1,0644	1,0763	1,2216	0,6693	1,0061
1984	1,1092	1,1068	1,1342	0,2810	0,9082
1985	1,1275	1,1349	1,0851	0,2504	0,8983
1986	1,1573	1,1615	1,0356	0,2596	0,9029
1987	1,1895	1,1954	0,9859	0,1531	0,8801
1988	1,2121	1,2188	0,9360	0,1135	0,8691
1989	1,2188	1,2517	0,8858	0,0972	0,8584
1990	1,2680	1,2714	0,8662	0,0792	0,8707
1991	1,4937	1,2834	0,8460	0,1458	0,9738
1992	1,5469	1,2882	0,8253	0,0369	0,9631
1993	1,5666	1,2957	0,8040	0,2858	0,8857
1994	1,5957	1,3003	0,7821	0,4984	0,8392
1995	1,6292	1,3012	0,7821	0,5299	0,8448
1996	1,6564	1,2978	0,7821	0,6011	0,8376
<b>Norway</b>					
1960	0,4780	0,1304	1,0340	1,1440	0,7487
1961	0,4967	0,1508	1,0340	1,1339	0,7557
1962	0,5152	0,1765	1,0340	1,1472	0,7690
1963	0,5314	0,1936	1,0340	1,1319	0,7734
1964	0,5527	0,2160	1,0340	1,1288	0,7834

TABLE I

Continued

Year	Consumption flows 0.4	Wealth stocks 0.1	Inequality measures 0.25	Economic security 0.25	Well-being index
1965	0,5706	0,2371	1,0340	1,1367	0,7946
1966	Q,5873	0,2533	1,0340	1,1238	0,7997
1967	0,6126	0,2640	1,0340	1,1244	0,8110
1968	0,6292	0,3055	1,0340	1,1132	0,8190
1969	0,6659	0,3395	1,0340	1,0979	0,8333
1970	0,6734	0,4064	1,0340	1,1074	0,8454
1971	0,7034	0,4633	1,0340	1,0915	0,8590
1972	0,7221	0,5236	1,0340	1,0404	0,8598
1973	0,7430	0,6092	1,0340	1,0155	0,8705
1974	0,7700	0,6709	1,0340	1,0076	0,8855
1975	0,8079	0,7382	1,0340	0,9793	0,9003
1976	0,8573	0,7895	1,0340	0,9886	0,9275
1977	0,9117	0,8521	1,0340	0,9679	0,9504
1978	0,9094	0,8978	1,0340	0,9659	0,9535
1979	0,9364	0,9464	1,0340	0,9759	0,9717
1980	1,0000	1,0000	1,0000	1,0000	1,0000
1981	1,0210	1,0346	0,9755	0,9601	0,9958
1982	1,0433	1,0666	0,9605	0,9088	0,9913
1983	1,0669	1,1019	0,9549	0,8682	0,9927
1984	1,0909	1,1383	0,9588	0,8710	1,0076
1985	1,1543	1,1751	0,9722	0,8686	1,0394
1986	1,1935	1,2345	0,9951	0,8383	1,0592
1987	1,1835	1,2893	0,9983	0,8611	1,0672
1988	1,1660	1,3246	1,0031	0,8363	1,0587
1989	1,1804	1,3430	1,0093	0,8558	1,0727
1990	1,2007	1,3866	1,0171	0,9320	1,1062
1991	1,2349	1,4131	1,0264	0,9518	1,1298
1992	1,2638	1,4362	0,9824	0,9343	1,1283
1993	1,2834	1,4367	0,9374	0,9152	1,1202
1994	1,3106	1,4508	0,8913	0,9583	1,1317

TABLE I  
Continued

Year	Consumption flows 0.4	Wealth stocks 0.1	Inequality measures 0.25	Economic security 0.25	Well-being index
1995	1,3288	1,4494	0,8441	0,9995	1,1374
1996	1,3689	1,4433	0,8441	1,0262	1,1595
<b>Sweden</b>					
1960	0,5683	0,8766	0,7352	0,9231	0,7295
1961	0,5958	0,8871	0,7352	0,9519	0,7488
1962	0,6195	0,8930	0,7352	0,9707	0,7636
1963	0,6454	0,8952	0,7352	0,9947	0,7802
1964	0,6695	0,8993	0,7352	1,0007	0,7917
1965	0,6930	0,9046	0,7352	0,9809	0,7967
1966	0,7089	0,9101	0,7352	0,9720	0,8014
1967	0,7244	0,9132	0,7352	0,9466	0,8016
1968	0,7542	0,9127	0,7352	0,9127	0,8049
1969	0,7847	0,9126	0,7352	0,9180	0,8184
1970	0,8198	0,9136	0,7352	0,9441	0,8391
1971	0,8203	0,9207	0,7352	0,9490	0,8412
1972	0,8438	0,9392	0,7352	0,9366	0,8494
1973	0,8655	0,9576	0,7352	0,9235	0,8566
1974	0,8921	0,9634	0,7352	1,0414	0,8973
1975	0,9187	0,9802	0,7352	1,0451	0,9106
1976	0,9490	0,9822	0,7882	1,0219	0,9304
1977	0,9491	0,9847	0,8411	1,0158	0,9423
1978	0,9498	0,9880	0,8941	1,0000	0,9522
1979	0,9762	0,9946	0,9470	0,9916	0,9746
1980	1,0000	1,0000	1,0000	1,0000	1,0000
1981	1,0015	1,0204	1,0530	0,9150	0,9946
1982	1,0065	1,0325	0,9575	0,9136	0,9736
1983	0,9901	1,0426	0,8616	0,9398	0,9506
1984	1,0215	1,0670	0,7652	0,9846	0,9527
1985	1,0395	1,0841	0,6684	0,9818	0,9367

TABLE I

Continued

Year	Consumption flows 0.4	Wealth stocks 0.1	Inequality measures 0.25	Economic security 0.25	Well-being index
1986	1,0686	1,1126	0,5710	1,0143	0,9350
1987	1,0976	1,1475	0,4731	1,0361	0,9311
1988	1,1086	1,1692	0,4790	1,0189	0,9348
1989	1,1202	1,1902	0,4848	1,0249	0,9445
1990	1,1146	1,1988	0,4907	1,0212	0,9437
1991	1,1279	1,2178	0,4965	0,9432	0,9329
1992	1,1189	1,2484	0,5024	0,8304	0,9056
1993	1,1016	1,1731	0,5024	0,7318	0,8665
1994	1,1136	1,1409	0,5024	0,7146	0,8638
1995	1,1068	1,1576	0,5024	0,6977	0,8585
1996	1,1169	1,1564	0,5024	0,6685	0,8551
<b>United Kingdom</b>					
1960	0,7520	0,7900	1,1642	0,8516	0,8837
1961	0,7636	0,7898	1,1642	0,8320	0,8835
1962	0,7797	0,7807	1,1642	0,8845	0,9021
1963	0,7977	0,7757	1,1642	0,8858	0,9092
1964	0,8151	0,7678	1,1642	0,8823	0,9145
1965	0,8259	0,7589	1,1642	0,9522	0,9353
1966	0,8394	0,7516	1,1642	0,9676	0,9439
1967	0,8629	0,7454	1,1642	0,9571	0,9500
1968	0,8788	0,7863	1,1642	0,9446	0,9573
1969	0,8760	0,8081	1,1642	0,9276	0,9542
1970	0,8823	0,8286	1,1123	0,9390	0,9486
1971	0,8897	1,1668	1,0594	0,9130	0,9656
1972	0,9225	0,8611	1,0056	0,7782	0,9011
1973	0,9524	0,8848	0,9509	0,8185	0,9118
1974	0,9309	0,9051	0,8952	0,7818	0,8821
1975	0,9410	0,9182	0,9182	0,8507	0,9104
1976	0,9459	0,9464	0,9423	0,9005	0,9337

TABLE I

Continued

Year	Consumption flows 0.4	Wealth stocks 0.1	Inequality measures 0.25	Economic security 0.25	Well-being index
1977	0,9373	0,9626	0,9673	0,9482	0,9500
1978	0,9768	0,9759	0,9933	0,9891	0,9839
1979	1,0090	0,9901	1,0203	1,0367	1,0169
1980	1,0000	1,0000	1,0000	1,0000	1,0000
1981	1,0271	1,0249	0,9853	0,9552	0,9984
1982	1,0507	1,0463	0,9761	0,9276	1,0008
1983	1,0964	1,0721	0,9726	0,9059	1,0154
1984	1,0940	1,1014	0,9747	0,9023	1,0170
1985	1,1137	1,1253	0,9824	0,8873	1,0254
1986	1,1666	1,1603	0,9956	0,8985	1,0562
1987	1,2073	1,1516	0,8581	0,8777	1,0320
1988	1,2621	1,1752	0,6964	0,8680	1,0135
1989	1,2773	1,2039	0,5062	0,8499	0,9703
1990	1,2869	1,1937	0,2825	0,7942	0,9033
1991	1,2858	1,2169	0,0190	0,6832	0,8116
1992	1,2962	1,2430	0,0572	0,6461	0,8186
1993	1,3246	1,2750	0,0944	0,6540	0,8444
1994	1,3602	1,2865	0,1308	0,6738	0,8739
1995	1,3741	1,3054	0,1662	0,6967	0,8959
1996	1,4062	1,3255	0,1662	0,7074	0,9135
<b>United States</b>					
1960	0,7306	0,8653	0,9906	1,2081	0,9284
1961	0,6878	0,8627	0,9906	1,1989	0,9088
1962	0,7049	0,8509	0,9906	1,1986	0,9143
1963	0,7182	0,8403	0,9906	1,1918	0,9169
1964	0,7455	0,8293	0,9906	1,1855	0,9251
1965	0,7741	0,8180	0,9906	1,1867	0,9357
1966	0,8162	0,8067	0,9906	1,1831	0,9506
1967	0,8442	0,7965	0,9906	1,1511	0,9528

TABLE I  
Continued

Year	Consumption flows 0.4	Wealth stocks 0.1	Inequality measures 0.25	Economic security 0.25	Well-being index
1968	0,8703	0,8138	0,9906	1,1407	0,9623
1969	0,8877	0,8315	0,9906	1,1303	0,9685
1970	0,8883	0,8435	0,9906	1,1052	0,9636
1971	0,8895	0,8569	0,9906	1,0958	0,9631
1972	0,9162	0,8774	0,9906	1,0740	0,9704
1973	0,9337	0,8988	0,9906	1,0644	0,9771
1974	0,9272	0,9126	0,9906	1,0352	0,9686
1975	0,9343	0,9180	0,9952	1,0085	0,9665
1976	0,9612	0,9290	0,9999	1,0067	0,9790
1977	0,9800	0,9456	1,0045	1,0155	0,9916
1978	0,9988	0,9665	1,0092	1,0332	1,0068
1979	1,0086	0,9873	1,0138	1,0357	1,0146
1980	1,0000	1,0000	1,0000	1,0000	1,0000
1981	1,0068	1,0117	0,9861	0,9707	0,9931
1982	1,0230	1,0173	0,9721	0,9235	0,9848
1983	1,0503	1,0324	0,9581	0,9110	0,9906
1984	1,0694	1,0415	0,9440	0,9178	0,9974
1985	1,0983	1,0618	0,9298	0,8957	1,0019
1986	1,1157	1,0846	0,9155	0,8916	1,0065
1987	1,1270	1,0998	0,9216	0,8912	1,0140
1988	1,1427	1,1152	0,9277	0,8771	1,0198
1989	1,1500	1,1270	0,9338	0,8686	1,0233
1990	1,1429	1,1293	0,9399	0,8418	1,0155
1991	1,1527	1,1264	0,9459	0,8021	1,0107
1992	1,1715	1,1172	0,9336	0,7775	1,0081
1993	1,1619	1,1426	0,9212	0,7830	1,0051
1994	1,1706	1,1564	0,9088	0,7980	1,0106
1995	1,1865	1,1533	0,9247	0,8091	1,0234
1996	1,2052	1,1640	0,9405	0,8247	1,0398