

September 2011



151 Slater Street, Suite 710
Ottawa, Ontario K1P 5H3
613-233-8891, Fax 613-233-8250
csls@csls.ca

CENTRE FOR THE
STUDY OF LIVING
STANDARDS

MOVING FROM A GDP-BASED TO A WELL-BEING
BASED METRIC OF ECONOMIC PERFORMANCE AND
SOCIAL PROGRESS: RESULTS FROM THE INDEX OF
ECONOMIC WELL-BEING FOR OECD COUNTRIES,
1980-2009

Lars Osberg and Andrew Sharpe
CSLS Research Report 2011-12
September 2011

Moving from a GDP-based to a Well-being Based Metric of Economic Performance and Social Progress: Results from the Index of Economic Well-being for OECD Countries, 1980-2009

Abstract

This report presents new estimates of the Index of Economic Well-being (IEWB) and its four domains (consumption flows, stocks of wealth, economic equality, and economic security) for 14 OECD countries for the 1980-2009 period. It finds that in 2009 Norway had the highest level of economic well-being and Spain the lowest. Canada ranked ninth among the fourteen countries. Over the 1980-2009 period Denmark enjoyed the most rapid increase in economic well-being, and the Netherlands the slowest. In all 14 countries rate of advance of the IEWB was less than that of GDP per capita. Economic well-being, therefore, has not advanced as rapidly as GDP per capita.

Moving from a GDP-based to a Well-being Based Metric of Economic Performance and Social Progress: Results from the Index of Economic Well-being for OECD Countries, 1980-2009

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Moving from a GDP-based to a Well-being Based Metric of Economic Performance and Social Progress: Results from the Index of Economic Well-being for OECD Countries, 1980-2009

Executive Summary

In 1998, the Centre for the Study of Living Standards (CSLS) released the first estimates of the Index of Economic Well-being for Canada (Osberg and Sharpe, 1998). The Index of Economic Well-being (IEWB) is a composite index based on a conceptual framework for measuring economic well-being developed by Osberg (1985). Over the past decade, the CSLS has extended the geographical coverage of the Index to the Canadian provinces and to major OECD countries and has made a number of changes to the methodology used to construct the Index.

This report has two main objectives. The first is to outline the methodology underlying the IEWB, with emphasis on improvements since 1998. The second is to present updated estimates of the IEWB for selected OECD countries over the 1980-2009 period. The report also discusses trends in the four domains of economic well-being that make up the Index – current consumption, wealth, economic equality, and economic security – as well as an analysis of the sensitivity of our results to the subjective choice of weights assigned to those four domains.

The Index of Economic Well-being: Motivation and Conceptual Framework

The conceptual framework underlying the Index of Economic Well-being is based on two main ideas. First, economic well-being has multiple dimensions and an index should reflect that fact by aggregating measures of the various domains of economic well-being. Second, an index of economic well-being should facilitate public policy discussion by aggregating across the domains of economic well-being in a way that respects the diversity of individual values. Individuals differ (and have a moral right to differ) in the relative weights they assign to different dimensions of economic welfare, and an index should be useful to all individuals irrespective of those value differences.

The most frequently cited indicator of economic well-being is per-capita GDP. GDP measurement is essential for many important public policy purposes such as macroeconomic demand management and public finance. However, GDP accounting omits consideration of many issues – leisure time, longevity of life, depletion or accumulation of asset stocks, income inequality, economic security, etc. – that are

important to individuals' economic welfare. Implicitly, per-capita GDP assigns zero weight to these dimensions of well-being. It assumes that these issues do not matter.

In accordance with the conceptual framework developed by Osberg (1985), the IEWB is a composite index comprised of four domains of economic welfare:

- **Per-capita consumption**
- **Per-capita wealth**
- **Economic equality**
- **Economic security.**

These four domains reflect economic well-being in both the *present* and the *future*, and account for both *average* access to economic resources and the *distribution* of that access among members of society. In basing the IEWB on data that reflect each of these domains, we are constructing an index that captures the multiplicity of dimensions of economic well-being.

We recognize that there are many non-economic aspects of human welfare. In focusing on *economic* well-being, we do not mean to downgrade their importance. Instead, we are motivated by the idea that a better measure of “access to resources needed for a decent standard of living” is needed if economic and social trends are to be combined into an index with larger ambitions.

Indices of economic and social well-being are constructed because societies have to make public policy choices and the members of a society are therefore, from time to time, faced with questions of the form: Would public policy X make ‘society’ better off? Since some policies may favour one dimension of well-being over another, to answer this class of question citizens need a way of ‘adding it all up’ – a way of coming to a summative judgment about impacts across the different, conceptually dissimilar domains of economic welfare. One of the aims of index construction is therefore to facilitate public policy discussion by providing a transparent means of aggregating across different dimensions of well-being.

‘Adding up’ across the domains of well-being necessarily requires an explicit or implicit value judgment about the relative importance of the domains. Since individuals have morally legitimate differences in their values, there can be no single, objectively correct way of aggregating across the domains of well-being. We argue that most indices of economic well-being (such as per-capita GDP) make important value judgments, but they do so implicitly rather than explicitly.

The IEWB addresses this issue by making value judgments as explicit and transparent as possible. Our hypothesis is that indices of societal well-being can best help individuals to come to reasonable answers about social choices if information is presented in a way that highlights the objective trends in major dimensions of well-being and thereby helps individuals to come to summative judgments – but also respects potential differences in values. In constructing the IEWB, individuals can select weights

for the four domains in accordance with their own values. The IEWB is therefore capable of facilitating summative judgments and of clarifying why such judgments may sometimes diverge. If disagreement about policy decisions occurs, it is useful to know whether such disagreement comes from differing empirical assessment of objective data or differing values about their relative importance.

Thus, the IEWB achieves its two major aims: to aggregate across different dimensions of economic well-being, and to allow for such aggregation even in the presence of morally legitimate value differences.

Trends in the Index of Economic Well-being, 1980-2009

This section reports our main empirical results. The study examines economic well-being in fourteen OECD countries: Australia, Belgium, Canada, Denmark, Finland, France, Germany, Italy, the Netherlands, Norway, Spain, Sweden, the United Kingdom, and the United States. The key results are:

- Among the fourteen countries covered in the study, Norway had the highest overall Index of Economic Well-being in 2009, followed by Denmark and Germany. Spain and the United States had the lowest overall IEWB values in 2009. Canada ranked ninth among the fourteen countries.
- Over the 1980-2009 period, the Index of Economic Well-being increased in all fourteen countries. Denmark experienced the largest growth of 1.45 per cent per year. The Netherlands had the least growth (0.36 per cent per year). In Canada, the Index increased 1.16 per cent per year.
- Norway ranked first and Spain ranked last in both the IEWB and per-capita GDP in 2009. However, aside from Norway and Spain, the IEWB and per-capita GDP produce completely different rankings of countries. For example, Canada was fifth in terms of GDP per capita in 2009, while it was only ninth in terms of the Index of Economic Well-being.
- IEWB growth was slower than per-capita GDP growth in all countries over the 1980-2009 period. In particular, Norway grew by 3.26 per cent per year in terms of GDP per capita, but only by 1.42 per cent per year in terms of its IEWB.
- The United States had the highest score in the index of the consumption domain in 2009, with second-place Norway well behind. Finland had the lowest score in the consumption domain. Canada ranked fifth.
- Finland did have the fastest growth in the consumption domain over the period, at 6.13 per cent per year. The slowest growth was 1.80 per cent

per year in the Netherlands. Canada ranked eleventh with annual growth of 2.68 per cent.

- Norway had the highest score in the index of the wealth domain in 2009, while Spain had the lowest. Canada ranked seventh among the fourteen countries.
- Spain and Canada enjoyed the largest per cent increases in their wealth scores over the period; Spain's score grew 4.63 per cent per year and Canada's grew 3.95 per cent per year. Sweden had the slowest growth in the wealth domain, at 2.12 per cent per year.
- On the index of the economic equality domain, Finland had the highest score among the fourteen countries in 2009. Sweden was second. The United States had by far the lowest score. Canada ranked eleventh.
- The index of the economic equality domain declined in eleven of the fourteen countries over the 1980-2009 period. The largest decline by far was in the United States, where economic security fell 2.64 per cent per year. Economic equality increased in Denmark, France, and Sweden, with Denmark's 1.07 per cent annual growth rate leading the way. Canada ranked sixth among all the countries with an annual decline of 0.35 per cent.
- Norway had the highest score in the economic security domain in 2009, followed by Denmark. The United States had by far the lowest. Canada ranked eleventh in economic security.
- Economic security declined in twelve of the fourteen countries over the 1980-2009 period. The largest decline was in the United States, where economic security fell 1.69 per cent per year. Only Denmark and Australia experienced rising economic security over the period, led by Denmark at 0.06 per cent per year.

Sensitivity of Results to Value Judgments

The overall Index is the weighted sum of the four domains, and individuals may have different opinions about the relative weighting of those domains. An important objective of the Index of Economic Well-being is to make explicit the value judgments that underlie composite indicators of well-being by making the choice of weights as transparent as possible. By testing the sensitivity of our results against changes in the weights assigned to the four domains, we can see whether or not value judgments make a significant difference in the measurement of trends in economic welfare.

Sensitivity analysis shows that our key baseline results are robust to the use of different weights for the four domains. Economic well-being increased in every country

over the 1980-2009 period under all four of the weighting schemes we use. Norway and Denmark (with one exception: Denmark ranked third, behind the Netherlands, in Alternative 2) had the highest levels of economic well-being in 2009, while Spain ranked near the bottom. This reflects the fact that Norway has high index scores in all four of the domains of economic well-being, particularly in wealth and economic security, while Spain's scores are below the OECD average in all four domains. The results for the United States are particularly sensitive to the weights on economic equality and security relative to those on consumption and wealth; the greater the relative weights on equality and security, the worse the United States performs.

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Moving from a GDP-based to a Well-being Based Metric of Economic Performance and Social Progress: Results from the Index of Economic Well-being for OECD Countries, 1980-2009¹

In 1998, the Centre for the Study of Living Standards (CSLS) released the first empirical estimates for Canada of the Index of Economic Well-being (Osberg and Sharpe, 1998), a composite index based on a conceptual framework for measuring economic well-being developed by Osberg (1985). In the past decade, the CSLS has extended the geographical coverage of the Index to the Canadian provinces and to major OECD countries and has made a number of changes to the methodology used to construct the Index. The objective of this report is to present updated estimates of the Index for Canada and the provinces for the 1981-2009 period.

The report is divided into four sections. The first part provides a discussion of the motivation for the development of the Index of Economic Well-being (IEWB) and the potential contributions of the Index to the debate on the measurement of economic well-being. It also outlines the basic framework of the measure. The second part, by far the longest, provides a detailed discussion of trends in the Index of Economic Well-being, and in the four domains and the sub-components of the domains, in fourteen OECD countries over the 1980-2009 period. The third part tests the sensitivity of our results to alternative assumptions regarding the relative weights assigned to the four domains of the Index. The fourth part concludes.²

¹ This report is an update of the previous report released by Osberg and Sharpe (2009b) and was presented at the International Statistical Institute conference in Dublin, Ireland in August 2011. Some sections are taken from or based heavily upon this previous report. The authors would like to thank the following persons for assistance in updating the extensive database upon which the estimates in this paper are based: Patrick Alexander, Jean-Francois Arsenault, Daniel Ershov, and Simon Lapointe, and Sharon Qiao. The authors would also like to thank Alexander Murray for excellent editing of the report, and Alberta Finance and Enterprise of the Government of Alberta for financial support for the updating of the IEWB database.

² The tables referred to throughout this report are located at the end of this document. We also make frequent reference to appendix tables containing the underlying data; these are available at the CSLS web site at http://www.csls.ca/iewb2009/IEWB_OECD_AppendixTables.pdf. The database is also available in Microsoft Excel format at http://www.csls.ca/iewb2009/IEWB_OECD.xls.

I. The Index of Economic Well-being: Motivation and Framework³

A frequent refrain in the social indicators literature is the (true) statement that there is more to “well-being” than economics, but it is also widely recognized that a key component of overall well-being is economic well-being or “access to economic resources.” Although there are good grounds for thinking that national income accounting measures may not necessarily be a good guide to popular perceptions of trends in economic well-being, GDP per capita is probably the single most often mentioned criterion of economic progress.

In focusing on the economic aspects of well-being in this report we do not intend to downgrade the importance of non-economic issues. Instead, we are motivated by the idea that a better measure of “access to resources needed for a decent standard of living” is needed if economic and social trends are to be combined into an index with larger ambitions.

In focusing on the economic component of societal well-being, our particular emphasis is on the sensitivity of measures of aggregate “command over resources” to the omission or inclusion of measures of income distribution and economic security.

In contrasting GDP and the IEWB as measures of command over resources, we do not intend to denigrate the importance of obtaining an accurate count of the total money value of goods and services produced for sale in the market in a given country in a given year (i.e. GDP). Clearly, GDP measurement is essential for many important public policy purposes (e.g. macroeconomic demand management, public finance). However, GDP accounting does omit consideration of many issues (for example, leisure time, longevity of life, asset stock levels) which are important to individuals’ command over resources. Although the compilers of the national accounts may protest that their attempt to measure the aggregate money value of marketed economic output was never intended as a full measure of economic well-being, it has often been used as such. The question the critics of GDP have to answer is whether alternative measures of command over resources are possible, plausible, and make some difference.

In developing an Index of Economic Well-Being for Canada based on four dimensions of economic well-being – consumption, accumulation, income distribution, and economic security – this report attempts to construct better measures of effective consumption and societal accumulation. However, an important point of difference with other indices is that we argue that “society’s well-being” is not a single, objective number (like the average altitude of a country).

It is more accurate, in our view, to think of each individual in society as making a subjective evaluation of objective data in coming to a personal conclusion about society’s

³ This section is taken from Osberg and Sharpe (2009b), which is largely based on Osberg and Sharpe (2005).

well-being. Well-being has multiple dimensions and individuals differ (and have the moral right to differ) in their subjective valuation of the relative importance of each

Exhibit 1: Conceptual Framework for the Index of Economic Well-being

Concept	Present	Future
"Typical Citizen" or "Representative Agent"	Average flow of current income	Aggregate accumulation of productive stocks
Heterogeneity of Experiences of All Citizens	Distribution of potential consumption -- income inequality and poverty	Insecurity of future incomes

dimension of well-being. But because all adults are occasionally called upon, in a democracy, to exercise choices (e.g. in voting) on issues that affect the collectivity (and some individuals, such as civil servants, make such decisions on a daily basis), citizens have reason to ask questions of the form: "Would public policy X make 'society' better off?" Presumably, self-interest plays some role in all our choices, but unless self-interest is the sole criterion, an index of society's well-being is useful in helping individuals answer such questions.

Although conceptually there may be no way to measure some of the different dimensions of well-being in directly comparable units, as a practical matter citizens are frequently called upon to choose between policies that favour one or the other. Hence, individuals often have to come to a summative decision – i.e. have a way of "adding it all up" – across domains that are conceptually dissimilar. From this perspective, the purpose of index construction should be to assist individuals – e.g. as voters in elections and as bureaucrats in policy making – in thinking systematically about public policy, without necessarily presuming that all individuals have the same values.

Our hypothesis is that indices of social well-being can best help individuals to come to reasonable answers about social choices if information is presented in a way that highlights the objective trends in major dimensions of well-being and thereby helps individuals to come to summative judgments – but also respects differences in values. Although it may not be possible to define an *objective* index of societal well-being, individuals still have the problem (indeed, the moral responsibility) of coming to a *subjective* evaluation of social states, and they need organized, objective data if they are to do it in a reasonable way.

The logic of our identification of four components of well being is that it recognizes both trends in average outcomes and in the diversity of outcomes, both now and in the future, as Exhibit 1 illustrates.

When an average flow like GDP per capita (or an alternative, such as the average personal income) is used as a summative index of well-being, the analyst implicitly is stopping in the first quadrant – assuming that the experience of a representative agent can

summarize the well-being of society and that the measured income flow optimally weights consumption and savings, so that one need not explicitly distinguish between present consumption flows and the accumulation of asset stocks which will enable future consumption flows.

However, if society is composed of diverse individuals living in an uncertain world who typically “live in the present, anticipating the future,” each individual’s estimate of societal economic well-being will depend on the proportion of national income saved for the future. GDP is a measure of the aggregate market income of a society. It does not reveal the savings rate, and there is little reason to believe that the national savings rate is automatically optimal. Indeed, if citizens have differing rates of time preference, any given savings rate will only be “optimal” from some persons’ points of view. Hence, a better estimate of the well-being of society should allow analysts to distinguish between current consumption and the accumulation of productive assets (which determines the sustainability of current levels of consumption), and thereby enable citizens to apply their differing values.

As well, individuals are justifiably concerned about the degree to which they and others will share in prosperity – there is a long tradition in economics that “social welfare” depends on both average incomes and the degree of inequality and poverty in the distribution of incomes. If the future is uncertain, and complete insurance is unobtainable (either privately or through the welfare state), individuals will also care about the degree to which the economic future is secure for themselves and others.

These four components therefore have a logical rationale and a manageable number of headings. If the objective of index construction is to assist public policy discussion, one must recognize that when too many categories have to be considered simultaneously, discussion can easily be overwhelmed by complexity. We therefore do not adopt the strategy of simply presenting a large battery of indicators. However, because reasonable people may disagree in the relative weight they would assign to each dimension – e.g. some will argue that inequality in income distribution is highly important while others will argue the opposite – we argue that it is preferable to be explicit and open about the relative weights assigned to components of well-being, rather than leaving them implicit and hidden. (An additional reason to distinguish the underlying components of economic well-being is that for policy purposes 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.) We specify *explicit* weights to the components of well being, and test the sensitivity of aggregate trends to changes in those weights, in order to enable others to assess whether, by their personal values of what is important in economic well-being, they would agree with an overall assessment of trends in the economy.

The report’s basic hypothesis – that a society's economic well-being depends on total consumption and accumulation, and on the individual inequality and insecurity that surround the distribution of macroeconomic aggregates – is consistent with a variety of theoretical perspectives. We do not present here a specific, formal model. In a series

of papers (Osberg and Sharpe, 1998, 2002a, and 2005) we have described the details of the calculation of the four components or dimensions of economic well-being:

- [1] effective per capita consumption flows – which includes consumption of marketed goods and services, government services, and adjustment of effective per capita consumption flows for household production, changing household economies of scale, leisure and life expectancy;
- [2] net societal accumulation of stocks of productive resources – which consists of net accumulation of physical capital, the value of natural resources stocks, net international investment position, accumulation of human capital, and R&D stocks, as well as an adjustment for costs associated with environmental degradation;
- [3] income distribution - the intensity of poverty (incidence and depth) and the inequality of income;
- [4] economic security from job loss and unemployment, illness, family breakup, and poverty in old age.

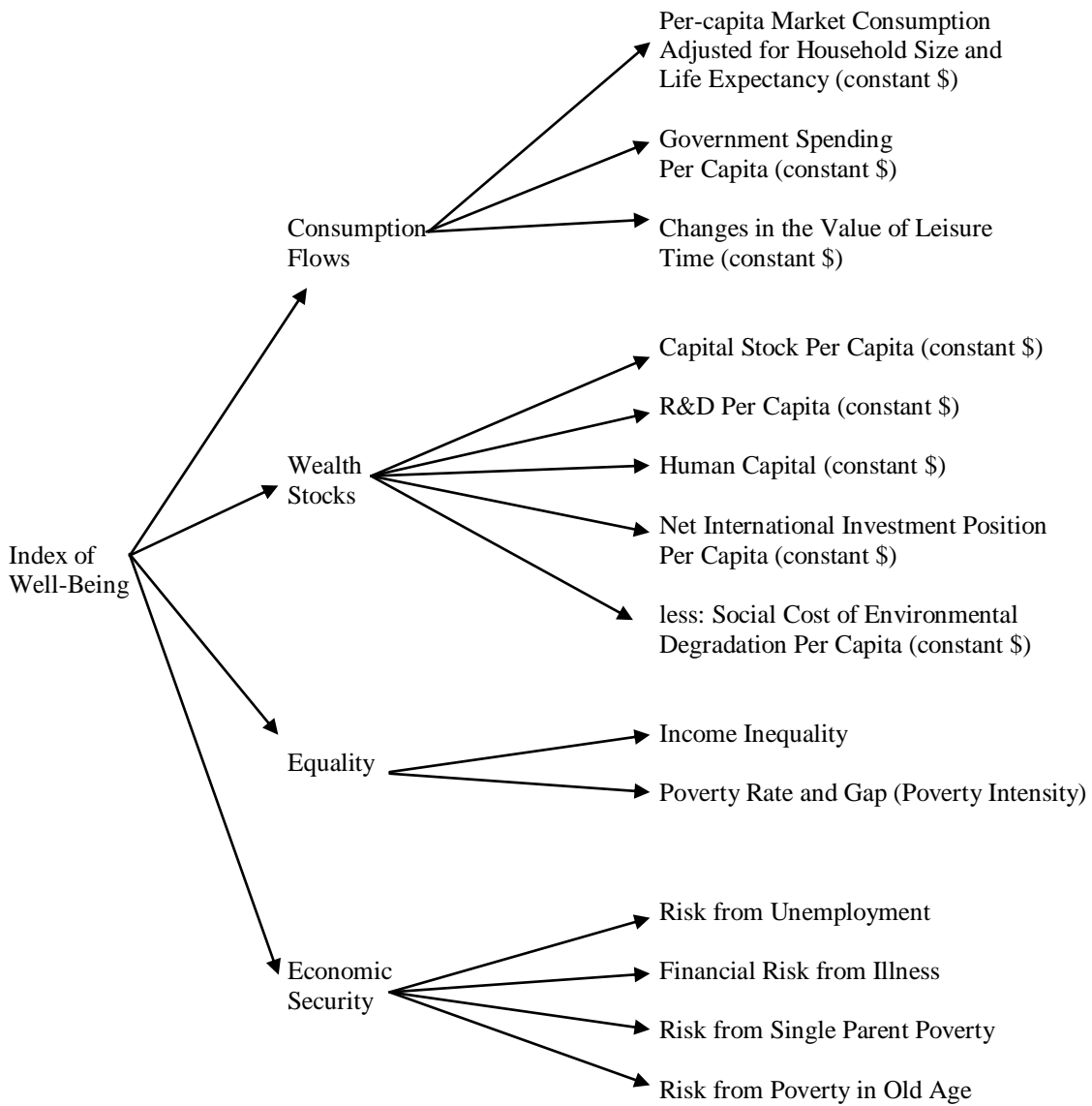
Each dimension of economic well-being is itself an aggregation of many underlying trends, on which the existing data is of variable quality. By contrast, the System of National Accounts has had many years of development effort by international agencies (particularly the UN and the IMF), and has produced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

- (1) assume that the aggregate share of income devoted to accumulation (including the public capital stock, human capital, research and development and the value of unpriced environmental assets) is automatically optimal, and
- (2) set the weight of income distribution and economic insecurity to zero, by ignoring entirely their influence.

Neither assumption seems justifiable, and neither is innocuous.

Due to data limitations, estimates of the Index of Economic Well-being computed for different countries may differ in the number of variables that can be included in the calculations. Exhibit 2 illustrates the components that are used in our estimates of the Index of Economic Well-being for OECD countries, based on the four domains outlined above.

Exhibit 2: The CSLS Index of Economic Well-being: Weighting Tree for OECD Countries



II. Trends in the Index of Economic Well-being for Selected OECD Countries, 1980-2009

This section of the report examines the level of the Index of Economic Well-being and its various components in 2009 in 14 OECD countries and developments since 1980. The focus is on changes over the 1980-2009 period, with little attention given to trends within the period. Due to data limitations, values for some of the variables underlying the Index had to be extrapolated for 2009 based on past data. Such cases are identified in footnotes; in all other cases, the Index is based on actual 2009 data.

A. Overall Level and Trends in the Index of Economic Well-being

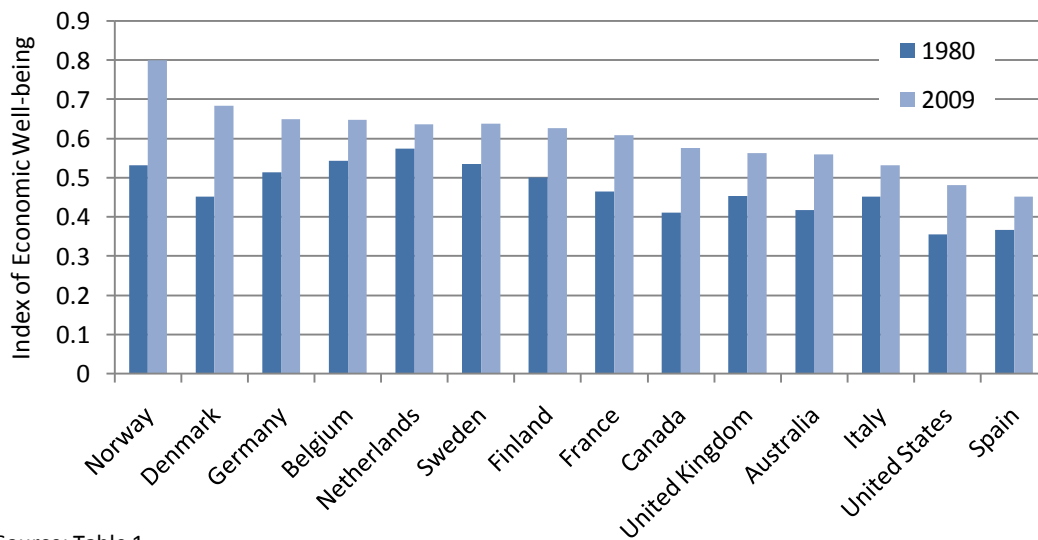
i. Levels

In 2009, the country with the highest level of economic well-being among the 14 countries covered was Norway, which had a scaled index value of 0.799 points (Table 1, Chart 1). Norway was followed by Denmark, which had a scaled index value of 0.684 points. The country which had the lowest level of economic well-being was Spain, with an index value of 0.451 points, followed by the United States (0.482 points). Canada ranked ninth out of fourteen countries, with an index value of 0.575 points.

ii. Trends

There are two ways to measure progress in the Index of Economic Well-being: the absolute change in the scaled value of the Index, and the per cent change (either the total change or the compound annual rate of change) in the scaled value of the Index. This latter method is influenced by the initial level of the scaled value. For example,

Chart 1: Index of Economic Well-being, Selected OECD Countries, 1980 and 2009



Source: Table 1

suppose that Country A has scaled values of 0.2 and 0.6 in the base and end years while Country B has values of 0.5 and 0.9. In terms of index points, both countries experienced the same improvement in well-being – 0.4 points. In proportional terms, however, Country A increased 200 per cent while Country B advanced only 80 per cent.

During the 1980-2009 period, the Index of Economic Well-being grew in all countries (Chart 1 and Chart 2). Note, however, that how we choose to measure the magnitude of the growth – in absolute or proportional terms – affects the ranking of countries in terms of growth. Exhibit 3 provides the rank order of the fourteen countries according to both measurement approaches.

In absolute terms, Norway's 0.267 point growth was the fastest among the countries over the 1980-2009 period. Norway was followed by Denmark and Canada, with growth of 0.233 and 0.164 points. The smallest growth was 0.063 points, in the Netherlands.

In proportional terms, the greatest growth occurred in Denmark; there, the Index increased 1.45 per cent per year over the period. Norway and Canada followed, with annual growth rates of 1.42 per cent and 1.16 per cent. The slowest growth was 0.36 per cent in the Netherlands.

Exhibit 3: Ranking of Countries by Absolute and Proportional Growth, Selected OECD Countries, 1980-2009

	Absolute (points)	Proportional (per cent per year)
1	Norway	Denmark
2	Denmark	Norway
3	Canada	Canada
4	France	United States
5	Australia	Australia
6	Germany	France
7	United States	Germany
8	Finland	Finland
9	United Kingdom	United Kingdom
10	Belgium	Spain
11	Sweden	Belgium
12	Spain	Sweden
13	Italy	Italy
14	Netherlands	Netherlands

Growth rates varied across countries and across time. From 1980 to 1990, all countries except the United Kingdom, the Netherlands, and Sweden experienced progress in their well-being (Table 1). Particularly notable were Spain, Canada, Italy and Norway, which grew by over 1.2 per cent per year during the period. During the following decade of 1990-2000, several countries experienced impressive acceleration in the growth of their index levels. Most notably, the United States went from growth of 0.50 per cent per year during the 1980s to growth of 2.04 per cent per year during the 1990s. Finland and Italy, however, moved the other way and experienced declines in their levels of well-being in the 1990s. From 2000 to 2009, all countries experienced positive growth in their levels of well-being. Norway led the way, with its overall index growing 1.86 per cent per year.⁴

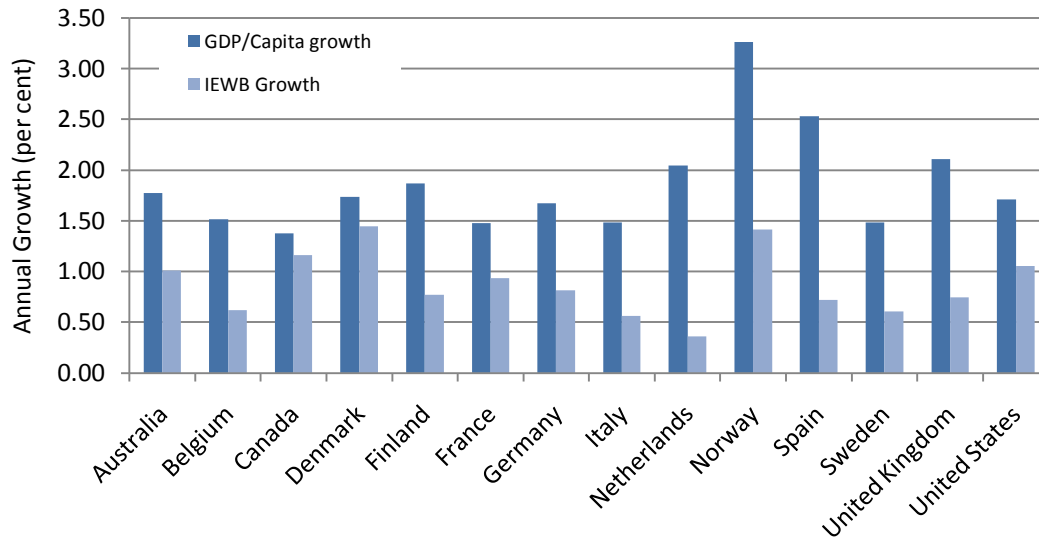
As Exhibit 3 illustrates, the choice between absolute and proportional growth measurement does make a difference in the ranking of countries. (Note that in this particular case the differences are not large; there is no country that has one of the largest growth rates in absolute terms and one of the smallest in proportional terms, or vice versa. In fact, the top three countries and the bottom two countries are the same regardless of the measure of growth used. Such discrepancies are possible in principle, however.) Throughout this report, we often provide changes over time in both absolute and proportional terms. In general, however, we consider proportional growth to be a better measure of changes in well-being because it takes account of countries' starting points. If a country improves its Index score from 0.1 to 0.2, it has doubled its well-being; this is much more significant than another country improving its score from 0.8 to 0.9. Proportional growth captures that difference, whereas absolute changes do not.

iii. Comparing the IEWB to Per-capita GDP

Comparing the Index of Economic Well-being with Gross Domestic Product (GDP) per capita, the measure used most often as an indicator of economic well-being, shows that Norway was first and Spain was last in both rankings in 2009 (Tables 1 and 2 and Exhibit 4).

⁴ We do not address the 1980-1990, 1990-2000, and 2000-2009 sub-periods in our discussion of the four domains of well-being and their components in subsequent sections of this report. However, the growth rates for the sub-periods can be found in the tables and appendix tables.

Chart 2: Average Annual Growth of the Overall Index of Economic Well-being and GDP per Capita, OECD, 1980-2009



Source: Tables 1 and 2

Exhibit 4: Ranking by Level and Growth of Per-capita GDP and the Index of Economic Well-being, Selected OECD Countries, 1980-2009

	Level in 2009 (points)		Growth Rate, 1980-2009 (per cent per year)	
	GDP Per Capita	Index of Economic Well-being	GDP Per Capita	Index of Economic Well-being
1	Norway	Norway	Norway	Denmark
2	United States	Denmark	Spain	Norway
3	Netherlands	Germany	United Kingdom	Canada
4	Australia	Belgium	Netherlands	United States
5	Canada	Netherlands	Finland	Australia
6	Denmark	Sweden	Australia	France
7	Sweden	Finland	Denmark	Germany
8	Germany	France	United States	Finland
9	Belgium	Canada	Germany	United Kingdom
10	Finland	United Kingdom	Belgium	Spain
11	United Kingdom	Australia	Sweden	Belgium
12	France	Italy	Italy	Sweden
13	Italy	United States	France	Italy
14	Spain	Spain	Canada	Netherlands

However, except for Norway and Spain, the rank positions for all countries are different between the two indicators. For example, Canada was fifth in terms of GDP per capita level in 2009, while it was only ninth in terms of the level of the Index of Economic Well-being. Even more strikingly, the United States ranked second in per-capita GDP and second-to-last in terms of the Index.

Growth of GDP per capita was greater than the growth of the IEWB in all countries over the 1980-2009 period (Chart 2). In particular, Norway grew by 3.26 per cent per year in terms of GDP per capita, but only by 1.42 per cent per year in terms of its IEWB. Spain also had a difference of almost 2 percentage points between the growth rates, as it grew by 2.53 per cent per year in terms of GDP per capita, but only 0.72 per cent per year in terms of its overall well-being. As Exhibit 4 shows, it was not generally true over the 1980-2009 period that countries with fast per-capita GDP growth also experienced fast IEWB growth and vice versa. This divergence shows that certain aspects of the Index of Economic Well-being, which are not included in the measurement of GDP per capita, have grown slower and thus dampened growth of overall economic well-being relative to GDP per capita growth.

B. Summary of Trends in the Four Domains of the Index of Economic Well-being

The Index of Economic Well-being is constructed from four domains: consumption flows, wealth stocks, economic equality and economic security. The following four sections examine in detail the trends in the domains in the fourteen OECD countries over the period of 1980 to 2009.

It should also be noted that domains where components are aggregated in prices (consumption and wealth) will have different percentage rates of change depending on whether these rates are based on the scaled or unscaled values of the domain. For example, total adjusted consumption in Canada grew 1.48 per cent per year in dollar terms over the 1980-2009 period, while the index of the consumption domain (the scaled value of total adjusted consumption) grew 2.61 per cent per year.

As the next four sections show, the consumption flows domain and the wealth stocks domain increased for all countries, but the growth of overall economic well-being was dampened by declines in the economic security and equality domains. This was mainly due to changes such as the general increase in the poverty rate, the growth of inequality in income distribution, and the increased share of private disposable income going to healthcare-related expenses.

Summary Table 1 provides a brief overview of the four domains in 2009.

Summary Table 1: Index of Economic Well-being and its Domains, Selected OECD Countries, 2009

	Total Consumption per capita, 2000 US\$	Scaled Total Consumption per capita	Total per capita Wealth, 2000 US\$	Scaled Total per capita Wealth	Index of Economic Equality	Index of Economic Security	Overall Index of Economic Well- being
	A	B	C	D	E	F	G = (B+D+E+F)/4
Australia	27,850	0.709	139,956	0.376	0.456	0.694	0.559
Belgium	26,477	0.657	183,070	0.572	0.700	0.664	0.648
Canada	26,930	0.674	177,046	0.545	0.422	0.661	0.575
Denmark	23,861	0.559	189,574	0.602	0.773	0.803	0.684
Finland	21,440	0.468	167,276	0.500	0.793	0.742	0.626
France	25,662	0.626	148,662	0.416	0.672	0.722	0.609
Germany	24,143	0.569	198,702	0.643	0.690	0.698	0.650
Italy	23,578	0.548	151,876	0.430	0.422	0.728	0.532
Netherlands	27,599	0.699	200,265	0.650	0.545	0.650	0.636
Norway	29,124	0.756	258,804	0.917	0.692	0.829	0.799
Spain	22,363	0.502	125,467	0.310	0.415	0.577	0.451
Sweden	23,440	0.543	156,613	0.452	0.786	0.768	0.637
United Kingdom	26,196	0.646	149,528	0.420	0.446	0.737	0.562
United States	33,187	0.909	192,379	0.614	0.123	0.280	0.482

Source: Tables 1 and 3-6

C. Trends in the Components of the Consumption Flows Domain

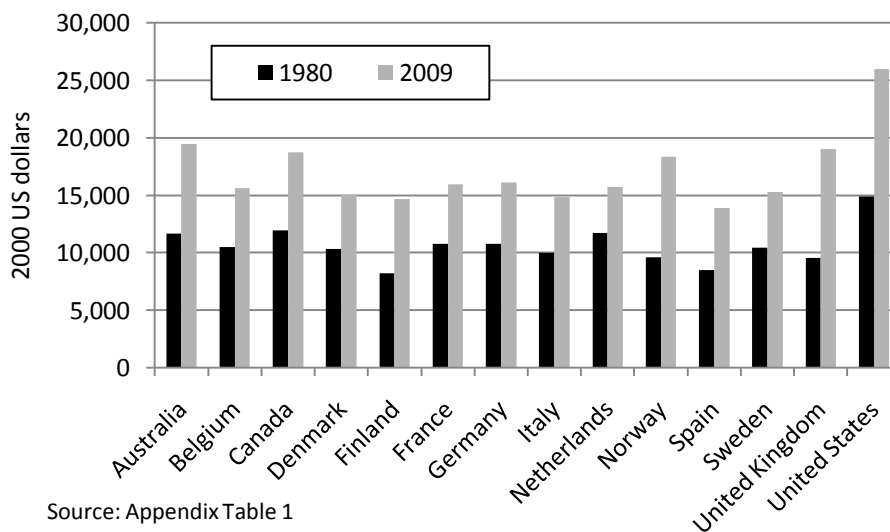
As noted earlier in the report, the consumption domain consists of two main components: private consumption expenditures and government expenditures on goods and services consumed either directly or indirectly by households.

Three adjustments are in turn made to these components. First, since economies of scale exist in private household consumption, private consumer expenditure is adjusted for changes in family size. Second, an adjustment is made to consumption flows to account for the large international differences in growth rates and levels of annual hours worked. Third, an adjustment for the positive impact of increased life expectancy on well-being is made by adjusting total consumption flows by the percentage increase in life expectancy.⁵

i. Private Consumption

In 2009, personal consumption was greatest in the United States, where it had a per capita value of \$25,954 in 2000 US dollars (Appendix Table 1 and Chart 3). The United States was well ahead of all the other countries, as the second highest per capita personal consumption was in the Australia at \$19,459. Spain had the lowest per capita private consumption for 2009 at \$13,887, about one half of the US value. Personal consumption accounted for over 50 per cent of total consumption flows in all countries, the single largest contributor to total consumption flows.

Chart 3: Private Consumption Per Capita, Selected OECD Countries, 2000 US Dollars, 1980 and 2009



Source: Appendix Table 1

⁵ In our estimates of the Index of Economic Well-being for Canada and the provinces (Osberg and Sharpe, 2009), the consumption domain also includes the value of unpaid work and regrettable expenditures. Data limitations currently prevent us from including these concepts in our international estimates.

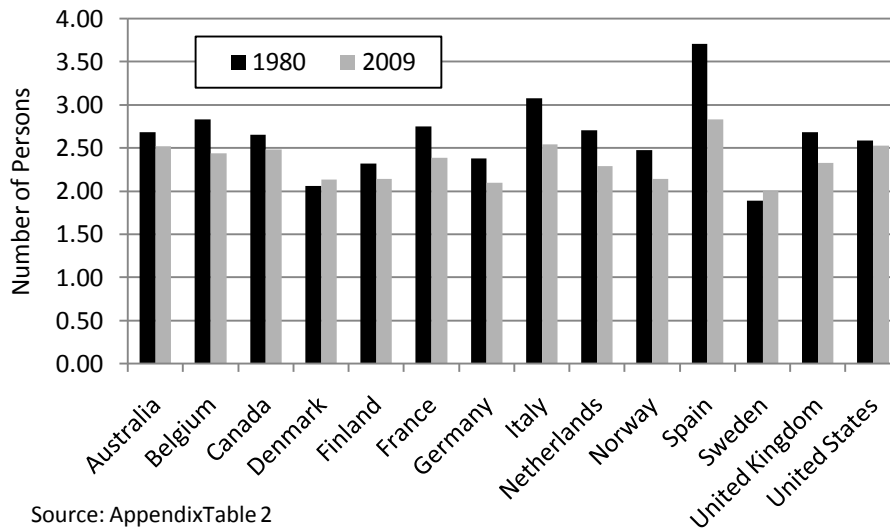
From 1980 to 2009, the greatest growth in private consumption was 2.41 per cent per year in the United Kingdom. Personal consumption grew the least in the Netherlands, at 1.02 per cent per year. Canada ranked seventh with growth of 1.57 per cent per year.

ii. Average Family Size

It is important to adjust the dollar value of per-capita personal consumption to reflect the fact that there are economies of scale in household consumption. When people live together in groups, they can achieve greater effective consumption than they could if they lived alone as individuals; for instance, they can cooperate in household production (e.g. one person can cook for everyone) and share fixed costs (e.g. they can share one refrigerator rather than each person having to buy one).

To account for this issue, we use the Luxembourg Income Study equivalence scale, which is the square root of family size. For a given country in a given year, we compute the square root of family size in that country and year *relative to the square root of family size in the United States in 1980*. This ratio is then multiplied by the per-capita private consumption value to produce an estimate of private consumption adjusted for family size. Changes in our equivalence scale from year to year capture changes in average family size both within countries over time and across countries relative to the United States in 1980.⁶

Chart 4: Average Family Size, Selected OECD Countries, Persons, 1980-2009



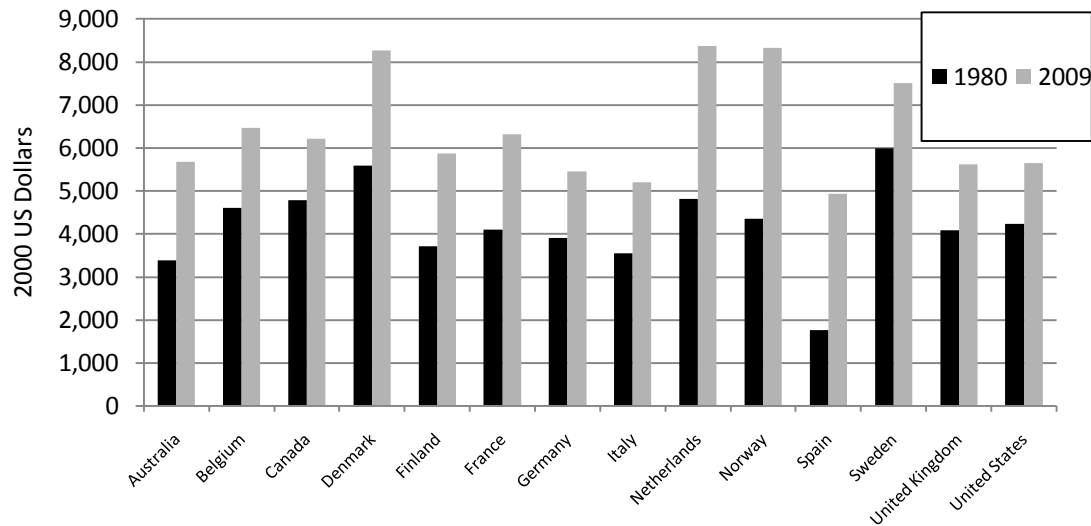
⁶ The rationale for this approach is that the equivalence scale would take a value of 1.0 in 1980 in every country if we simply used within-country changes in family size over time. We would not be accounting for cross-country differences in family size in the base year (1980). Measuring family size relative to the baseline of the United States in 1980 solves that problem. The choice of the United States as the baseline country is arbitrary.

Average family size was greatest in Spain in 2004, with 2.83 persons per household (Appendix Table 2 and Chart 4).⁷ It was followed by Italy and the United States with 2.54 and 2.53 persons per household, respectively. Sweden had the smallest family size, with 2.00 persons per family. Over the 1980-2009 period, the size of families in all but two countries declined considerably. The only countries where the family size increased were Sweden and Denmark, which experienced growth of 5.8 and 3.6 per cent, respectively, over the period. However, both countries had a remarkably small family size in 1980 (1.9 and 2.1 persons per family, respectively), and over the period they merely approached the average. Similarly, Spain, the country with the largest average family size in 1980 at 3.7 persons per family, experienced the greatest decline among the countries; Spain's average family size fell 23.5 per cent.

iii. Government Expenditures on Goods and Services

Government expenditures include spending by all levels of government on current goods and services. These expenditures are part of social consumption and therefore contribute to increased well-being.⁸ The largest government expenditures for 2009 were in Netherlands, Norway, and Denmark, all three following a very progressive form of

Chart 5: Per-capita Government Expenditures on Current Goods and Services, Selected OECD Countries, 2000 US Dollars, 1980 and 2009



Source: Appendix Table 4

⁷ Average family size is computed from the Luxembourg Income Study database. The most recent year for which data are available varies across countries as follows: Belgium (2000); Australia (2003); Canada, Denmark, Finland, Germany, Italy, the Netherlands, Norway, Spain, the United Kingdom and the United States (2004); France and Sweden (2005). Data for subsequent years are assumed to be equal to the most recent available value.

⁸ Some might wish to argue that government expenditures actually reduce economic well-being because the private sector would likely have put those funds to more productive or welfare-enhancing uses had the government not taxed them away in the first place. Whether or not this argument is valid, the fact remains that government expenditures on goods and services form a component of total consumption, and therefore total economic welfare as measured by the Index of Economic Well-being. The Index makes comparisons of well-being across time and space, not between factual and counterfactual worlds.

social democracy. Their per-capita government expenditures were \$8,375, \$8,331, and \$8,276 respectively (Appendix Table 4 and Chart 5). Sweden, Belgium and France, which are also welfare states, followed. It is interesting to note that Germany, which is traditionally thought of as a welfare state, in effect spent less per capita than relatively libertarian United States and Australia. Spain had the lowest government expenditures in 2009, at \$4,943 per capita.

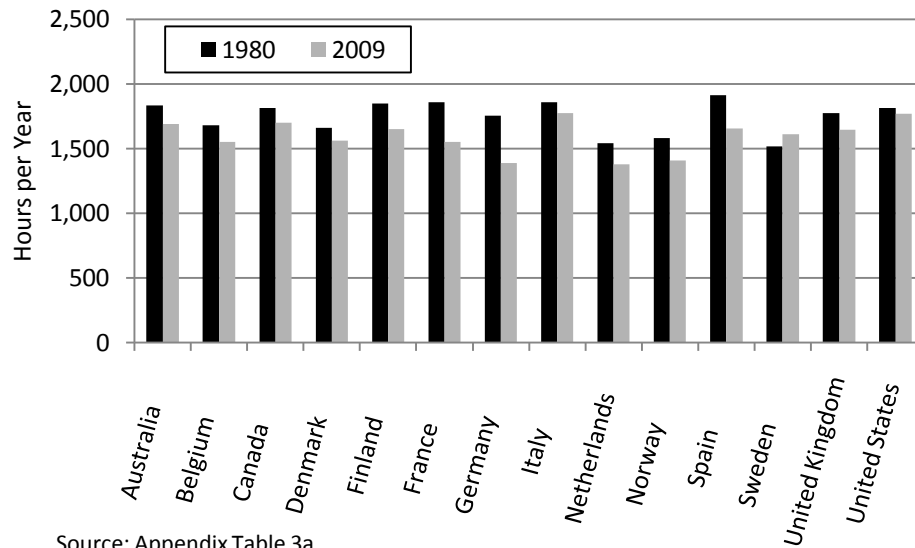
Over the 1981-2009 period, the government expenditures of Spain grew at the highest rate, 3.62 per cent per year, although that is unsurprising considering that in 1981 Spain had per capita expenditures which, except in the case of Australia, were never more than half of the expenditures of the other OECD countries. The weakest growth in government expenditures occurred in Sweden.

iv. Adjusted Relative Cost (Benefits) of Leisure

One potential benefit of economic progress is that people may be able to take more leisure time. A measure of economic welfare should account for time spent on leisure, but the value of leisure time is difficult to estimate. Our approach is based on the idea that if a person takes an additional hour of leisure time, then he or she values that leisure time at least as much as the next best alternative use of the time. We assume that the next best alternative use of leisure time is paid work in the labour force, the value of which is the total labour compensation (that is, after-tax wages and benefits) that could have been earned during that time.

Our estimate of the marginal opportunity cost of not being employed is calculated using estimates of average after-tax labour compensation and average number of hours of leisure. Note, however, that we are putting a money value on *differences* in time use (both changes over time and differences across countries), not on total leisure hours themselves. We standardize leisure hours as number of hours of leisure relative to a benchmark – namely, the United States in 1980. Ours is a *relative* cost measure. When leisure hours exceed the benchmark, we add to measured money income the value of leisure relative to the benchmark; if leisure hours fall short of the benchmark, we subtract from measured money income the cost in foregone leisure. The adjusted relative cost of leisure measures the foregone income that people could have earned in the labour force if they had worked the benchmark hours instead of taking more leisure. By the reasoning outlined in the preceding paragraph, this *cost* measure can be taken as an

Chart 6: Average Annual Hours Worked per Employed Person, Selected OECD Countries, Hours, 1980 and 2009



Source: Appendix Table 3a

estimate of the value (or, at least, a lower bound on the value) of the *benefits* of the leisure time itself.

For each country in each year, we compute the average annual number of hours worked per working-aged person, to which we add an estimate of the average annual hours of unemployment per working-age person.⁹ This gives a measure of average hours spent in the labour force. We then take the difference between these values and the value of the United States in 1980. That difference represents the country's leisure hours (that is, time not spent in the labour force) *relative* to those of the United States in 1980.

Trends in the value of leisure (relative to the United States in 1980) are determined by a number of factors: average hours worked per employed person, employed persons as a proportion of the working-age population (the employment rate), and average hours of unemployment per working-age person. Chart 6 illustrates average annual hours worked per employed person in the fourteen countries. This average actually declined in all countries except Sweden between 1980 and 2009, but the declines were greater in the European countries than in the United States and Canada (with the exceptions of Italy and Denmark). However, average hours worked per *working-age* person increased in the United States because employment rates increased over the period. This trend has recently reversed, as the employment rate and the average hours worked per working-age person have decreased. The average number of hours worked per working-age person in the United States is now only 7 hours more than it was in 1980.

⁹ Average annual hours of unemployment are estimated by multiplying average hours worked per employed person by the proportion of working-aged persons who are unemployed. We assume that if they were employed, unemployed persons would work the average number of hours worked by those who are currently employed.

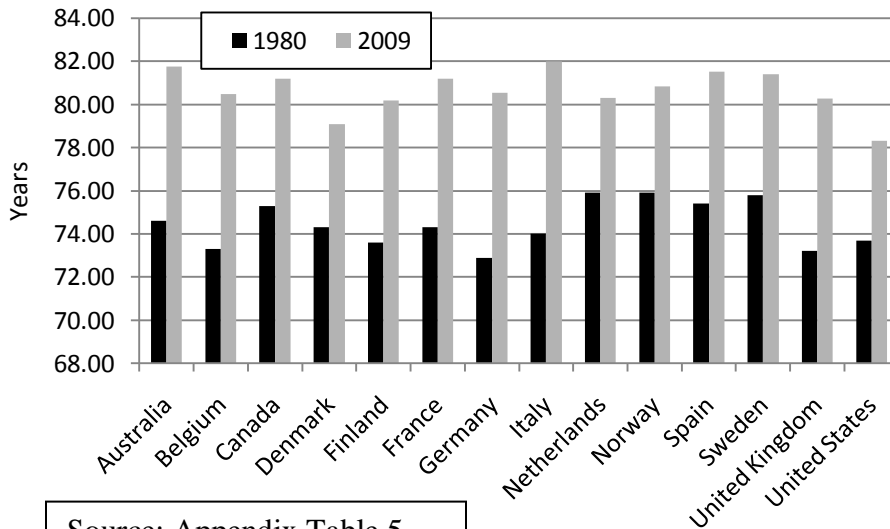
In 2009, all European countries had a positive relative cost of leisure, showing that they spent more time on leisure than the United States did in 1980. By contrast, two of the non-European countries, Canada and the United States, experienced falls in the value of leisure due to increased hours spent in the labour force relative to the United States in 1980. Australia had the smallest positive adjusted relative cost of leisure per capita of all the fourteen countries at \$229 (2000 US dollars). Belgium had the highest adjusted relative cost, \$2,597 (2000 US dollars), with Netherlands and Germany following closely at \$2,168 and \$2,142 per capita, respectively (Appendix Table 3). The lowest adjusted cost of leisure was in the United States, a negative \$75 per capita. Canada had the second lowest cost of leisure, negative \$107 per capita. The time devoted to leisure clearly decreased in both countries; however, the trend reversed in the United States in 1999 and in Canada in 2004. The value of leisure is currently increasing in both countries.

Observing the change in the relative cost of leisure from 1980 to 2009, the benefit of leisure increased for most European countries. The most dramatic change was experienced by Germany, where the relative cost or benefit of leisure increased significantly, from \$580 per capita to \$2,142. Finland, which was the only European country to experience a lengthy period of negative leisure costs in the 1980s, also experienced significant growth, moving from negative \$222 per capita in 1980 to positive \$498 in 2009.

v. Life Expectancy

The final adjustment to consumption flows is to account for the increase in consumption arising from rising life expectancy. Life expectancy for each country was converted into a relative index where the value for the United States in 1980 equals 1.00. This index is multiplied by total consumption flows in order to adjust consumption for life expectancy. Thus, the adjustment captures changes in life expectancy both over time within countries and across countries relative to the United States in 1980.

The country with the highest life expectancy in 2009 was Italy, which had an average life expectancy of 82.0 years (Appendix Table 5 and Chart 7). The lowest life expectancy, 78.3 years, was in the United States. Over the entire period of 1980–2009, life expectancy in Italy grew the most, from 74.0 years to 82.0 years, a total increase of 11.1 per cent. Germany experienced the second largest increase in average life expectancy of 10.9 per cent. The life expectancy of the Netherlands grew the least, at only 6.1 per cent over the entire period. Life expectancy increased almost equally during the 1980s and the 1990s, and it never seemed to decline for more than a year in any country. Growing life expectancies, and the additional consumption arising from that, increased consumption flows in all the OECD countries covered in this report.

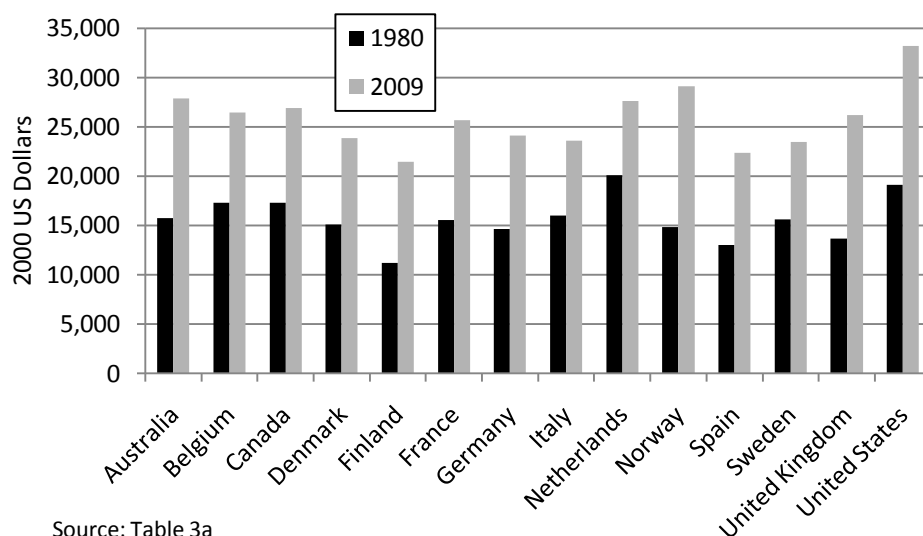
Chart 7: Life Expectancy at Birth, Selected OECD Countries, Years, 1980 and 2009

vi. Total Adjusted Consumption Flows

Total adjusted consumption is computed by summing family size-adjusted private consumption, government expenditures, and the value of leisure, and then multiplying the total by the life expectancy index. The country with the highest level of consumption flows per capita in 2009 was the United States, with \$33,187 in 2000 US dollars (Table 3a and Chart 8). The United States was significantly ahead of second placed Norway, which had consumption flows of \$29,124 per capita. Finland was last with \$21,440 per capita, greatly trailing the United States. Canada was fifth, with \$26,930 per capita.

Norway had the fastest consumption growth over the 1980-2009 period, at 2.36 per cent per year. The United Kingdom ranked second with growth of 2.26 per cent per year. The slowest consumption growth was 1.10 per cent per year in the Netherlands. In Canada, total adjusted consumption grew 1.53 per cent per year over the period; this ranked tenth among the rates of increase of the fourteen countries.

Chart 8: Total Adjusted Consumption Per Capita, Selected OECD Countries, 2000 US Dollars, 1980 and 2009



Source: Table 3a

D. Trends in the Components of the Sustainability/Stocks of Wealth Domain

A society's stock of wealth – both man-made and naturally occurring – determines how sustainable its current level of consumption really is. The measure used in this report contains, as explained earlier, four components: the physical capital stock, the R&D stock, the stock of human capital, and net international investment position.¹⁰ One adjustment is made to the sum of these components: to account for the social costs of environmental degradation, we subtract the estimated annual cost of greenhouse gas emissions.

i. Physical Capital

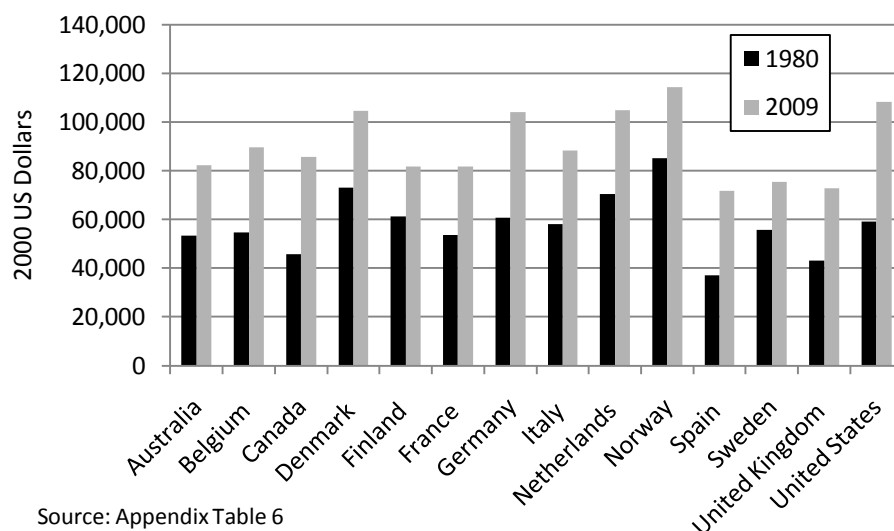
The stock of physical capital per capita, defined as residential and non residential capital stock based on geometric depreciation, was greatest in Norway in 2009 at \$114,316 in 2000 US dollars (Appendix Table 6 and Chart 9).¹¹ The United States, Netherlands, and Denmark followed with \$108,284, \$104,936 and \$104,489, respectively. The lowest stock of net capital was in Spain, \$71,709 per capita. Physical capital was the largest component of total wealth stocks – over 50 per cent for most countries.

¹⁰ In our estimates of the Index of Economic Well-being for Canada and the provinces (Osberg and Sharpe, 2009), the wealth domain also includes the value of natural resource stocks. Data limitations prevent us from including natural resources in our international estimates.

¹¹ Data on physical capital are from the Kiel Institute for the World Economy Database on Capital Stocks in OECD Countries. For all countries, the most recent year for which data are available is 2002. Values for 2003-2009 are extrapolated based on the compound annual growth rates from the 1997-2002 period.

The greatest growth in the per-capita physical capital stock was experienced by Spain, at 2.30 per cent per year. Canada experienced the second largest growth rate, 2.19 per cent per year. The extremely rapid growth of capital in Spain over the period is understandable considering that the country's initial stock of capital was very small, leading to significant returns from investment in physical capital. The slowest growth rate was in Finland, 0.99 per cent per year.

Chart 9: Physical Capital Stock Per Capita, Selected OECD Countries, 2000 US Dollars, 1980 and 2009



Source: Appendix Table 6

ii. R&D Capital

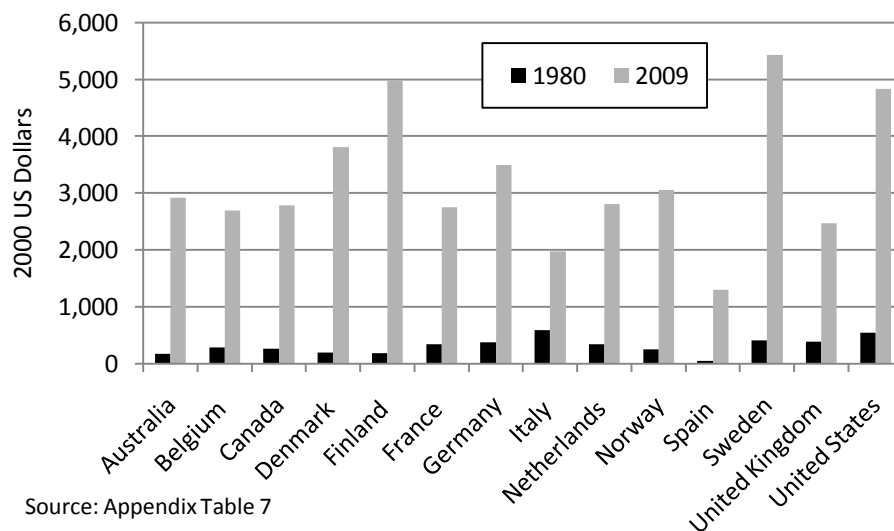
In 2009, the stock of total business enterprise expenditures on R&D per capita was greatest in Sweden at \$5,426 in 2000 US dollars (Appendix Table 7 and Chart 10).¹² Finland had the second largest stock of R&D expenditures, \$4,973 per capita.¹³ Spain had

¹² We compute the stock of R&D using data on gross annual R&D expenditures (from the SourceOECD Science and Technology database) and convert the estimates to 2000 US dollars using GDP deflators and PPP values, also from the OECD. We assume a depreciation rate of 20 per cent per year. Thus, in a given year, the accumulated stock of R&D is that year's gross R&D expenditures plus 80 per cent of the previous year's accumulated stock. The question of how to measure R&D has challenged researchers for some time. Under the SNA 1993 accounting system (the current international standard for national accounting), R&D expenditures are counted as intermediate inputs for businesses or as current consumption for government and non-profit organizations. The new SNA 2008 recommends the capitalization of R&D, so that annual R&D expenditures represent a form of investment in an R&D capital stock. Our approach is consistent with that recommendation.

¹³ The most recent year for which data on gross R&D expenditures are available varies by country as follows: Finland and United Kingdom (2010), United States and Australia (2008), and all other countries (2009). Where necessary, 2009 values are extrapolated based on the compound annual growth rate from the 2003-2008 period.

the lowest stock of R&D expenditures per capita, at \$1,301. Many countries experienced extremely rapid increases in R&D over the 1980-2009 period, with the growth rates in Spain, Denmark, Australia and Finland each reaching over 10 per cent per year. R&D expenditures grew over the entire period for all fourteen countries.

Chart 10: Per-capita Stock of R&D, Selected OECD Countries, 2000 US Dollars, 1980 and 2009



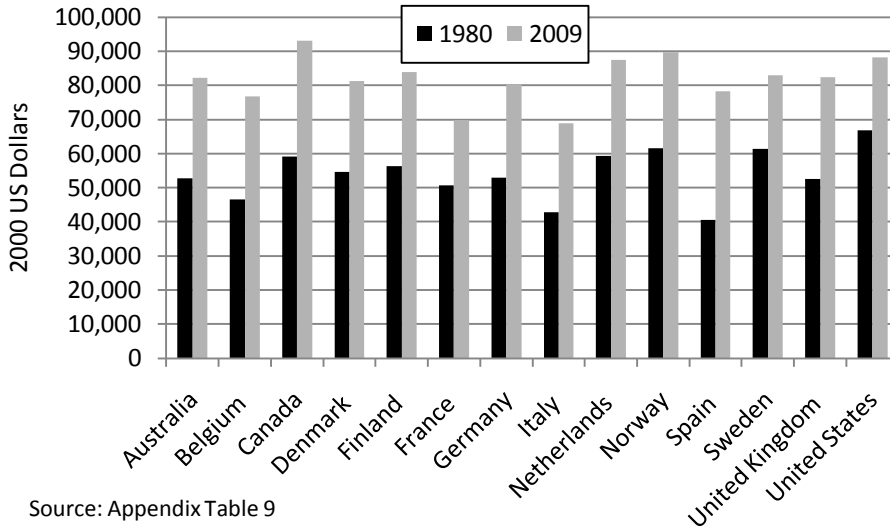
iii. Human Capital

The value of human capital in 2009, defined in the Index of Economic Well-being as the accumulated private and public expenditures on all levels of education, was highest for Canada at \$93,109 (2000 US dollars) per capita (Appendix Table 9 and Chart 11).¹⁴ Canada barely edged out the second and third placed Norway and the United States, which had human capital levels of \$89,654 and \$88,311 respectively. The lowest human capital levels belonged to Italy and France, at \$68,896 and \$69,807 per capita, respectively. Per capita human capital was the second most important contributor to total wealth stocks per capita, contributing between 30 to 50 per cent of the total value.

Spain and Belgium experienced the greatest improvement in human capital over the 1980-2009 period, growing by 2.29 and 1.74 per cent per year, or 93.0 and 64.7 per cent overall, respectively. By contrast, the United States, starting from the highest level of per capita human capital in 1980, experienced the lowest annual average growth rate, 0.97 per cent, and increased overall by only 32.2 per cent.

¹⁴ Human capital values are based on education cost estimates for 2007 and estimates of population proportions by level of educational attainment for which the most recent year of data availability is 2008. Values for 2009 were extrapolated using the compound annual growth rates for the 2003-2008 period.

Chart 11: Human Capital Stock Per Capita, Selected OECD Countries, 2000 US Dollars, 1980 and 2009

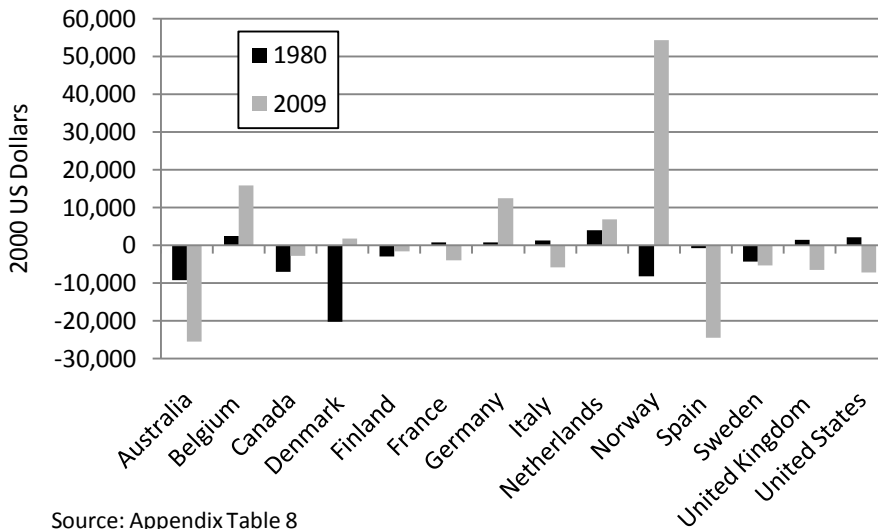


Source: Appendix Table 9

iv. Net International Investment Position

Five countries had positive net international investment positions in 2009. Norway had the best net international investment position, with a per-capita investment surplus of \$54,355 (2000 US dollars) (Chart 12 and Appendix Table 8). The other four countries were Belgium, Germany, the Netherlands, and Denmark. Out of the countries with negative investment positions, the highest deficit of \$25,429 per capita belonged to Australia. It was only slightly higher than the second largest international investment deficit of \$24,432 per capita, belonging to Spain.

Chart 12: Net International Investment Position Per Capita, Selected OECD Countries, 2000 US Dollars, 1980 and 2009



Source: Appendix Table 8

The net international investment position declined over the 1980–2009 period in seven of the fourteen countries, reflecting faster growth in foreign liabilities than in foreign assets. The largest decline was in Spain, where the net international investment position declined \$23,692 per capita in 2000 US dollars from -\$814 to -\$24,432 per capita (Appendix Table 8). Among the countries in which the net foreign asset position increased over the period, the largest increase was \$60,607 per capita (from an \$8,201 net debt to a \$54,355 net asset position) in Norway.

v. Social Costs of Environmental Degradation

Degradation of the environment negatively affects the sustainability of stocks of wealth. Placing a value on the environment or the “services provided by ecosystems” is a massive and controversial task and is beyond the scope of the Index of Economic Well-being. But to highlight the importance of the environment for economic well-being, and to show that environment issues can be accommodated in our framework for quantifying economic well-being, the Index does include estimates of the social costs of greenhouse gases (GHGs), which contribute to global warming. In each year, we adjust the total wealth stock estimates by subtracting the social costs of greenhouse gas emissions in that year.

Although it is emitted from a particular location, a given tonne of a GHG (especially emissions of CO₂) imposes damages at the global level. In measuring well-being, then, it is the global level of GHG emissions that matters. Our approach is to estimate the total social costs of global GHG emissions, and then allocate those costs across countries in proportion to each country’s share of world GDP.¹⁵ The estimates are derived by multiplying global GHG emissions (measured in tonnes of CO₂-equivalent emissions, or tCO₂-e) by the per-tonne social cost of such emissions. In a review of 211 published estimates of the social cost of carbon, Tol (2007) finds that the average estimate from peer-reviewed studies is approximately \$21/tCO₂-e in 2000 US dollars.¹⁶ We take this as our estimate of the social costs of GHG emissions.

¹⁵ An alternative approach is to use country-specific GHG emissions data and assume that the social costs of GHG emissions are entirely borne by the country in which the emissions occur. We use this approach in another paper in which we estimate the IEWB for Canada and its provinces (Osberg and Sharpe, 2009). Neither approach is obviously better than the other, but the choice does affect the estimates. GHG emissions are affected by the composition of national output as well as the volume, so some countries (such as Australia and Canada) emit more GHGs than their share of global GDP would imply while others (such as Norway and Sweden) emit less. If we used the country-specific emissions approach rather than the global emissions approach, the measured social costs of GHG emissions would be higher in countries like Australia and Canada and lower in countries like Norway and Sweden.

¹⁶ It is also common to express estimates of the social cost of carbon in dollars per tonne of carbon (\$/tC) rather than per tonne of carbon dioxide (\$/CO₂-e). Our assumed social cost of \$21/tCO₂-e roughly corresponds to \$76/tC. See Sharpe, Arsenaault, Murray, and Qiao (2008) for a detailed discussion of the appropriate assumptions regarding the social cost of greenhouse gas emissions in the context of the valuation of the Alberta oil sands.

Norway had the highest social cost associated to greenhouse gasses in 2009, \$2,575 (2000 US dollars) per capita (Appendix Table 10).¹⁷ The second highest social cost was \$1,969 per capita in the Netherlands. The country with the lowest total in 2009, Italy, had greenhouse gas costs of \$1,425 per capita. In general, greenhouse gas costs made almost no impact on the total stock of wealth per capita; their negative contribution was between 0.85 per cent (for Germany) and 1.36 per cent (for Australia). On the other hand, greenhouse gas costs are only a small part of the total environmental costs that every country faces (such as water pollution, other forms of air pollution, nuclear pollution etc.), which are likely to have a much greater negative effect on total wealth stocks.

Over the 1980-2009 period, greenhouse gas emissions, and therefore the social costs associated with greenhouse gasses, increased in all fourteen countries. Norway experienced the fastest growth, with costs increasing by 1.0 per cent per year over the period. France experienced the lowest growth in cost, with growth of 0.13 per cent per year.

vi. Total Wealth Stocks

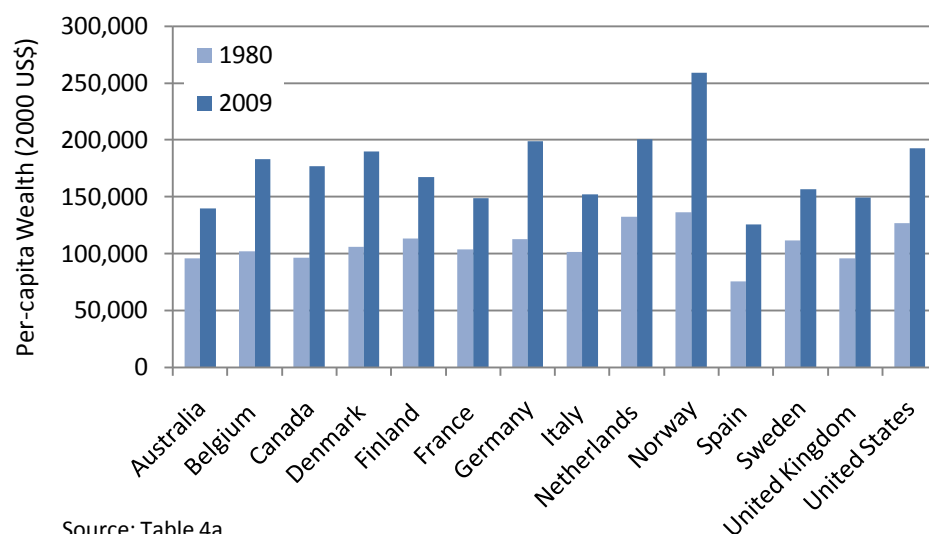
Total wealth stocks are computed by summing physical capital, human capital, R&D stock, and net international investment position, and then subtracting the social costs of GHG emissions. In 2009, Norway had the greatest total stock of wealth, at \$258,804 per capita in 2000 US dollars (Chart 13 and Table 4a). The second-place country, the Netherlands, was well behind with \$200,265 in wealth. The smallest stock of wealth, with a value of \$125,467, belonged to Spain. Canada ranked seventh out of the fourteen countries, with wealth valued at \$177,046 per capita.

Norway and Canada had the fastest growth in total wealth over the 1980-2009 period, at 2.23 per cent and 2.13 per cent per year, respectively. The slowest growth was 1.18 per cent per year in Sweden.

The index of the wealth domain is obtained by applying the linear scaling procedure to the total wealth stock data for all countries over the 1980-2009 period. This does not affect the cross-country rankings in terms of levels (though it can affect rankings in terms of growth rates).

¹⁷ Data on global greenhouse gas emissions are from the Carbon Dioxide Information Analysis Centre and are available to 2008. The value for 2009 is extrapolated based on the compound annual growth rate for the 2003-2008 period.

Chart 13: Total Wealth Stocks Per Capita, Selected OECD Countries, 2000 US Dollars, 1980 and 2009



Source: Table 4a

E. Trends in the Economic Equality Domain

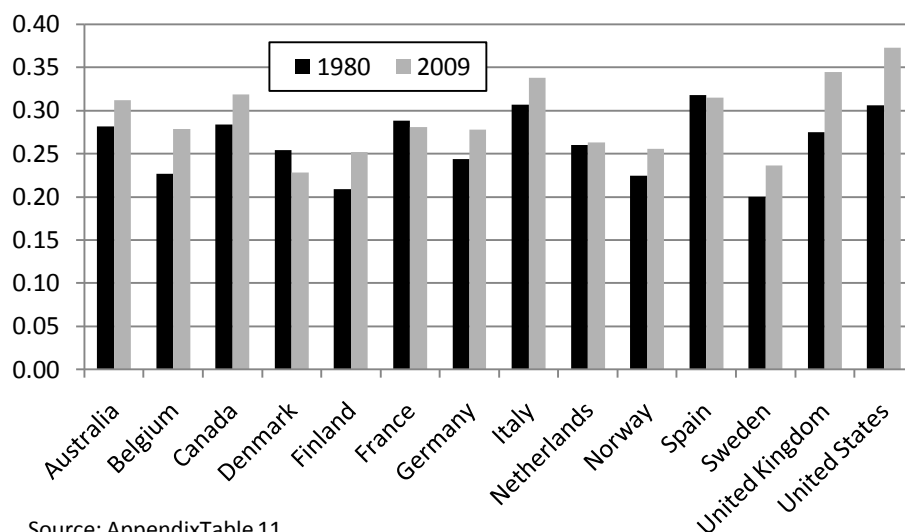
The third domain of the Index of Economic Well-being is economic equality. At current levels, a fall in equality, or rise in inequality, is considered to decrease economic well-being and vice versa. The equality domain consists in two component concepts: income inequality and poverty. We measure income inequality using the Gini coefficient, which we compute for the total population of family units based on family after-tax equivalent income data from the Luxembourg Income Study (LIS). To measure poverty, we use poverty intensity, which is the product of the poverty rate and the poverty gap. The poverty rate and gap are also based on LIS family after-tax equivalent income, with the poverty line defined as fifty per cent of the median family income. The poverty rate is the proportion of persons whose income is below the poverty line, and the poverty gap is the average *per cent* difference between the poverty line and the incomes of those whose incomes fall below it.

High poverty intensity is considered more detrimental to economic well-being than an unequal income distribution. Consequently, poverty intensity is given a weight of three quarters, and income distribution a weight of one quarter, in the determination of the overall index for the equality domain.

i. Inequality

In 2009, the Gini coefficient was greatest for the United States at 0.372 and followed by the United Kingdom and Italy at 0.345 and 0.338, respectively (Appendix

Chart 14: Gini Coefficient Based on Family After-tax Equivalent Income, Selected OECD Countries, 1980 and 2009



Source: AppendixTable 11

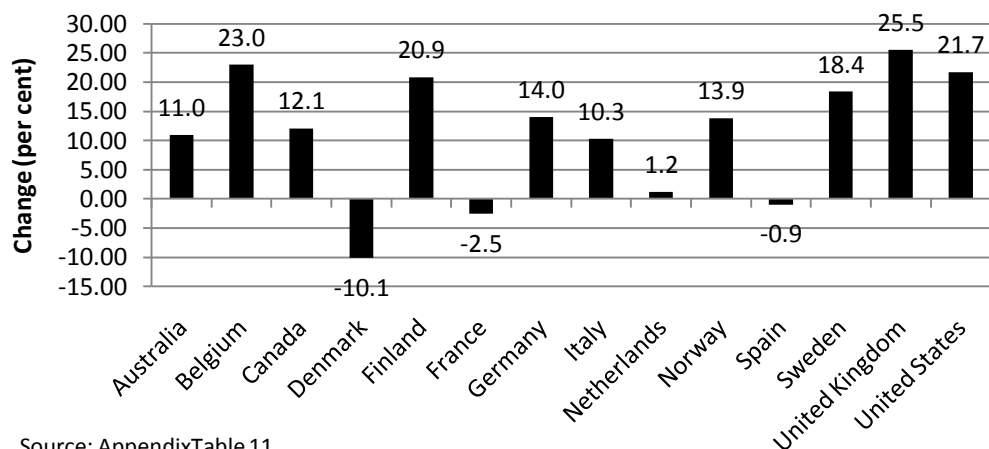
Table 11 and Chart 14).¹⁸ The Scandinavian social democracies had the lowest measured inequality; Denmark had a Gini coefficient of 0.229, followed by the Sweden with a coefficient of 0.237. Finland and Norway were third and fourth with coefficients of 0.252 and 0.256, respectively.¹⁹ Canada had the fourth most unequal income distribution in 2009, with a Gini coefficient of 0.318.

Over the 1980-2009 period, only one country – Denmark – achieved a substantial reduction in economic inequality. The Gini coefficient of Denmark declined by 0.026 points or 10.1 per cent overall (Chart 15). France and Spain were the only other countries in which inequality declined over the period, but the change was just 2.5 per cent in France and 0.9 per cent in Spain. The United Kingdom experienced the greatest increase in the income gap, with its Gini coefficient growing by 0.07 points or 25.5 per cent. In Canada, the Gini coefficient increased 12.1 per cent over the period.

¹⁸ Data on inequality and poverty are computed from the Luxembourg Income Study database. The most recent year for which data are available varies across countries as follows: the Netherlands (1999); Belgium, France, Germany, Italy and Spain (2000); Australia (2003); Canada, Denmark, Finland, Norway, the United Kingdom and the United States (2004); and Sweden (2005). Data for subsequent years are assumed to be equal to the most recent available value.

¹⁹ It is important to mention that 2007 Gini coefficient values for all countries equal their Gini coefficient values from 2000, due to the lack of more recent data.

Chart 15: Total Change in the Gini Coefficient, Selected OECD Countries, Per Cent, 1980-2009



Source: AppendixTable 11

ii. Poverty

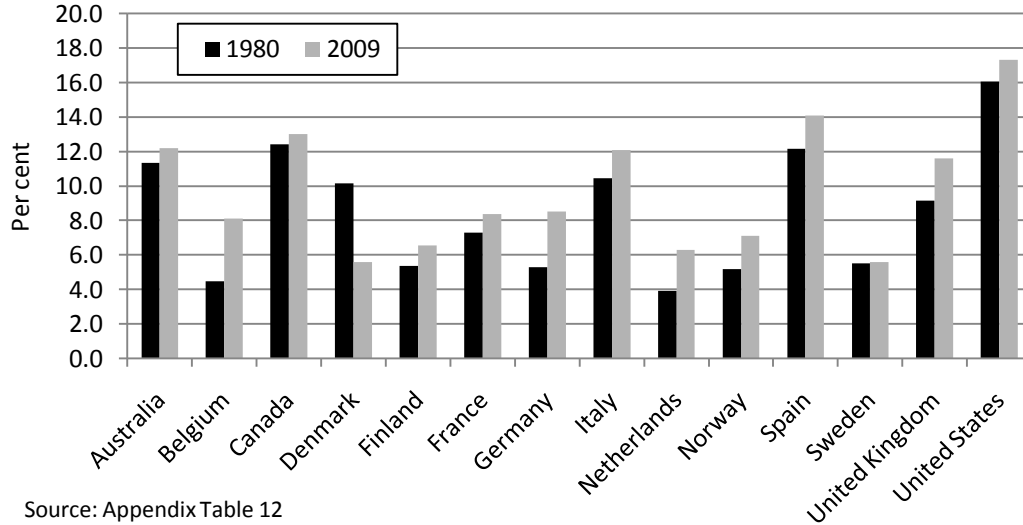
The United States had the highest poverty rate in 2009, with 17.3 per cent of the total population defined as poor (Appendix Table 12 and Chart 16). Spain and Canada followed, with poverty rates of 14.1 and 13.0 per cent, respectively. Considering the fact that the United States had the highest per-capita income and consumption flows, its high poverty rate has to be attributed to very unequal distribution of income (as reflected in its high Gini coefficient). This is supported by the fact that the Scandinavian countries, which had the lowest Gini coefficient values, also had the lowest poverty rates, over 10 percentage points lower than the poverty rate of the United States. The lowest poverty rates belonged to Denmark and Sweden, which both had rates of 5.6 per cent. The Netherlands had the third lowest poverty rate at 6.3 per cent.

Over the 1980-2009 period, all countries but one experienced growing poverty rates; Denmark's poverty rate declined by 4.5 percentage points (or 44.7 per cent). However, in proportional terms, Belgium, and the Netherlands led the vast majority of countries increasing 3.64, and 2.39 percentage points, or 87.9 and 61.2 per cent over the period, respectively. Germany also had a significant increase in its overall poverty rate - 3.22 percentage points, or 60.7 per cent. As the poverty rate depends not only on the distribution of income but also on economic growth which increases income, the growth of poverty rates over the sub-periods greatly varied with the changing economic conditions in the countries.

The poverty gap is the average difference between the poverty line and the incomes of individuals living below the poverty line. In this report, we express it as a percentage of the poverty line. In 2009, the poverty gap was greatest in the Netherlands, at 55.5 per cent (Appendix Table 13 and Chart 17). The United States followed with a

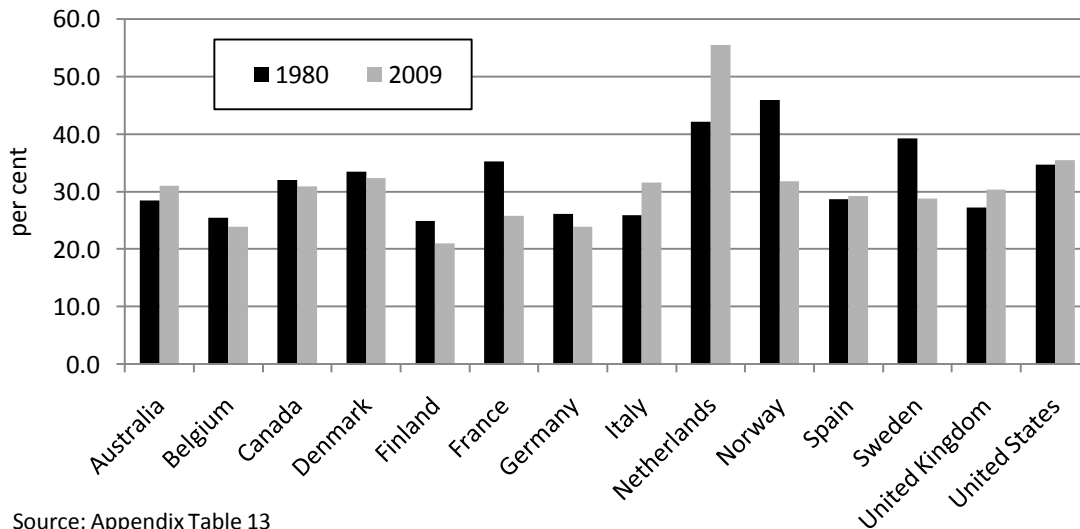
poverty gap of 35.5 per cent. The smallest poverty gaps were in Finland and Belgium, at 21.0 per cent and 23.8 per cent, respectively. Changes in the poverty gap between 1980

Chart 16: Poverty Rate for All Persons, Selected OECD Countries, Per Cent, 1980 and 2009



Source: Appendix Table 12

Chart 17: Poverty Gap for All Persons, Selected OECD Countries, Per Cent, 1980 and 2009

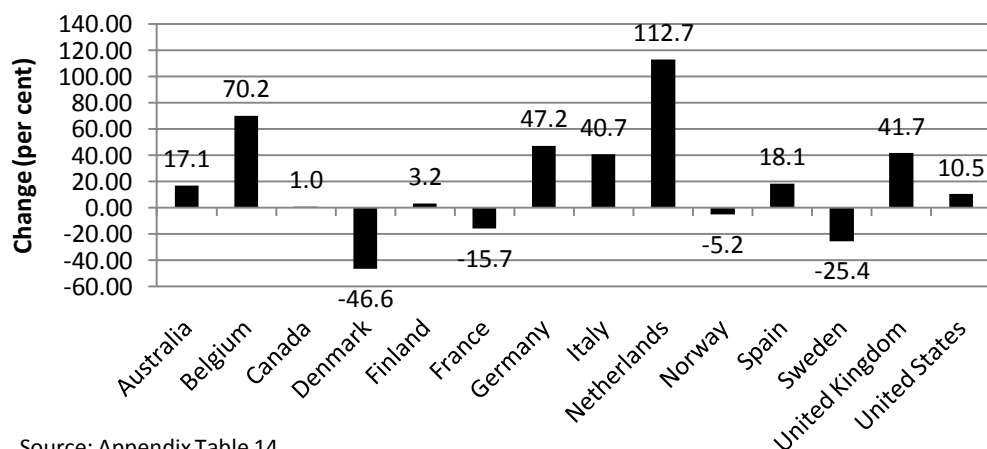


Source: Appendix Table 13

and 2009 show that only six countries experienced increases in their poverty gaps. The greatest increase was experienced by the Netherlands, where the poverty gap grew by 13.4 percentage points, or 31.9 per cent, over the period. Among countries in which the poverty gap declined, the greatest improvement was 14.2 percentage points, or 30.8 per cent, in Norway. France's and Sweden's poverty gaps also decreased impressively, with negative growth of 26.8 per cent and 26.7 per cent, respectively. In absolute terms,

France's poverty gap decreased 9.4 percentage points and Sweden's decreased 10.5 percentage points.

Chart 18: Changes in Poverty Intensity, Selected OECD Countries, Per Cent, 1980-2009



Source: Appendix Table 14

Poverty intensity is defined as the product of the poverty gap and the poverty rate (also multiplied by a constant). Due to its extremely high poverty rate, and its moderately high poverty gap, the United States had the highest poverty intensity in 2009 (Appendix Table 14). Conversely, Finland was among the countries with the lowest poverty gaps and poverty rates, and therefore had the lowest poverty intensity in 2009.

The trend of poverty intensity for the 1980-2009 period was the sum of the two trends of the constituent parts. Due to the considerable fall in its poverty gap, Denmark's poverty intensity declined by 46.6 per cent (Chart 18). On the other hand, due to its considerable increase in both the poverty rate and the poverty gap, the Netherlands's poverty intensity grew by 112.7 per cent.

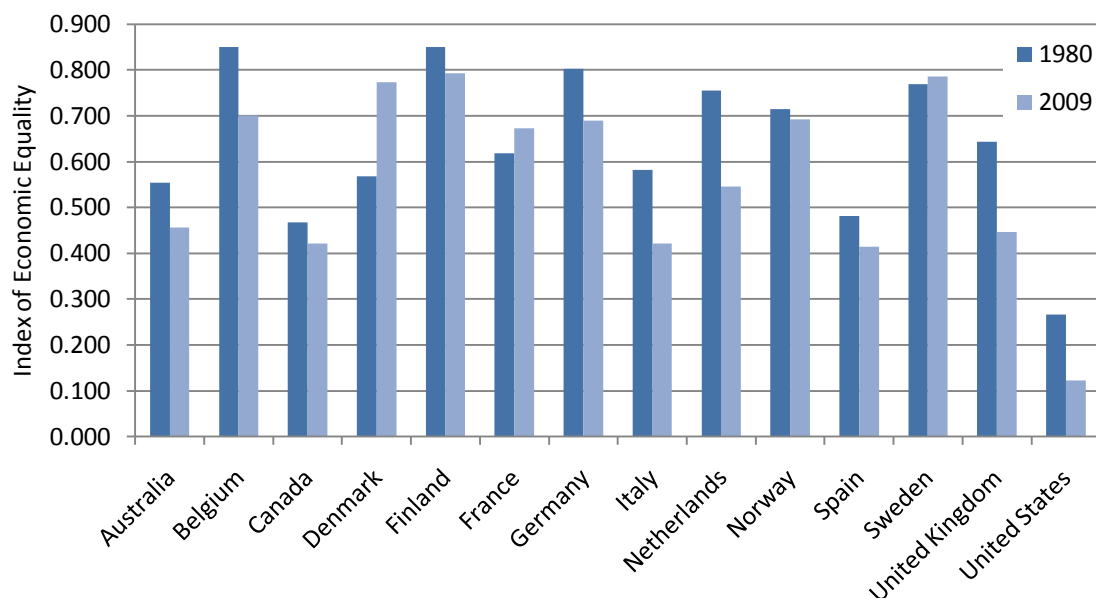
iii. Overall Economic Equality Domain

The index of the economic equality domain is the weighted sum of the scaled Gini coefficient and the scaled poverty intensity, with poverty intensity receiving three quarters of the weight. In 2009, Finland had the highest economic equality score, at 0.793 (Table 5 and Chart 19). The United States was the country with the least equality by far; its index score of 0.123 was 70.4 per cent below the next lowest score, Spain's 0.415. Canada ranked eleventh among the fourteen countries with a score of 0.422.

Economic equality increased in only three countries over the 1980-2009 period: Denmark, France, and Sweden. The most progress among them was made by Denmark, where the index of equality grew 0.206 points, or 36.3 per cent. The United States, the United Kingdom, and the Netherlands experienced the greatest setbacks in terms of

equality, with the United States falling by 0.143 points (or 53.8 per cent), the United Kingdom by 0.198 points (or 30.7 per cent), and the Netherlands falling by 0.209 points (27.7 per cent) over the period.

Chart 19: Index of the Economic Equality Domain, Selected OECD Countries, 1980 and 2009



Source: Table 5

F. Trends in the Economic Security Domain

The economic security domain is the most complex domain of the Index of Economic Well-being and the methodologies used in its construction have evolved since the Index was first released in 1998.²⁰ The domain consists of four components called risks to economic well-being facing the population, namely the risk imposed by unemployment, the financial risk from illness, the risk from single parent poverty, and the risk of poverty in old age. Three of these components are in turn composed of more than one variable.

i. Risk from Unemployment

Risk imposed by unemployment is determined by two variables: the unemployment rate and the proportion of earnings that are replaced by unemployment benefits.²¹ Each of these measures is scaled, and then summed with weights of 0.8 and

²⁰ For a discussion of the role of economic security in an index of economic well-being and an assessment of the CSLS approach to the measurement of economic security, see Heslop (2009).

²¹ In our estimates of the Index of Economic Well-being for Canada and the provinces (Osberg and Sharpe, 2009), security from unemployment is also determined by the unemployment insurance coverage rate (the proportion of the unemployed who receive unemployment insurance benefits). The unemployment component of the economic security domain is a weighted sum of the scaled unemployment rate and the scaled product of the unemployment insurance coverage and replacement rates, with eighty per cent of the

0.2, respectively. This weighted sum is the unemployment component of the security index.

a. Unemployment rate

In 2009, the lowest unemployment rate was in Norway, where 3.19 per cent of the labour force was unemployed (Appendix Table 15 and Chart 20). Norway was followed by the Netherlands and Australia, which had unemployment rates of 3.41 and 5.59, respectively. Spain had the highest unemployment rate of 18.09 per cent.

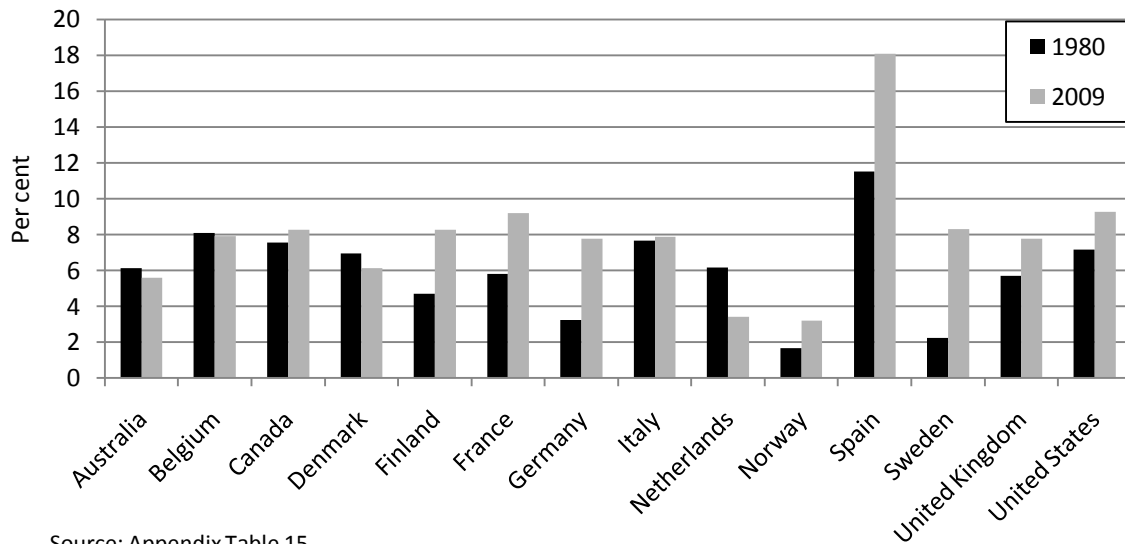
Over the 1980-2009 period, the unemployment rate decreased most significantly for the Netherlands. There, the unemployment rate fell by 2.74 percentage points, or 44.6 per cent. The two countries to experience the greatest increase in their unemployment rates were Spain and Sweden. Spain experienced positive growth of 6.57 percentage points, or 57.1 per cent, while Sweden's unemployment rate increased by 6.09 percentage points, or 274.1 per cent.

b. Unemployment insurance replacement rate

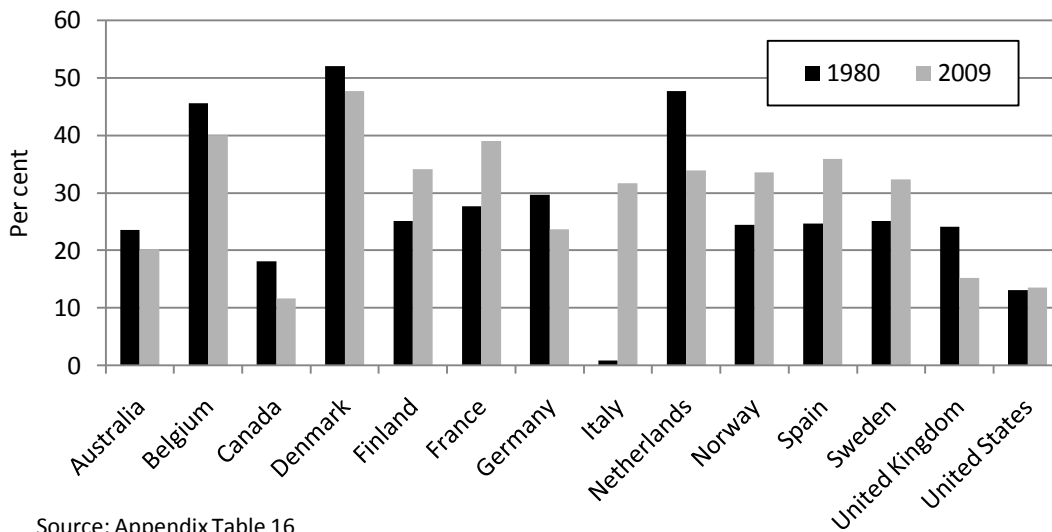
The unemployment insurance replacement rate is defined as the share of labour earnings replaced by unemployment insurance. It is computed as an average replacement rate for two earnings levels, three family situations, and three durations of unemployment (Martin, 1996). The proportion of income replaced by unemployment benefits was greatest in Denmark in 2009, at 47.7 per cent (Appendix Table 16 and Chart 21).²² Denmark was followed by Belgium, which had a replacement rate of 40.0 per cent. Canada had the lowest replacement rate at 11.7 per cent, less than one quarter of Denmark's rate.

weight assigned to the unemployment rate. Data limitations prevent us from using the coverage rate in our international estimates.

²² Data on the unemployment insurance replacement rate are available to 2007. Values for 2008 and 2009 are assumed to be equal to the 2007 values.

Chart 20: Unemployment Rate, Selected OECD Countries, Per cent, 1980 and 2009

Source: Appendix Table 15

Chart 21: Unemployment Insurance Gross Replacement Rate, Selected OECD Countries, Per Cent, 1980 and 2009

Source: Appendix Table 16

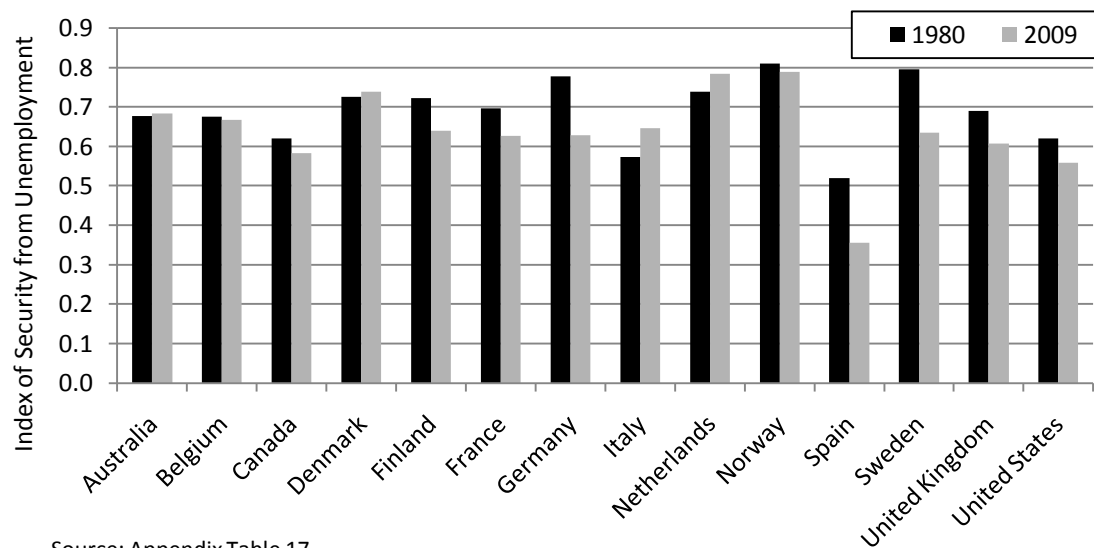
Over the 1980-2009 period, the replacement rate increased in seven of the fourteen countries. By far the greatest positive growth occurred in Italy, where the replacement rate grew by 30.8 percentage points from an insignificant 0.8 per cent in 1980 to 31.7 per cent in 2009 (an increase of 3,639 per cent). The next largest increase was 45.8 per cent in Spain. The largest proportional decline was in the United Kingdom, where the rate fell by 36.6 per cent from 24.1 per cent in 1980 to 15.2 per cent in 2009. Canada's 35.7 per cent decline, from 18.1 per cent to 11.7 per cent, was the second largest over the period.

c. Overall security from unemployment

In order to obtain the measures of scaled unemployment protection, the replacement rates and the unemployment rates of all countries are scaled, then multiplied by 0.2 and 0.8 respectively, and finally added together. Due to the fact that it had a high replacement rate and a low unemployment rate, Norway had the highest scaled level of protection from unemployment in 2009, at 0.789 points, followed closely by the Netherlands at 0.784 (Appendix Table 17 and Chart 22). On the opposite end, mostly due to its high unemployment rate, Spain had the lowest scaled level of protection from unemployment, 0.355 points.

Between 1980 and 2009, the scaled unemployment protection index fell for several countries. Spain experienced the greatest decline, 0.165 points, or 31.8 per cent. Italy, on the other hand, saw its index grow by 0.073 points, or 12.8 per cent. The growth pattern of the index over the sub-periods also very closely followed the growth of the unemployment rate.

Chart 22: Index of Security from the Risk of Unemployment, Selected OECD Countries, 1980 and 2009



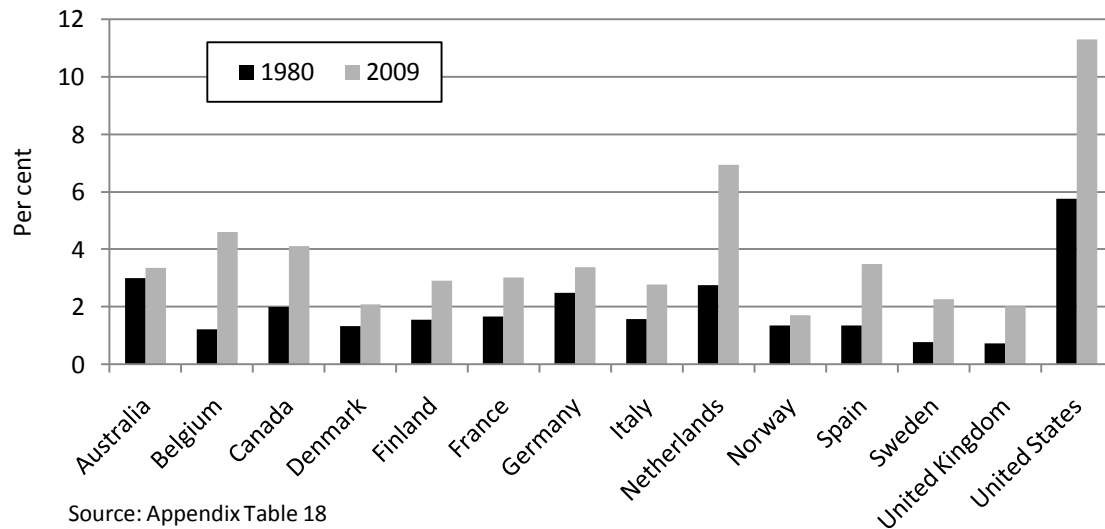
Source: Appendix Table 17

ii. Financial Risk from Illness

The second component of the economic security domain is the financial risk imposed by illness. In some countries such as Canada, health care deemed medically necessary by hospitals and doctors' offices is provided free of charge to all citizens through public medicare programs. In this sense the financial risk imposed by illness is much less than in countries without such universal coverage, like the United States. But there is still significant private expenditure on health care in public medicare countries, and these expenditures have been rising rapidly. Included are spending for dental care,

drugs taken outside hospitals, unlisted medical services such as acupuncture, and delisted medical services (physiotherapy and vision care are examples of various medical services that have been recently delisted). Also included are procedures considered socially desirable though medically unnecessary, such as plastic surgery. An increase in the share of expenditures on healthcare of personal disposable income will be considered as deterioration in economic security, as increased private health expenditures are usually brought about by poor health and thus represent a growing financial burden for low income persons.

Chart 23: Private Health Care Expenditures as a Proportion of Personal Disposable Income, Selected OECD Countries, Per Cent, 1980 and 2009



In 2009, the highest share of private expenditure on healthcare in personal disposable income was 11.30 per cent in the United States, giving it the smallest scaled protection from illness value of 0.083 points (Appendix Tables 18 and 19 and Chart 23).²³ The United States, being the only country without a comprehensive universal medical coverage program, was far ahead of all other studied countries in terms of private expenditures on healthcare. Norway had the lowest medical expenses as a share of personal disposable income, 1.70 per cent, giving it a scaled index value of 0.841 points.

From 1980 to 2009, the share of medical expenses in personal disposable income grew for all countries. In absolute terms, the share of the United States increased the most, growing by 5.55 percentage points, or 96.5 per cent (leading to an 84.0 per cent decline in its scaled security from illness index). However, in proportional terms this was not the greatest growth, as Belgium's 4.71 percentage-point increase represented growth of 279.5 per cent.

²³ Data on private health care expenditures are from OECD Health Data. The most recent year of data availability varies across countries as follows: the Netherlands (2002); Belgium (2005); and all other countries (2007). Values for subsequent years are extrapolated based on the compound annual growth rates over the five most recent years of data availability (i.e. 1997-2002 for the Netherlands).

iii. Risk from Single-Parent Poverty

The third component of the economic security domain is the risk of single parent poverty. This component consists of three variables: the divorce rate (as divorce throws many women into poverty), the poverty rate for lone female-headed families and the poverty gap for these families. As in the economic equality domain, the poverty line is defined as fifty per cent of median after-tax equivalent income. The poverty rate is the proportion of single women with young children whose income is below the poverty line. the poverty gap is the average per cent difference between the poverty line and the incomes of the single mothers whose incomes are below the poverty line.

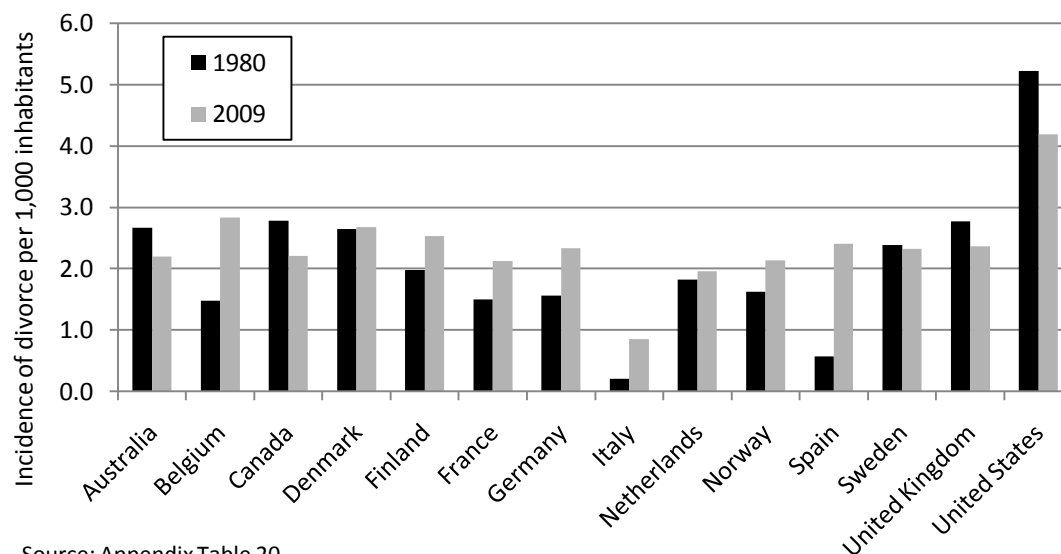
a. Divorce rate

In 2009, the United States had the highest divorce rate for married couples, 4.19 per 1,000 inhabitants (Appendix Table 20 and Chart 24).²⁴ Belgium followed the United States with a divorce rate of 2.83 per 1,000. The lowest divorce rate was in Italy (perhaps due to more traditional or religious values), 0.85 per 1,000, less than one fifth of the US rate. The divorce rate in Canada was 2.21 per 1,000 inhabitants in 2009, sixth lowest among the fourteen countries.

Over the 1980-2009 period, divorce rates grew in nine of the countries. The largest proportional increases were 323.0 per cent in Spain and 306.4 per cent in Italy; these were the countries with the two lowest divorce rates in 1980, so it is unsurprising that they experienced the largest per cent increases. The largest decline over the period was 20.5 per cent in Canada, which had one of the highest divorce rates in 1980.

²⁴ Data on divorce rates are from the UN Demographic Yearbook. The most recent year of data availability varies across countries as follows: the United States (1998); the United Kingdom (2003); Canada (2004); Australia and Italy (2005); and all other countries (2006). Subsequent values are assumed to be equal to the value in the most recent year of data availability.

Chart 24: Divorce Rate, Selected OECD Countries, Incidence per 1,000 Inhabitants, 1980 and 2009



Source: Appendix Table 20

b. Poverty

The poverty rate for single women with children under 18 in 2009 was greatest for the United States at 43.7 per cent (Appendix Table 21 and Chart 25).²⁵ Canada had the second highest poverty rate, at 43.4 per cent. Much like the general poverty rate, the poverty rate for single women with children was lowest in Denmark (at 7.4 per cent), Sweden (at 9.7 per cent) and Finland (at 11.5 per cent).

The poverty rates for single women with children under 18 increased in 9 of the 14 countries over the 1980-2009 period. The greatest growth was experienced by Germany, where the poverty rate increased by an amazing 32.7 percentage points, from 5.7 per cent in 1980 to 38.5 per cent in 2009 – growth of over 500 per cent. The Netherlands also experienced significant growth here. Among the countries in which the poverty rate fell, the greatest decline – in both proportional and percentage-point terms – was in Australia; its poverty rate fell by 12.0 percentage points (27.4 per cent). Although they had the two highest single-mother poverty rates in 2007, both Canada and the United States experienced declines in the rate (by 2.9 and 7.5 per cent, respectively) over the 1980-2009 period.

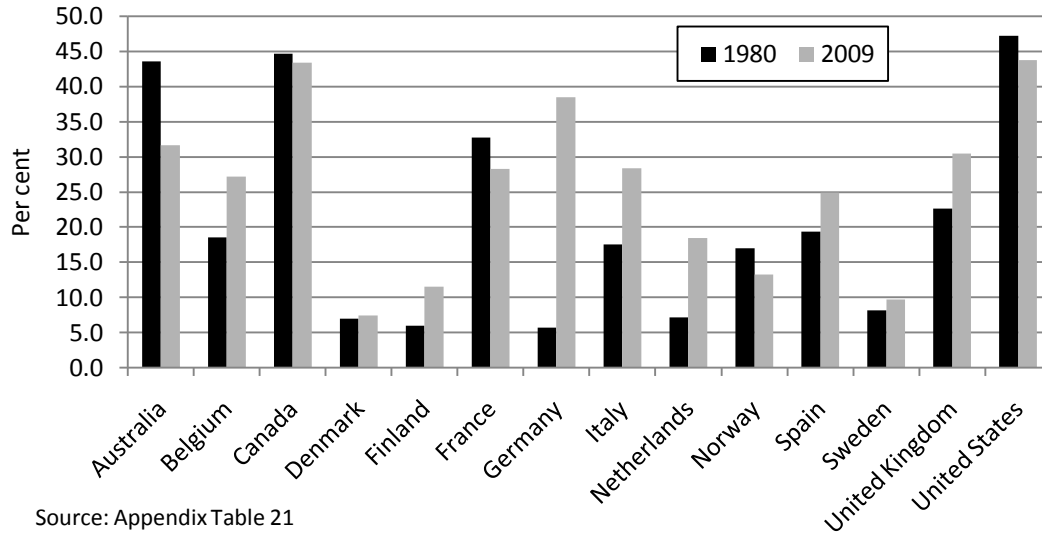
The 2009 poverty gap for female headed families with children under 18 was greatest in the United States, at 42.7 per cent, followed by Italy at 42.3 per cent (Appendix Table 22 and Chart 26). The lowest poverty gaps were 17.6 per cent in Finland and 17.8 per cent in France. Canada had the fifth highest rate, at 28.9 per cent.

Over the 1980-2009 period, the single-mother poverty gap fell in nine of the fourteen countries. The largest decline was 22.8 percentage points (or 56.2 per cent) in

²⁵ Data are from the Luxembourg Income Study. See Footnote 18.

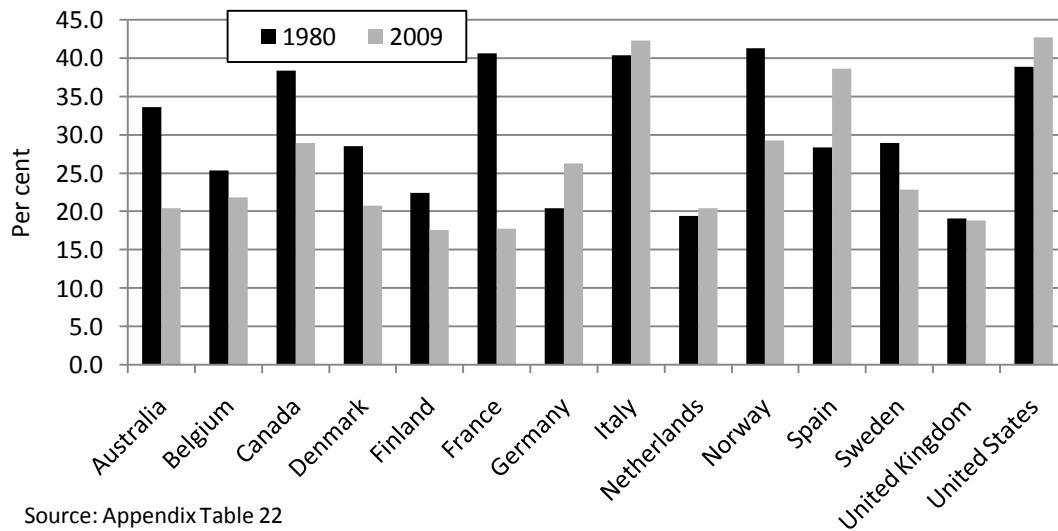
France. Out of the five countries that experienced positive growth in their poverty gaps, the largest increase was 10.2 percentage points (or 35.9 per cent) in Spain. In Canada, the poverty gap fell 9.4 percentage points (or 24.6 per cent); this was the fourth largest percentage-point decline among the fourteen countries.

Chart 25: Poverty Rate for Single Women with Children Under 18, Selected OECD Countries, Per Cent, 1980 and 2009



Source: Appendix Table 21

Chart 26: Poverty Gap for Single Women with Children Under 18, Selected OECD Countries, Per Cent, 1980 and 2009



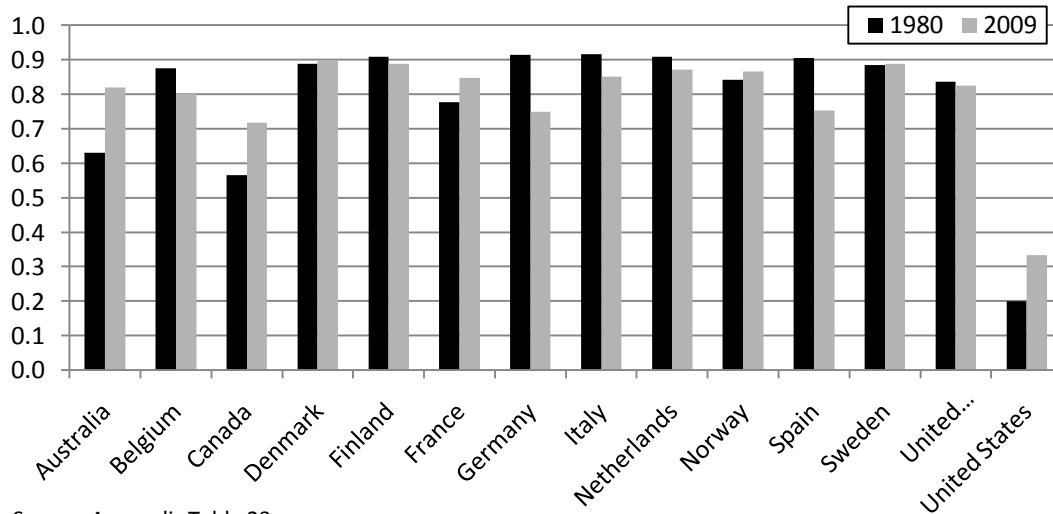
Source: Appendix Table 22

c. Overall security from single-parent poverty

The overall measure of the risk imposed by single parent poverty is calculated as the product of the divorce rate, the poverty rate for lone female-headed families, and the poverty gap for single female-headed families. That measure is then converted into a scaled index. Due to its very low poverty rate, Denmark was the country where single parents were safest from poverty in 2009, with a scaled index value of 0.897 points (Appendix Table 23 and Chart 27). The United States had the lowest index score by a wide margin; its score of 0.333 was 53.6 per cent below the next lowest score, Canada's 0.717.

Despite having the lowest index level for 2009, the United States showed the most improvement, in proportional terms, over the entire 1980-2009 period; its index grew by 66.9 per cent (or 0.134 points). Canada's 26.7 per cent increase was the third largest. Security from single-parent poverty decreased in seven of the countries, with the largest declines occurring in Germany (18.1 per cent) and Spain (16.8 per cent).

Chart 27: Index of Security from Single-parent Poverty, Selected OECD Countries, 1980 and 2009



Source: Appendix Table 23

iv. Risk of Poverty in Old Age

The fourth component of the economic security domain is the risk of poverty in old age. This component is proxied by the poverty intensity experienced by the households headed by a person 65 and over.

a. Poverty

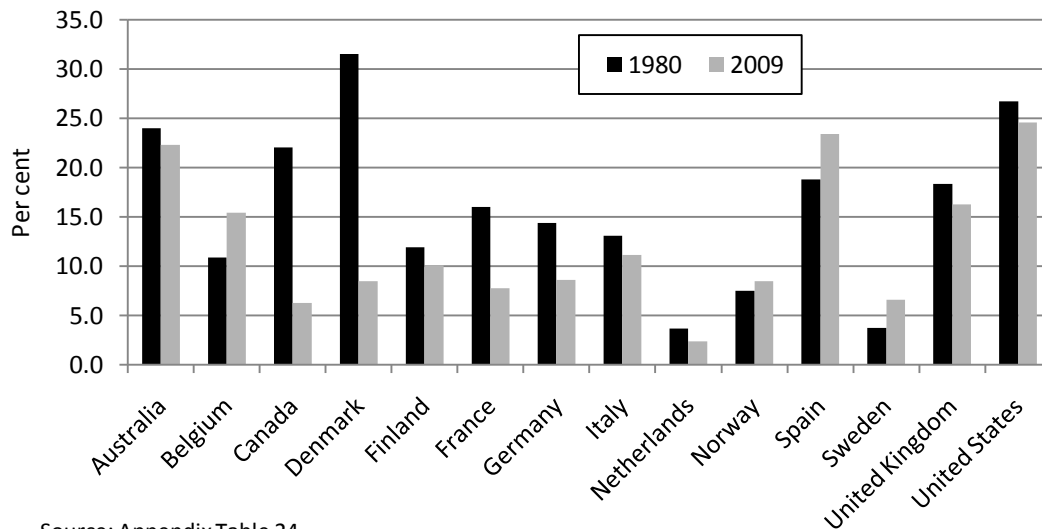
In 2009, the elderly poverty rate was greatest in the United States, at 24.6 per cent (Appendix Table 24 and Chart 28).²⁶ Spain had the second highest rate, at 23.4 per cent.

²⁶ Data are from the Luxembourg Income Study. See Footnote 18.

The lowest elderly poverty rates were 2.4 per cent in the Netherlands and 6.3 per cent in Canada.

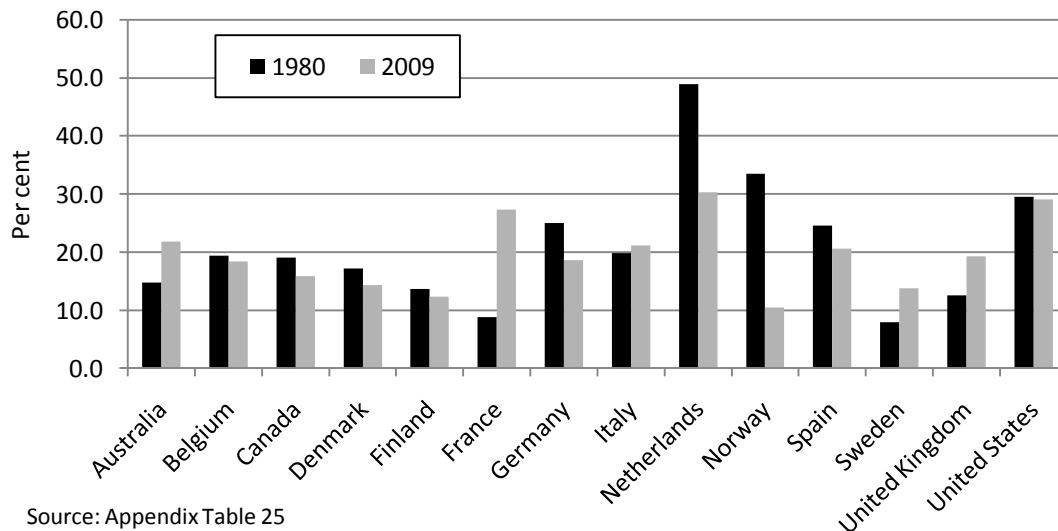
Over the 1980-2009 period, four of the selected fourteen countries experienced increasing elderly poverty rates. In absolute terms they were led by Spain, the poverty rate of which grew by 4.58 percentage points (24.4 per cent). In proportional terms, the leader was Sweden, which grew by 75.8 per cent (as a result of an increase of 2.85

Chart 28: Poverty Rate for Elderly Families, Selected OECD Countries, Per Cent, 1980 and 2009



Source: Appendix Table 24

Chart 29: Poverty Gap for Elderly Families, Selected OECD Countries, Per Cent, 1980 and 2009



Source: Appendix Table 25

percentage points from a very low rate in 1980). Denmark and Canada had the largest improvements, with declines of 23.0 and 15.8 percentage points (or 73.1 and 71.4 per cent), respectively.

The elderly poverty gap ratio was highest in the Netherlands in 2009, at 30.3 per cent (Appendix Table 25 and Chart 29). The United States followed with a poverty gap ratio of 29.0 per cent. The lowest gap, 10.5 per cent, belonged to Norway. Canada's elderly poverty gap of 15.9 per cent was the fifth lowest among the fourteen countries.

In terms of changes in the poverty gap over the 1980-2009 period, the greatest absolute increase of 18.5 percentage points was experienced by France (equal to proportional growth of 211.0 per cent). Of the nine countries that experienced negative growth in the elderly poverty gap, the largest decline was 23.0 percentage points (or 68.7 per cent) in Norway.

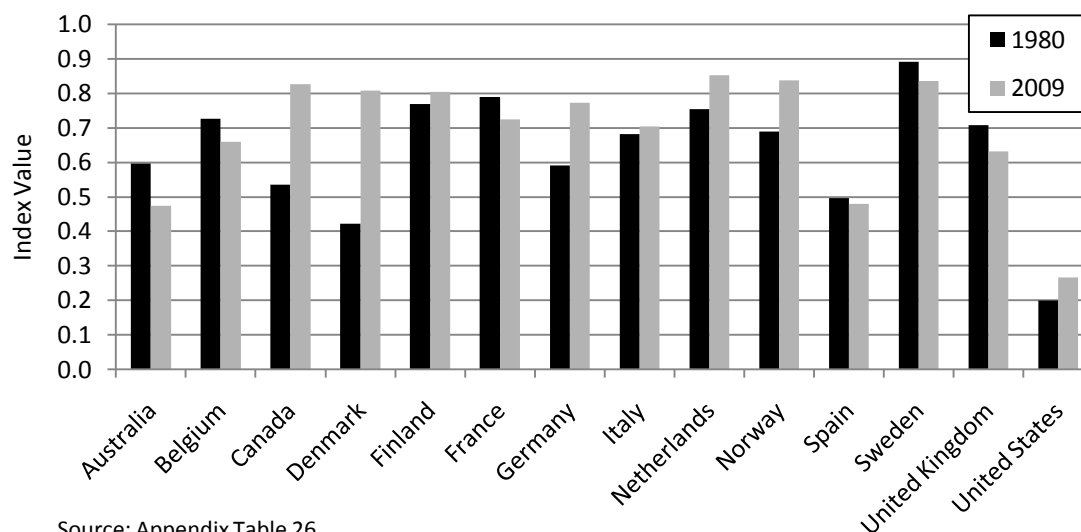
b. Index of security from poverty in old age

To compute the index of security from the risk of poverty in old age, we calculate poverty intensity (the product of the poverty gap and the poverty rate) and then convert it into a scaled index using the linear scaling procedure.

Citizens of the United States were least secure from poverty due to old age in 2009, with the lowest scaled index level of 0.266 (Appendix Table 26 and Chart 30). This is unsurprising, since the United States had the highest elderly poverty rate and the second-highest elderly poverty gap in 2009. As in the case of security from single-parent poverty, there was a considerable gap between the United States and the country with the next lowest score; the US score was 44.0 per cent below the next lowest score, Australia's 0.475. The country with the greatest security from elderly poverty was the Netherlands, which had a scaled index level of 0.852. Norway and Sweden followed, with scores of 0.837 and 0.835, respectively.

Australia was the country that experienced the sharpest drop in its index during the 1980-2009 period, losing 20.3 per cent of its 1980 index level, or 0.121 points. Most likely due to their declining poverty rates, Denmark and Canada experienced the most significant improvements in the index of security from old-age poverty: 0.385 and 0.292 points (91.1 and 54.5 per cent), respectively.

Chart 30: Index of Security from Poverty in Old Age, Selected OECD Countries, 1980 and 2009



Source: Appendix Table 26

v. Weighting of the Components in the Index of the Economic Security Domain

The scaled values of the four components of the economic security domain are aggregated to obtain an overall scaled index for the domain. The weights used for this aggregation procedure are constructed from the relative sizes of the populations subject to each risk.

In terms of the risk of unemployment, it is assumed that the entire population aged 15 to 64 years is subject to this risk. In 2009, this ranged between 61.8 per cent in France, to 68.0 per cent in Canada (Appendix Table 27). The total population (i.e. 100 per cent) is assumed to be subject to financial risk associated with illness. In terms of the risk of single parent poverty, it is proxied by the share of married women with children under 18. As a proportion of the population in 2009, this group ranged from 26.5 per cent in Italy to 39.3 per cent in the United States. Finally, it is assumed that the population aged 45 to 64 is most likely to feel anxiety regarding the risk from poverty in old age. In 2009, this age group constituted between 24.6 per cent (in Spain) and 28.7 per cent (in Finland) of the population.

The component-specific weights are generated by summing the four proportions of the population subject to the four risks and then standardizing to unity by dividing each proportion by that sum.

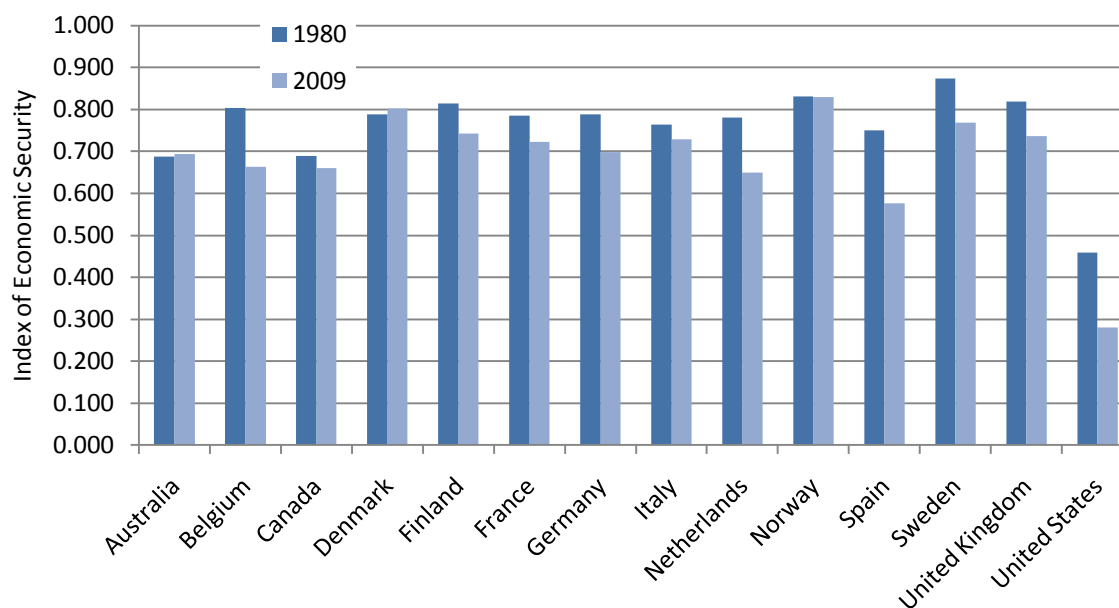
As a result of demographic shifts, the proportion of the population affected by various risks changed over time. With the aging of the population, the proportion of the population aged 15-64 and the proportion of the population aged 45-64 increased for almost all countries, while the proportion of married women with children under 18 declined over the 1980-2009 period.

The contribution of each component of the security domain index is the product of its scaled value and weight. For example, for Canada in 2009, the weighted scaled security from risk imposed by unemployment was 0.173 (0.582×0.297), the weighted scaled security from risk imposed by illness was 0.284 (0.65×0.437), risk of single parent poverty was 0.105 (0.717×0.146) and risk of poverty from old age was 0.099 (0.827×0.120). The sum of the four components was 0.661, the index value of the overall security domain for Canada in 2009.

vi. Overall Index of the Economic Security Domain

Economic security was greatest in Norway, with a value of 0.829 points in 2009 (Table 6 and Chart 31). Norway was followed by Denmark with a value of 0.803 points. The United States had by far the lowest score for economic security, at 0.280; the next lowest was 0.577 in Spain. Canada ranked eleventh with a score of 0.661.

Chart 31: Index of Economic Security, Selected OECD Countries, 1980 and 2009



Source: Table 6

Twelve of the fourteen countries experienced a decline in economic security over the 1980-2009 period. The United States and Spain fell the most in proportional terms, with declines of 39.0 per cent (or 0.179 points) and 23.1 per cent (or 0.173 points), respectively. The overall trend of the index was clearly negative across the fourteen countries, as even the country that experienced the greatest positive growth, Denmark, increased by only 1.8 per cent (or 0.014 points) over the period. The only other country that experienced positive growth in security was Australia (1.0 per cent).

III. Sensitivity Analysis

In this section, we explore the sensitivity of our results to the choice of the weights that are assigned to the four domains of well-being. In the literature, most composite indices assign equal weight to each component; the best known example is probably the Human Development Index, which assigns equal weight to sub-indices of education, health and access to resources (i.e. the log of GDP per capita). The main baseline results we report continue in this tradition, but there is no objective sense in which this weighting scheme is preferable to all others. The choice of weights is a value judgment, and the IEWB is designed to make that judgment as transparent as possible. There are defensible alternative weighting schemes, and we would like to know the robustness of our qualitative findings to changes in the weights.²⁷

We compute the Index of Economic Well-being under three alternative weighting schemes. They are outlined in Exhibit 5 below. The baseline results are those reported in earlier sections of this report, with each domain given equal weight. Alternative 1 keeps the weights for equality and security unchanged, but shifts some of the weight from wealth stocks to consumption flows. This is reasonable if it is believed that people value current consumption more than accumulated stocks of wealth. Note that these were the weights that we used in the original estimates of the Index (Osberg and Sharpe, 1998); although these weights do not exactly reflect the proportion of national income that Canadians collectively choose to invest rather than consume in a typical year, the implied 4:1 ratio of the value of consumption relative to savings is far closer than the 1:1 ratio in the baseline IEWB. Alternative 2 assigns zero weight to distributional concerns; the weight placed on the economic equality domain, which includes both income inequality and poverty, is set to zero.²⁸ Alternative 3 was recently suggested by the French business magazine *L'Expansion* (Dedieu, 2009). It assigns high weights to economic equality and security and low weights to consumption and wealth.

Exhibit 5: Weighting Schemes for Sensitivity Analysis
Weights

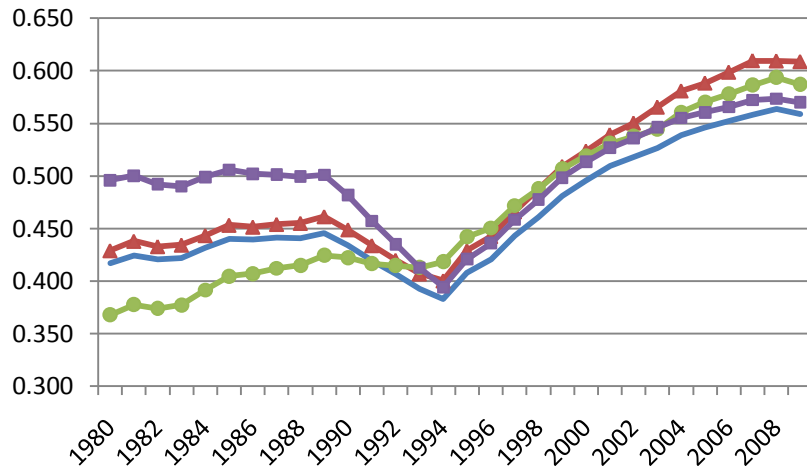
	Consumption	Wealth	Equality	Security
Baseline (Alternative 0)	0.25	0.25	0.25	0.25
Alternative 1	0.40	0.10	0.25	0.25
Alternative 2	0.33	0.33	0.00	0.33
Alternative 3	0.20	0.10	0.40	0.30

²⁷ Again, we invite readers to download the data tables in Microsoft Excel format at the CSLs web site (http://www.csls.ca/iwb/Weights_OECD.xls) and build versions of the Index of Economic Well-being with their own preferred weights for the four domains.

²⁸ If it is thought to be 'left-wing' to emphasize distributional issues, then putting zero weight on such issues might be thought to be an extreme 'right-wing' perspective.

Chart 32: Index of Economic Well-being under Alternative Weighting Schemes, Selected OECD Countries, 1980-2009

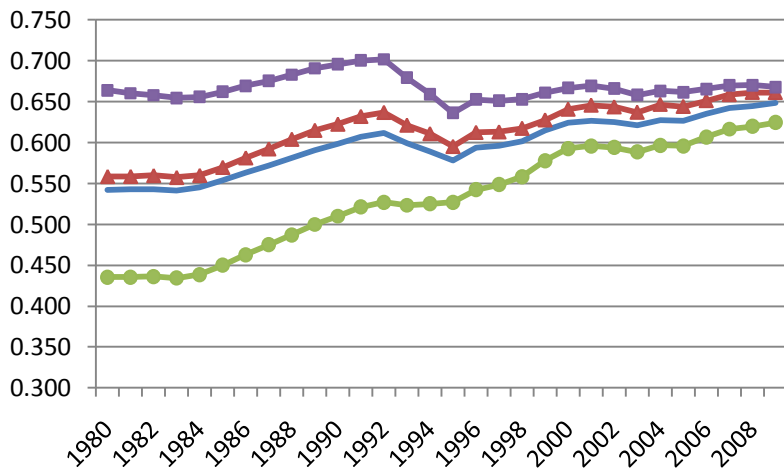
Australia



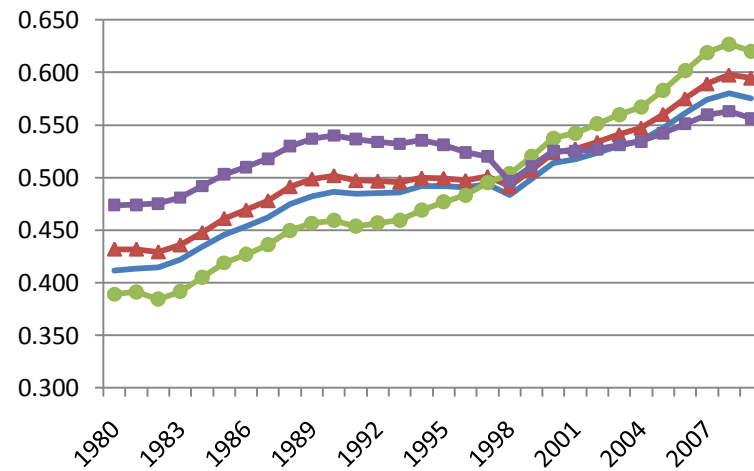
- Baseline
- ▲— Alternative 1
- Alternative 2
- Alternative 3

Source: Table 1 and Appendix Tables 28-30

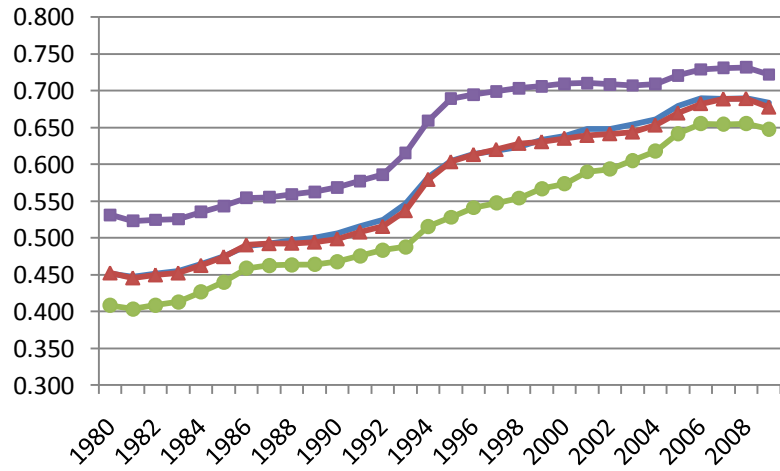
Belgium



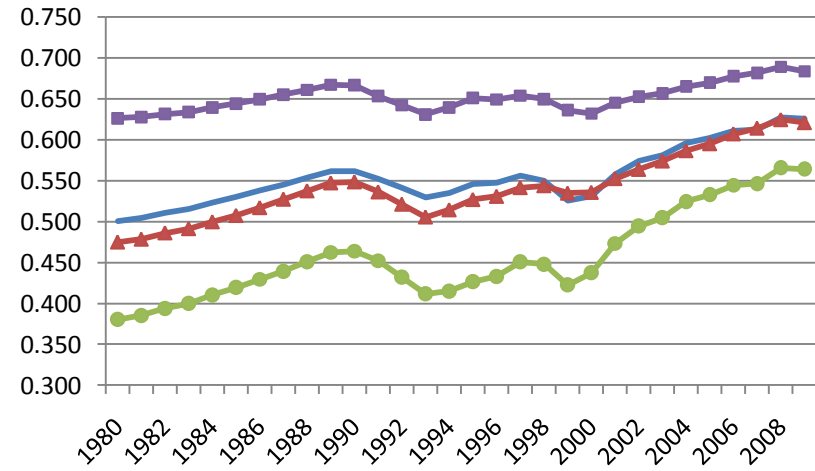
Canada



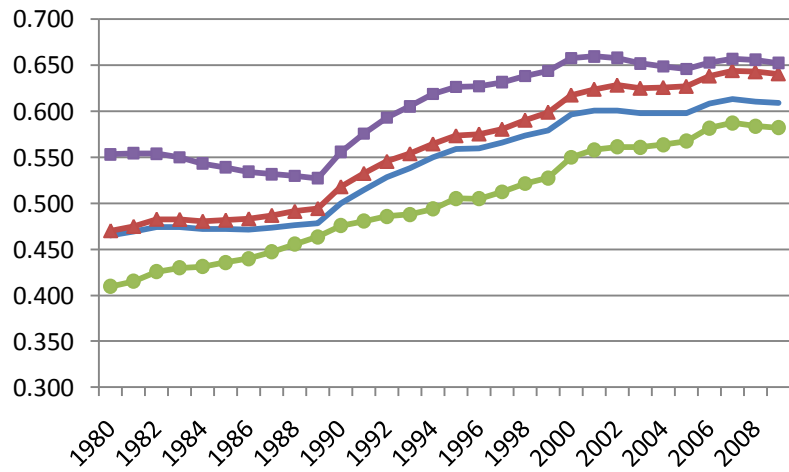
Denmark



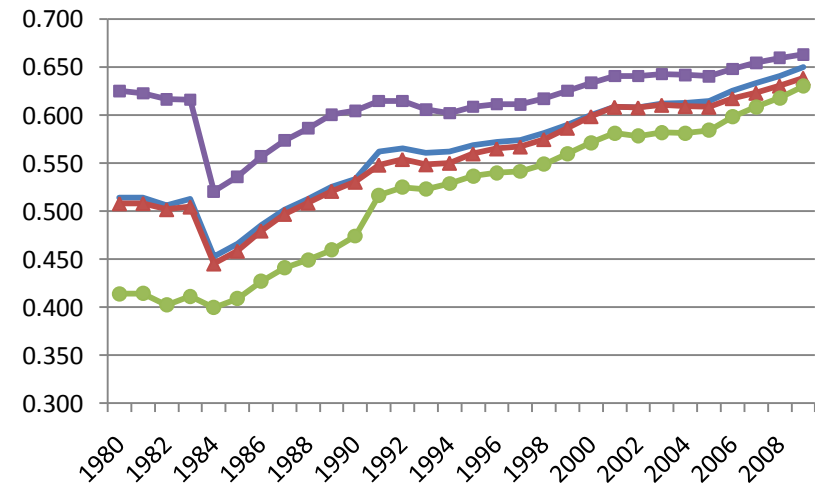
Finland



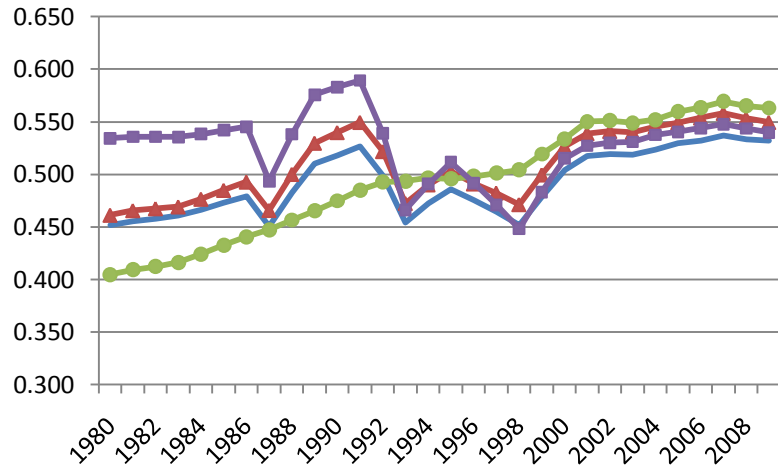
France



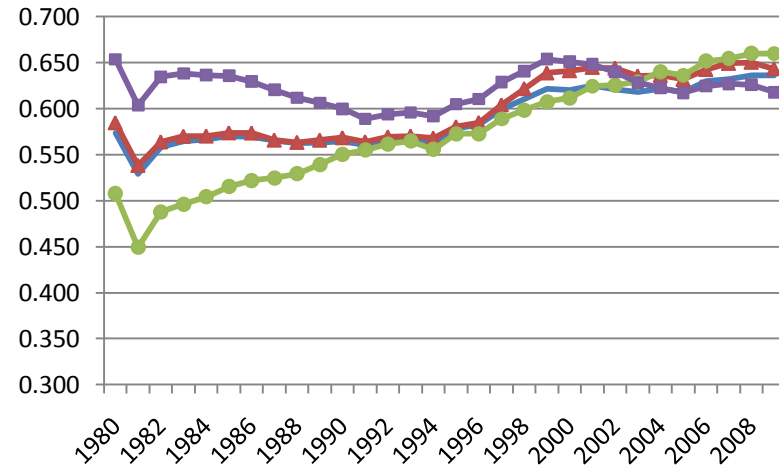
Germany



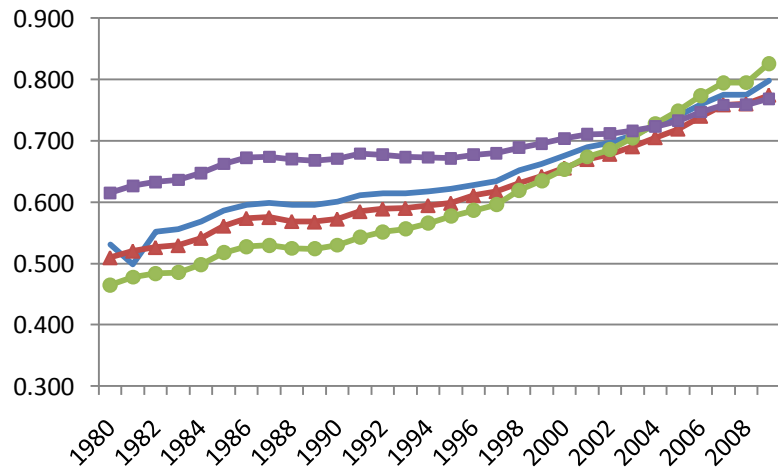
Italy



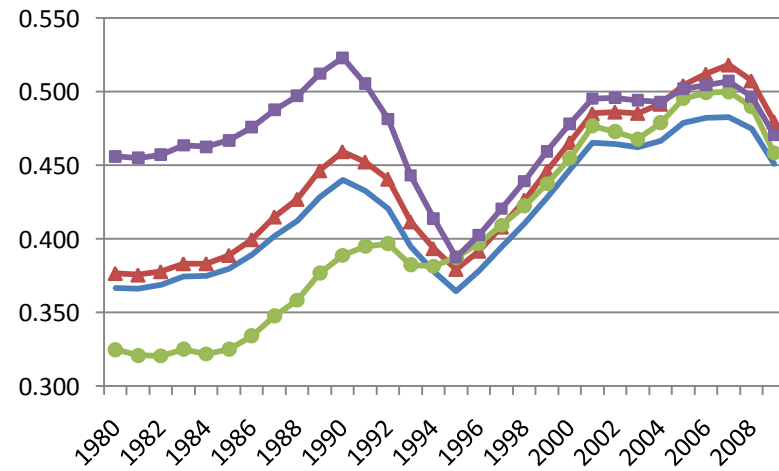
Netherlands



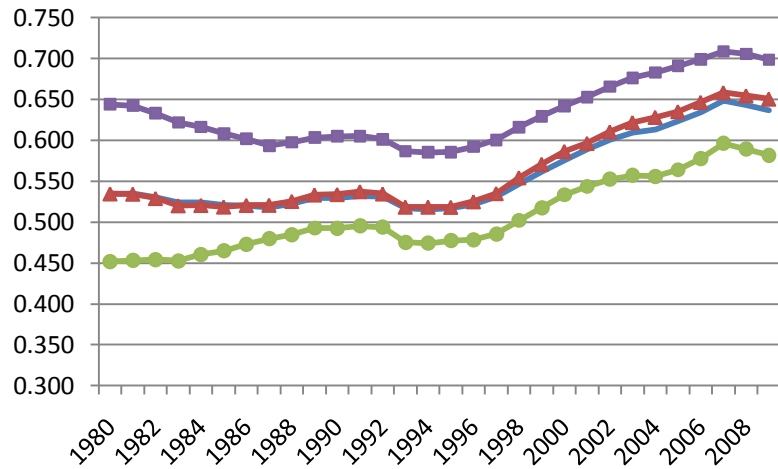
Norway



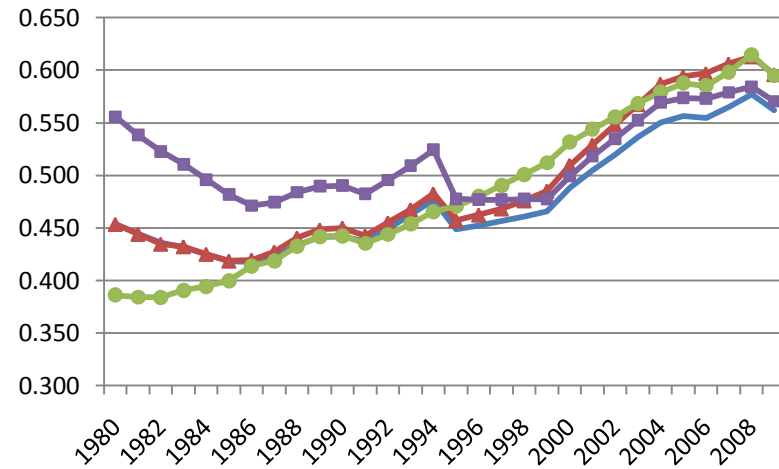
Spain



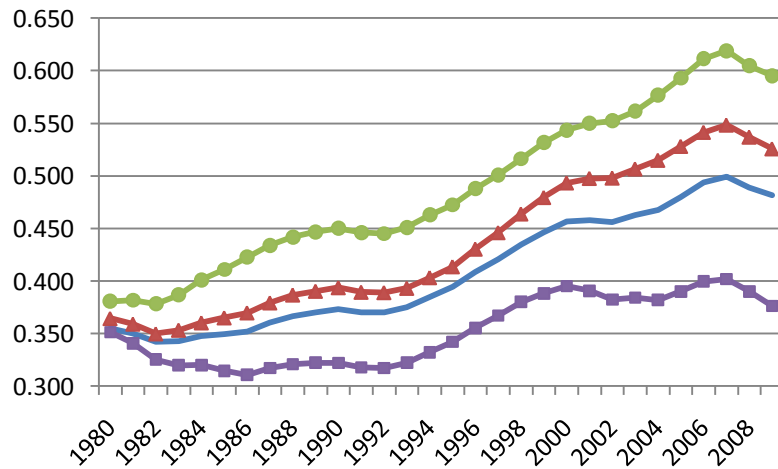
Sweden



United Kingdom



United States



- Baseline
- ▲ Alternative 1
- Alternative 2
- Alternative 3

A. Alternative 1: Consumption Weighted More Heavily than Wealth

Under Alternative 1, the weights are 0.4 for consumption, 0.1 for wealth, and 0.25 for each of economic equality and economic security. Thus, relative to the baseline, weight is shifted from the wealth domain to the consumption domain. Nearly all of the fourteen countries fall into one of two categories: countries for which the change of weights increases measured well-being *in all years*, and countries for which the change of weights lowers measured well-being *in all years*. This is illustrated in Chart 32; in nearly every country, the line representing Alternative 1 is either shifted upward or shifted downward for all years between 1980 and 2007, relative to the line representing the baseline results. The former group includes Australia, Belgium, Canada, France, Italy, the Netherlands, Spain, the United Kingdom, and the United States; the latter includes Denmark, Finland (except for 1999-2000 and 2007), Germany, and Norway (except for 1981). The one remaining country, the Sweden, fits into neither category. In Sweden, the shift of weight from wealth to consumption lowers well-being in the 1981-1986 period but raises it in all other years.

These changes reflect the relative magnitudes of the indices of the consumption and wealth domains within each country. Intuitively, countries with higher scores in the consumption domain than the wealth domain have higher measured well-being when the consumption domain receives higher weight, and vice versa for countries with higher wealth scores than consumption scores.

Exhibit 6 provides the rankings of the countries according to the levels and growth rates of their overall Index scores under the baseline and alternative weighting schemes, while Table 7 summarizes the IEWB estimates themselves under the different weighting schemes. The shift from the baseline weights to Alternative 1 has no substantial effect on the ranking of the countries (with the exception of Germany, which slips from third place into seventh). In both cases, the top two countries are Norway and Denmark; respectively, their Index values for 2009 are 0.799 and 0.684 under the baseline weights and 0.775 and 0.678 under Alternative 1. The bottom three countries are also the same under both weighting schemes. The lowest scores belong to Spain, the United States, and Italy, with scores of 0.451, 0.482 and 0.532 under the baseline weights and 0.480, 0.526, and 0.550 under Alternative 1. Note that shifting weight from wealth to consumption raises the IEWB scores of the bottom countries and reduces the scores of the top countries, but not by enough to change their ranks.

For eight of the countries, the IEWB grew faster over the 1980-2009 period under Alternative 1 than under the baseline weights. However, the differences are small. The largest difference in growth is in the United States, where the compound annual growth rate of the IEWB for 1980-2009 is 0.21 percentage points higher under Alternative 1 than under the baseline weights (1.27 per cent per year versus 1.06 per cent per year). Compound annual growth of the Index is slower under Alternative 1 in

Exhibit 6: Ranking of Countries According to Economic Well-being under Baseline and Alternative Weights, 2007

	<u>Level, 2009</u>			
	Baseline	Alternative 1	Alternative 2	Alternative 3
Highest well-being	Norway	Norway	Norway	Norway
	Denmark	Denmark	Netherlands	Denmark
	Germany	Belgium	Denmark	Sweden
	Belgium	Sweden	Germany	Finland
	Netherlands	Netherlands	Belgium	Belgium
	Sweden	France	Canada	Germany
	Finland	Germany	United States	France
	France	Finland	United Kingdom	Netherlands
	Canada	Australia	Australia	Australia
	United Kingdom	United Kingdom	France	United Kingdom
	Australia	Canada	Sweden	Canada
	Italy	Italy	Finland	Italy
	United States	United States	Italy	Spain
	Spain	Spain	Spain	United States
Lowest well-being				

	<u>Growth Rate, 1980-2009</u>			
	Baseline	Alternative 1	Alternative 2	Alternative 3
Fastest IEWB Growth	Denmark	Norway	Norway	Denmark
	Norway	Denmark	Australia	Norway
	Canada	United States	Canada	France
	United States	Australia	Denmark	Canada
	Australia	Canada	United States	Australia
	France	France	United Kingdom	Finland
	Germany	United Kingdom	Germany	Sweden
	Finland	Finland	Finland	United States
	United Kingdom	Spain	Belgium	Germany
	Spain	Germany	France	Spain
	Belgium	Sweden	Spain	United Kingdom
	Sweden	Italy	Italy	Italy
	Italy	Belgium	Netherlands	Belgium
	Slowest IEWB Growth	Netherlands	Netherlands	Sweden

Belgium, Canada, Denmark, Germany, and the Netherlands, but the largest change is 0.05 percentage points in Canada (1.11 per cent per year under Alternative 1, versus 1.16 per cent per year in the baseline results).

Although the changes in the compound annual growth rates are small, they do affect the ranking of countries in terms of Index growth because several countries had similar growth rates under the baseline results. In most cases, the change to the Alternative 1 weights does not affect a country's rank by more than one place; for example, Denmark and Norway switch places in first and second place in the ranking (Exhibit 4). Exceptions are Canada (which falls from third to fifth place under Alternative 1), Germany (which falls from seventh to tenth), the United Kingdom (which rises from ninth to seventh) and Belgium (which falls from eleventh to thirteenth).

Overall, however, shifting emphasis from wealth stocks to current consumption does not change rankings much. There are no cases in which the change in weights moves a country from a low rank to a high rank or vice versa. The results are robust to the change from the baseline weights to Alternative 1. The cross-country patterns are essentially the same under both weighting schemes, as are the general trends over time within each country.

B. Alternative 2: No Weight Given to Economic Equality

Under Alternative 2 it is assumed that inequality and poverty do not matter to national economic well-being; no weight at all is given to this domain and a weight of 0.33 is given to each of the remaining three domains. The new time series based on these weights are plotted in Chart 32. Australia, Canada, Italy, the Netherlands, Norway, Spain, and the United Kingdom share a common pattern: relative to the baseline results, Alternative 2 lowers measured well-being early in the 1980-2009 period but raises it late in the period. This reflects the fact that these countries initially had high scores in the equality domain relative to the other domains (particularly consumption and wealth), but their consumption and wealth scores grew quickly over the period while their inequality scores stagnated or declined.

By contrast, a second group of countries – Belgium, Denmark, Finland, France, Germany, and Sweden – share a different pattern. In those countries, deemphasizing economic equality leads to lower measured well-being in all years. These are countries that have high scores in the economic equality domain and have maintained that performance over time.

The United States is unique in that deemphasizing poverty and inequality improves its measured well-being in every year between 1980 and 2009. In addition, the Index for the United States exhibits faster growth over the 1980-2009 period when poverty and inequality are given zero weight. The IEWB for the United States grew by 1.55 per cent per year from 0.381 to 0.595 under Alternative 2; under the baseline weights, it grew by 1.06 per cent per year from 0.355 to 0.482 (Table 7). This reflects the

very poor performance of the United States in the economic equality domain over the full 1980-2009 period.

The sensitivity of the US results to the weight of the economic equality domain is also illustrated in the ranking of the countries under Alternative 2 (Exhibit 6). In the baseline results, the United States ranks second-to-last in measured well-being in 2009; under Alternative 2, it jumps to seventh place among the fourteen countries.

As in the baseline results, the top five countries under Alternative 2 are Norway, the Netherlands, Denmark, Germany, and Belgium. Norway's 2009 Index score increased from 0.799 under the baseline weights to 0.844 under Alternative 2; Norway had high values in all four domains for 2009, and its equality score was the lowest of the four. The 2009 Index also increased in the Netherlands from 0.636 under the baseline weighting to 0.660 under Alternative 2. For the other three countries, deemphasizing the equality domain slightly reduces economic well-being.

Spain remains the country with the lowest measured well-being for 2009; its score is 0.458 under Alternative 2, compared to 0.451 under the baseline weights. The third-lowest score under Alternative 2 belongs to Finland, at 0.564. In the baseline results, Finland ranks eighth out of fourteen countries with an IEWB score of 0.626. This reflects the fact that Finland scores well in the equality domain, while its scores in the consumption and wealth domains are relatively low.

Overall, omitting consideration of the economic equality domain alters the results substantially. Countries vary significantly in their economic equality performances. For countries with relatively high levels of economic equality, Alternative 2 leads to lower measured well-being. The opposite is true for the United States, a country characterized by high economic inequality throughout the 1980-2009 period. In addition, for the countries in which the index of the equality domain declined substantially over the period, the Alternative 2 weights alter the pattern of overall well-being over time. Relative to the baseline results, measured economic well-being is lower in the 1980s and higher in the 2000s under Alternative 2. This implies faster growth in economic well-being over the period in those countries, as illustrated by the steep lines for Alternative 2 in Chart 32 for the United States, Canada, and the United Kingdom, among other countries.

C. Alternative 3: High Weights Given to Economic Equality and Security

In contrast to Alternative 2, Alternative 3 gives much greater weights to economic equality and security relative to consumption and wealth. Under Alternative 2, the equality and security domains receive weights of 0.4 and 0.3, while consumption and wealth are assigned weights of 0.2 and 0.1 (Exhibit 5). It represents the judgments of the French business magazine *L'Expansion* (Dedieu, 2009), and it is an example of how our data can be used to test the implications of differing value judgments on the relative

importance of the dimensions of economic well-being. As one might have expected, the qualitative results under Alternative 3 are in essence the opposite of the results under Alternative 2. For the countries with high scores in the equality domain relative to the other three domains – Belgium, Denmark, Finland, France, Germany, and Sweden– see their IEWB scores improve in all years under Alternative 3 relative to the baseline. This pattern also characterizes measured well-being in Spain and the United Kingdom under Alternative 3. These countries have relatively high scores in the economic equality and security domains early in the 1980-2009 period, so the shift of weight to those domains at the expense of consumption and wealth increase their overall Index values. Although their equality scores fall slightly by the end of the period, overall measured well-being is kept above its baseline level by large increases in consumption and wealth.

For Australia, Canada, Italy, the Netherlands, and Norway, shifting weight from consumption and wealth to equality and security raises measured well-being (relative to the baseline results) in the early years of the 1980-2009 period and lowers it in the later years. This reflects the fact that these countries initially had high scores in the equality domain relative to the other domains (particularly consumption and wealth), but their consumption and wealth scores grew quickly over the period while their inequality scores stagnated or declined.

Once again, the United States is unique. Shifting weight from consumption and wealth to equality and security reduces measured well-being in the United States (relative to the baseline results) in every year in the 1980-2009 period. This is unsurprising, given the results from Alternative 2. The United States' scores in consumption and wealth are high and increasing over 1980-2009, while its scores in equality and security are low and decreasing.

Under the Alternative 3 weights, the United States ranks last among the fourteen countries in overall economic well-being in 2009 (Exhibit 6). Its score for 2009 is 0.376 under Alternative 3, compared to 0.482 in the baseline results. Spain ranks second-last with an IEWB score of 0.471 under Alternative 3, although this score is actually higher than its baseline result of 0.451.

Norway and Denmark remain the top two countries in the ranking; respectively, their scores are 0.768 (down from 0.799 under the baseline weights) and 0.722 (up from 0.684 under the baseline weights). Sweden rises to third from its position of sixth in the baseline results; the increased emphasis of economic equality and security raises Sweden's measured well-being from 0.637 to 0.698.

Between 1980 and 2009, all fourteen countries experienced slower growth in measured economic well-being under Alternative 3 than under the baseline weights. This reflects the fact that the indices of the consumption and wealth domains experienced robust growth in every country over the period, while those of the equality and security domains either grew slowly or declined. The largest difference in the growth of well-being between the baseline and Alternative 3 results was in the United States. There, the

IEWB grew by 0.24 per cent per year under Alternative 3, from 0.351 in 1980 to 0.376 in 2009; under the baseline weights, it grew by 1.06 per cent per year from 0.355 to 0.482.

Nevertheless, the ranking of countries by IEWB growth was remarkably similar under the baseline and Alternative 3 weights (Exhibit 6). Even the United States fell only four places, from fourth to eighth. The largest change in rankings was made by Sweden, which moved out of twelfth place under the baseline into seventh under Alternative 3.

Overall, the effects of the Alternative 3 weights are the opposite of the effects of the Alternative 2 weights. Countries that perform well in the economic equality and security domains have higher measured well-being under Alternative 3 than under the baseline weights, and vice versa.

D. Summary

Value judgments regarding the importance of the different domains of economic well-being can matter, but in the alternative scenarios presented here, they have no significant effect on the rankings of countries according to the Index of Economic Well-being. Our main results are fairly robust to changes in the relative weights of the domains, but other results are highly sensitive. Norway has the highest Index value under all four weighting schemes, while Spain is always in the bottom two. The results for the United States are particularly sensitive to the weights on economic equality and security relative to those on consumption and wealth.

Although economic well-being increases between 1980 and 2009 in every country under all four weighting schemes (with the exception of the Netherlands under Alternative 3), the magnitudes of the increases vary dramatically with the weights. In general, consumption and wealth have increased faster over time than economic equality and security (if the latter two increased at all), so economic well-being grows faster when the consumption and wealth domains are weighted heavily relative to the equality and security domains. In all fourteen countries, the Index grows faster over the 1980-2009 period under Alternative 2 (in which equality is given zero weight) than under Alternative 3 (in which equality and security receive the highest weights among the domains). The United States has high consumption and wealth scores, but very low equality and security scores (with a negative trend), so it follows that the relative ranking of the United States depends heavily on how important inequality and security are judged to be.

IV. Conclusion

This report presents new estimates of the Index of Economic Well-being for fourteen OECD countries for the 1980-2009 period. The results reveal that there were significant differences across countries in terms of economic well-being in 2009. Norway and Denmark had the highest levels of economic well-being in 2007, while Spain and the United States had the lowest levels. Canada ranked ninth among the fourteen countries. However, all fourteen countries experienced an increase in economic well-being over the 1980-2009 period.

Across the OECD, rising economic well-being was driven by growth in consumption and stocks of wealth. In most of the countries, however, the growth of economic well-being was hindered by declines in economic equality and security. These trends were driven by rising income inequality and increased private expenditures on health care in most countries.

An important objective of the Index of Economic Well-being is to make explicit the value judgments that underlie composite indicators of well-being by making the choice of weights for the four domains as transparent as possible. We test the sensitivity of our baseline results to three alternative weighting schemes and find that our key baseline results are robust. Economic well-being increased in every country over the 1980-2009 period under all four of the weighting schemes (with the exception of the Netherlands under Alternative 3). Norway always had the highest level of economic well-being in 2009, while Spain always ranked in the bottom two positions.

The Index remains a work in progress. It will undoubtedly undergo further modifications as research on the conceptualization of economic-well-being, and ways to capture these concepts empirically, evolves. The Index captures more aspects of economic well-being than does real GDP, and is therefore a step in the right direction.

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Table 1: Overall Index of Economic Well-being, OECD, 1980-2009

	Australia	Belgium	Canada	Denmark	Finland	France	Germany	Italy	Netherlands	Norway	Spain	Sweden	United Kingdom	United States
1980	0.417	0.542	0.412	0.451	0.501	0.465	0.514	0.452	0.573	0.531	0.366	0.534	0.454	0.355
1981	0.425	0.543	0.413	0.448	0.504	0.469	0.514	0.456	0.529	0.499	0.366	0.535	0.444	0.350
1982	0.421	0.543	0.415	0.452	0.511	0.474	0.506	0.458	0.558	0.552	0.369	0.531	0.436	0.342
1983	0.422	0.542	0.422	0.455	0.515	0.474	0.513	0.461	0.564	0.556	0.375	0.524	0.432	0.343
1984	0.432	0.545	0.434	0.465	0.523	0.472	0.453	0.467	0.566	0.569	0.375	0.524	0.425	0.348
1985	0.440	0.554	0.446	0.475	0.530	0.472	0.466	0.473	0.570	0.586	0.380	0.521	0.419	0.349
1986	0.440	0.563	0.454	0.489	0.538	0.472	0.485	0.479	0.569	0.596	0.389	0.520	0.418	0.352
1987	0.441	0.572	0.462	0.492	0.545	0.474	0.501	0.450	0.565	0.598	0.402	0.518	0.422	0.361
1988	0.441	0.581	0.475	0.497	0.553	0.476	0.513	0.483	0.563	0.595	0.412	0.523	0.434	0.367
1989	0.446	0.591	0.482	0.500	0.561	0.478	0.525	0.510	0.563	0.595	0.429	0.529	0.441	0.370
1990	0.434	0.599	0.487	0.507	0.562	0.500	0.533	0.518	0.565	0.601	0.440	0.530	0.442	0.373
1991	0.419	0.607	0.485	0.516	0.552	0.515	0.562	0.527	0.560	0.611	0.433	0.532	0.437	0.370
1992	0.407	0.612	0.485	0.525	0.541	0.528	0.566	0.499	0.565	0.614	0.421	0.531	0.450	0.370
1993	0.393	0.599	0.486	0.546	0.529	0.538	0.561	0.454	0.568	0.614	0.395	0.517	0.462	0.375
1994	0.383	0.589	0.492	0.583	0.535	0.550	0.562	0.473	0.561	0.617	0.378	0.515	0.477	0.385
1995	0.408	0.578	0.492	0.604	0.546	0.559	0.569	0.486	0.578	0.621	0.364	0.517	0.449	0.394
1996	0.421	0.594	0.491	0.614	0.547	0.560	0.572	0.476	0.583	0.628	0.378	0.522	0.452	0.408
1997	0.443	0.596	0.494	0.619	0.556	0.566	0.575	0.464	0.599	0.634	0.394	0.531	0.457	0.420
1998	0.461	0.602	0.483	0.624	0.550	0.574	0.581	0.452	0.611	0.652	0.411	0.547	0.461	0.434
1999	0.481	0.615	0.498	0.633	0.525	0.579	0.590	0.479	0.622	0.663	0.428	0.561	0.466	0.446
2000	0.496	0.624	0.514	0.638	0.531	0.597	0.600	0.504	0.620	0.676	0.447	0.576	0.488	0.456
2001	0.510	0.626	0.517	0.648	0.558	0.601	0.609	0.518	0.625	0.690	0.465	0.589	0.504	0.458
2002	0.518	0.625	0.524	0.648	0.574	0.601	0.608	0.520	0.621	0.697	0.464	0.601	0.520	0.456
2003	0.526	0.621	0.530	0.655	0.581	0.598	0.612	0.519	0.618	0.709	0.462	0.610	0.536	0.463
2004	0.539	0.627	0.535	0.661	0.596	0.598	0.613	0.524	0.621	0.725	0.467	0.613	0.550	0.468
2005	0.546	0.627	0.547	0.679	0.602	0.598	0.615	0.529	0.618	0.740	0.479	0.624	0.557	0.480
2006	0.552	0.635	0.561	0.690	0.611	0.609	0.626	0.532	0.630	0.759	0.482	0.634	0.555	0.494
2007	0.558	0.642	0.574	0.689	0.612	0.613	0.633	0.537	0.632	0.775	0.483	0.648	0.565	0.500
2008	0.564	0.645	0.580	0.690	0.627	0.610	0.641	0.533	0.636	0.775	0.475	0.643	0.577	0.489
2009	0.559	0.648	0.575	0.684	0.626	0.609	0.650	0.532	0.636	0.799	0.451	0.637	0.562	0.482
Absolute Change in Points														
80-09	0.142	0.106	0.164	0.233	0.125	0.144	0.136	0.080	0.063	0.267	0.085	0.103	0.109	0.127
80-90	0.017	0.056	0.075	0.055	0.061	0.035	0.019	0.066	-0.009	0.070	0.074	-0.005	-0.011	0.018
90-00	0.061	0.025	0.027	0.132	-0.031	0.097	0.067	-0.014	0.055	0.076	0.007	0.046	0.046	0.083
00-09	0.063	0.024	0.061	0.046	0.095	0.012	0.050	0.028	0.016	0.122	0.004	0.061	0.074	0.025
Per cent Change														
80-09	33.9	19.5	39.8	51.6	25.0	31.0	26.4	17.7	11.0	50.4	23.1	19.2	23.9	35.7
80-90	4.1	10.4	18.2	12.3	12.2	7.5	3.7	14.7	-1.5	13.1	20.1	-0.9	-2.5	5.1
90-00	14.1	4.2	5.6	26.0	-5.4	19.4	12.5	-2.8	9.8	12.6	1.6	8.7	10.4	22.3
00-09	12.7	3.9	12.0	7.2	17.8	2.0	8.3	5.6	2.6	18.1	0.9	10.6	15.1	5.5
Compound Annual Growth Rate														
80-09	1.01	0.62	1.16	1.45	0.77	0.94	0.81	0.56	0.36	1.42	0.72	0.61	0.74	1.06
80-90	0.40	0.99	1.69	1.17	1.16	0.73	0.37	1.38	-0.15	1.24	1.85	-0.09	-0.25	0.50
90-00	1.33	0.42	0.55	2.34	-0.56	1.79	1.18	-0.28	0.94	1.19	0.16	0.84	1.00	2.04
00-09	1.34	0.42	1.26	0.77	1.84	0.23	0.89	0.61	0.29	1.86	0.09	1.13	1.58	0.60

Source: CSLS Database for the IEWB for OECD Countries, Table 9

Table 2: GDP per Capita, Using PPP, OECD, 1980-2009 (2000 US dollars)

	Australia	Belgium	Canada	Denmark	Finland	France	Germany	Italy	Netherlands	Norway	Spain	Sweden	United Kingdom	United States
1980	19,251	19,000	20,561	18,505	16,653	17,628	18,168	17,106	18,333	17,769	12,628	19,606	15,513	22,580
1981	19,847	18,949	21,020	18,348	16,798	17,736	18,237	17,227	18,063	17,983	12,534	19,543	15,317	22,925
1982	18,789	19,065	20,178	19,044	17,212	18,074	18,184	17,288	17,758	17,939	12,623	19,766	15,673	22,257
1983	19,277	19,128	20,522	19,564	17,625	18,234	18,521	17,484	18,054	18,574	12,786	20,112	16,244	23,052
1984	19,795	19,598	21,512	20,391	18,077	18,385	19,111	18,044	18,536	19,612	12,961	20,957	16,654	24,495
1985	20,471	19,918	22,335	21,204	18,597	18,569	19,601	18,543	18,929	20,598	13,213	21,385	17,213	25,277
1986	20,814	20,277	22,649	22,222	19,026	18,880	20,043	19,073	19,351	21,357	13,602	21,952	17,863	25,907
1987	21,803	20,721	23,303	22,256	19,634	19,187	20,317	19,679	19,595	21,634	14,321	22,645	18,639	26,489
1988	22,325	21,626	24,147	22,212	20,600	20,008	20,963	20,495	20,137	21,483	15,017	23,151	19,538	27,326
1989	22,447	22,295	24,339	22,330	21,564	20,741	21,624	21,173	20,905	21,605	15,712	23,640	19,928	28,034
1990	21,737	22,930	24,021	22,654	21,583	21,194	22,564	21,590	21,633	21,949	16,281	23,692	20,027	28,236
1991	21,442	23,261	23,228	22,922	20,171	21,332	23,533	21,899	21,982	22,519	16,666	23,274	19,678	27,789
1992	22,099	23,521	23,156	23,262	19,360	21,499	23,874	22,060	22,189	23,182	16,782	22,859	19,657	28,356
1993	22,630	23,205	23,438	23,160	19,114	21,306	23,512	21,851	22,310	23,684	16,573	22,256	20,049	28,794
1994	23,390	23,883	24,297	24,360	19,715	21,659	24,065	22,317	22,834	24,737	16,937	22,985	20,854	29,618
1995	24,046	24,401	24,722	24,991	20,420	22,009	24,448	22,947	23,426	25,648	17,379	23,766	21,430	30,016
1996	24,492	24,320	24,861	25,659	20,530	22,185	24,597	23,259	24,154	27,782	17,820	24,168	22,338	30,791
1997	25,338	24,976	25,655	26,477	21,943	22,749	24,716	23,671	25,257	29,310	18,549	24,624	23,503	31,796
1998	26,368	25,239	26,486	27,096	23,377	23,583	25,137	24,594	26,411	28,417	19,582	25,312	24,157	32,811
1999	27,472	25,881	27,725	27,508	24,107	24,123	25,686	24,720	27,516	30,445	20,253	26,538	24,774	34,018
2000	28,046	27,624	28,485	28,822	25,651	25,241	25,949	25,594	29,406	36,126	21,320	27,948	26,071	35,050
2001	28,593	27,857	28,682	28,785	25,930	26,026	26,260	26,526	30,106	36,269	22,091	27,606	26,967	35,071
2002	29,294	28,879	28,781	29,594	26,469	26,630	26,544	25,791	30,736	35,651	23,157	28,171	27,796	35,365
2003	30,216	28,485	29,452	28,660	25,989	25,696	26,907	25,561	29,861	36,074	23,310	28,651	28,114	35,912
2004	30,679	28,533	30,084	29,586	27,346	25,825	27,387	25,111	30,417	38,705	23,776	29,773	29,118	36,863
2005	31,105	28,489	31,117	29,424	27,203	26,196	27,802	24,946	31,121	41,942	24,266	28,986	29,006	37,641
2006	31,847	29,324	31,637	30,927	28,411	26,961	28,941	25,946	32,676	45,745	26,052	30,630	30,021	38,283
2007	32,525	29,686	31,984	31,465	30,146	27,646	29,707	26,600	33,978	45,901	26,896	32,095	29,787	38,642
2008	31,951	30,099	31,735	32,233	30,847	27,719	30,337	27,152	35,003	49,477	27,075	32,217	30,049	38,278
2009	32,073	29,362	30,574	30,478	28,496	26,994	29,387	26,218	33,005	45,084	26,083	30,053	28,432	36,936
Compound Annual Growth Rate														
80-09	1.78	1.51	1.38	1.74	1.87	1.48	1.67	1.48	2.05	3.26	2.53	1.48	2.11	1.71
Per cent Change														
80-09	66.6	54.5	48.7	64.7	71.1	53.1	61.8	53.3	80.0	153.7	106.5	53.3	83.3	63.6

Source: CSLS Database for the IEWB for OECD Countries, Appendix Table 21

Table 3: Scaled Index of Total Consumption Flows per Capita, OECD, 1980-2009

	Australia	Belgium	Canada	Denmark	Finland	France	Germany	Italy	Netherlands	Norway	Spain	Sweden	United Kingdom	United States
1980	0.254	0.312	0.313	0.228	0.083	0.246	0.213	0.262	0.417	0.218	0.151	0.249	0.176	0.379
1981	0.276	0.324	0.312	0.227	0.092	0.260	0.222	0.275	0.397	0.226	0.154	0.252	0.186	0.386
1982	0.280	0.336	0.304	0.238	0.111	0.291	0.219	0.282	0.395	0.232	0.159	0.255	0.190	0.393
1983	0.291	0.339	0.313	0.246	0.124	0.299	0.229	0.289	0.406	0.237	0.163	0.248	0.209	0.418
1984	0.296	0.344	0.327	0.254	0.140	0.308	0.243	0.310	0.407	0.251	0.170	0.261	0.216	0.439
1985	0.311	0.363	0.346	0.276	0.155	0.323	0.254	0.332	0.417	0.286	0.181	0.272	0.223	0.469
1986	0.313	0.385	0.357	0.304	0.177	0.342	0.275	0.354	0.430	0.306	0.198	0.294	0.248	0.494
1987	0.323	0.410	0.369	0.307	0.200	0.361	0.297	0.374	0.419	0.307	0.225	0.314	0.270	0.511
1988	0.330	0.432	0.385	0.299	0.222	0.380	0.308	0.397	0.430	0.294	0.245	0.319	0.294	0.529
1989	0.348	0.451	0.394	0.298	0.240	0.396	0.316	0.420	0.450	0.297	0.277	0.333	0.306	0.539
1990	0.349	0.463	0.399	0.299	0.246	0.413	0.337	0.438	0.473	0.308	0.297	0.331	0.312	0.553
1991	0.356	0.487	0.394	0.311	0.240	0.419	0.365	0.457	0.482	0.331	0.312	0.344	0.308	0.550
1992	0.358	0.502	0.398	0.316	0.220	0.427	0.386	0.469	0.487	0.350	0.327	0.347	0.322	0.552
1993	0.365	0.500	0.397	0.328	0.198	0.429	0.389	0.452	0.483	0.362	0.318	0.329	0.334	0.552
1994	0.383	0.510	0.399	0.374	0.210	0.436	0.404	0.461	0.489	0.378	0.320	0.333	0.351	0.560
1995	0.421	0.506	0.405	0.388	0.226	0.447	0.423	0.462	0.499	0.391	0.327	0.330	0.363	0.571
1996	0.433	0.526	0.412	0.408	0.244	0.454	0.437	0.463	0.505	0.424	0.334	0.342	0.383	0.599
1997	0.461	0.530	0.432	0.422	0.266	0.460	0.447	0.481	0.527	0.441	0.350	0.359	0.402	0.627
1998	0.492	0.538	0.452	0.443	0.287	0.479	0.460	0.493	0.566	0.462	0.369	0.390	0.428	0.660
1999	0.517	0.549	0.470	0.439	0.295	0.497	0.482	0.511	0.599	0.484	0.390	0.416	0.462	0.697
2000	0.533	0.581	0.491	0.446	0.304	0.528	0.505	0.532	0.613	0.509	0.413	0.441	0.499	0.732
2001	0.557	0.593	0.506	0.453	0.322	0.544	0.523	0.543	0.630	0.540	0.438	0.450	0.523	0.761
2002	0.577	0.595	0.523	0.466	0.341	0.566	0.523	0.543	0.649	0.568	0.444	0.471	0.555	0.786
2003	0.610	0.594	0.540	0.474	0.368	0.570	0.528	0.538	0.644	0.600	0.449	0.489	0.584	0.816
2004	0.644	0.618	0.554	0.502	0.390	0.581	0.526	0.539	0.658	0.632	0.473	0.500	0.615	0.848
2005	0.655	0.612	0.580	0.529	0.410	0.592	0.526	0.545	0.657	0.656	0.494	0.505	0.631	0.875
2006	0.682	0.627	0.610	0.554	0.433	0.614	0.536	0.553	0.676	0.693	0.518	0.524	0.645	0.896
2007	0.706	0.641	0.639	0.575	0.450	0.625	0.536	0.557	0.697	0.730	0.537	0.538	0.662	0.917
2008	0.697	0.651	0.662	0.575	0.464	0.624	0.549	0.551	0.703	0.736	0.528	0.535	0.669	0.909
2009	0.709	0.657	0.674	0.559	0.468	0.626	0.569	0.548	0.699	0.756	0.502	0.543	0.646	0.909
Absolute Change in Points														
80-09	0.455	0.345	0.361	0.330	0.384	0.381	0.356	0.286	0.282	0.538	0.351	0.293	0.470	0.530
80-90	0.095	0.152	0.086	0.070	0.163	0.168	0.125	0.175	0.056	0.090	0.146	0.082	0.136	0.174
90-00	0.184	0.117	0.092	0.147	0.058	0.114	0.168	0.094	0.139	0.201	0.116	0.110	0.186	0.179
00-09	0.176	0.076	0.183	0.113	0.163	0.099	0.064	0.016	0.086	0.247	0.089	0.102	0.148	0.177
Per cent Change														
80-09	179.4	110.9	115.3	144.5	461.1	155.0	167.3	109.0	67.7	246.2	232.0	117.7	267.1	139.7
80-90	37.6	48.8	27.6	30.8	195.1	68.3	58.5	66.9	13.5	41.0	96.2	32.7	77.5	45.9
90-00	52.7	25.3	23.1	49.1	23.8	27.6	49.7	21.6	29.5	65.4	39.2	33.4	59.5	32.4
00-09	33.0	13.2	37.1	25.4	53.6	18.7	12.6	3.0	14.1	48.5	21.5	23.0	29.7	24.1

Source: CSLS Database for the IEWB for OECD Countries, Table 9

Table 3a: Total Consumption Flows per Capita, OECD, 1980-2009 (2000 US dollars)

	Australia	Belgium	Canada	Denmark	Finland	France	Germany	Italy	Netherlands	Norway	Spain	Sweden	United Kingdom	United States
1980	15,750	17,291	17,330	15,082	11,223	15,538	14,669	15,978	20,095	14,817	13,030	15,638	13,689	19,095
1981	16,334	17,623	17,293	15,038	11,452	15,934	14,915	16,321	19,570	15,012	13,097	15,715	13,954	19,268
1982	16,460	17,953	17,091	15,346	11,964	16,733	14,833	16,517	19,500	15,177	13,240	15,797	14,052	19,452
1983	16,750	18,012	17,337	15,541	12,315	16,959	15,101	16,703	19,808	15,315	13,336	15,602	14,563	20,127
1984	16,879	18,154	17,693	15,749	12,719	17,207	15,475	17,240	19,832	15,682	13,524	15,938	14,740	20,678
1985	17,274	18,652	18,205	16,335	13,121	17,600	15,752	17,838	20,094	16,600	13,829	16,238	14,935	21,487
1986	17,327	19,245	18,509	17,084	13,714	18,106	16,331	18,425	20,441	17,143	14,277	16,822	15,598	22,141
1987	17,608	19,897	18,815	17,167	14,322	18,608	16,909	18,960	20,149	17,170	14,988	17,349	16,199	22,591
1988	17,794	20,498	19,254	16,948	14,919	19,121	17,204	19,566	20,450	16,835	15,526	17,499	16,815	23,085
1989	18,251	20,990	19,497	16,929	15,394	19,547	17,415	20,163	20,976	16,913	16,378	17,858	17,152	23,332
1990	18,284	21,332	19,624	16,953	15,546	19,997	17,982	20,645	21,597	17,198	16,902	17,805	17,317	23,721
1991	18,481	21,953	19,476	17,272	15,380	20,154	18,721	21,163	21,814	17,816	17,291	18,162	17,205	23,629
1992	18,538	22,365	19,579	17,418	14,855	20,350	19,272	21,474	21,948	18,308	17,715	18,222	17,572	23,675
1993	18,719	22,306	19,564	17,732	14,280	20,428	19,347	21,016	21,843	18,622	17,451	17,766	17,879	23,674
1994	19,196	22,582	19,608	18,944	14,598	20,608	19,750	21,258	22,010	19,057	17,524	17,856	18,335	23,892
1995	20,191	22,463	19,773	19,317	15,021	20,888	20,264	21,288	22,278	19,418	17,709	17,774	18,659	24,198
1996	20,513	22,986	19,951	19,864	15,501	21,069	20,637	21,330	22,428	20,277	17,901	18,089	19,205	24,937
1997	21,264	23,102	20,489	20,228	16,082	21,250	20,894	21,793	23,032	20,746	18,305	18,541	19,708	25,669
1998	22,089	23,316	21,025	20,775	16,632	21,744	21,243	22,112	24,054	21,280	18,831	19,368	20,375	26,548
1999	22,751	23,595	21,502	20,674	16,859	22,237	21,831	22,596	24,930	21,869	19,377	20,066	21,301	27,534
2000	23,170	24,446	22,075	20,856	17,100	23,036	22,444	23,154	25,305	22,555	19,997	20,739	22,264	28,486
2001	23,821	24,772	22,461	21,053	17,581	23,476	22,915	23,451	25,766	23,367	20,652	20,961	22,923	29,245
2002	24,345	24,839	22,927	21,387	18,063	24,063	22,910	23,460	26,272	24,117	20,825	21,538	23,772	29,913
2003	25,239	24,812	23,374	21,602	18,794	24,154	23,042	23,314	26,144	24,957	20,953	22,003	24,541	30,697
2004	26,127	25,435	23,727	22,363	19,381	24,462	22,985	23,347	26,493	25,812	21,596	22,294	25,370	31,569
2005	26,432	25,281	24,428	23,072	19,898	24,755	22,990	23,509	26,489	26,439	22,144	22,437	25,782	32,265
2006	27,134	25,669	25,218	23,729	20,520	25,341	23,270	23,702	26,975	27,441	22,793	22,936	26,163	32,838
2007	27,776	26,047	26,010	24,311	20,965	25,616	23,274	23,829	27,533	28,429	23,296	23,321	26,598	33,384
2008	27,555	26,315	26,617	24,286	21,356	25,594	23,602	23,660	27,702	28,571	23,042	23,223	26,795	33,189
2009	27,850	26,477	26,930	23,861	21,440	25,662	24,143	23,578	27,599	29,124	22,363	23,440	26,196	33,187
Absolute Change in Points														
80-09	12,100	9,185	9,600	8,779	10,217	10,125	9,474	7,599	7,504	14,307	9,333	7,802	12,507	14,093
80-90	2,534	4,041	2,294	1,871	4,323	4,460	3,313	4,667	1,502	2,381	3,872	2,167	3,627	4,627
90-00	4,886	3,114	2,451	3,904	1,553	3,039	4,462	2,508	3,708	5,356	3,095	2,934	4,948	4,764
00-09	4,679	2,031	4,854	3,005	4,341	2,626	1,699	424	2,294	6,570	2,366	2,700	3,932	4,702
Per cent Change														
80-09	76.8	53.1	55.4	58.2	91.0	65.2	64.6	47.6	37.3	96.6	71.6	49.9	91.4	73.8
80-90	16.1	23.4	13.2	12.4	38.5	28.7	22.6	29.2	7.5	16.1	29.7	13.9	26.5	24.2
90-00	26.7	14.6	12.5	23.0	10.0	15.2	24.8	12.2	17.2	31.1	18.3	16.5	28.6	20.1
00-09	20.2	8.3	22.0	14.4	25.4	11.4	7.6	1.8	9.1	29.1	11.8	13.0	17.7	16.5

Source: CSLS Database for the IEWB for OECD Countries, Table 1

Table 4: Scaled Index of Total Stocks of Wealth, OECD, 1980-2009

	Australia	Belgium	Canada	Denmark	Finland	France	Germany	Italy	Netherlands	Norway	Spain	Sweden	United Kingdom	United States
1980	0.174	0.204	0.177	0.220	0.255	0.211	0.253	0.199	0.341	0.360	0.083	0.246	0.175	0.316
1981	0.185	0.217	0.187	0.239	0.266	0.223	0.263	0.207	0.334	0.202	0.091	0.256	0.187	0.326
1982	0.198	0.226	0.207	0.251	0.276	0.233	0.246	0.217	0.356	0.401	0.098	0.265	0.196	0.340
1983	0.209	0.234	0.220	0.261	0.286	0.243	0.284	0.233	0.369	0.412	0.105	0.272	0.205	0.348
1984	0.217	0.244	0.234	0.270	0.297	0.253	0.294	0.244	0.381	0.432	0.114	0.281	0.214	0.355
1985	0.225	0.255	0.245	0.280	0.307	0.259	0.303	0.253	0.391	0.449	0.121	0.286	0.222	0.364
1986	0.235	0.264	0.255	0.296	0.316	0.265	0.313	0.262	0.402	0.453	0.128	0.290	0.235	0.375
1987	0.238	0.274	0.263	0.308	0.320	0.272	0.326	0.271	0.416	0.460	0.137	0.295	0.237	0.387
1988	0.236	0.279	0.274	0.324	0.329	0.279	0.334	0.281	0.426	0.470	0.147	0.299	0.246	0.396
1989	0.242	0.290	0.285	0.338	0.334	0.288	0.344	0.288	0.435	0.480	0.158	0.304	0.258	0.406
1990	0.251	0.306	0.297	0.351	0.335	0.293	0.356	0.293	0.448	0.494	0.167	0.301	0.260	0.415
1991	0.259	0.323	0.310	0.363	0.347	0.300	0.459	0.304	0.457	0.505	0.179	0.308	0.271	0.421
1992	0.269	0.337	0.322	0.379	0.354	0.311	0.462	0.314	0.460	0.516	0.193	0.323	0.285	0.424
1993	0.268	0.353	0.334	0.392	0.357	0.323	0.471	0.329	0.467	0.520	0.206	0.316	0.299	0.431
1994	0.266	0.366	0.347	0.396	0.349	0.338	0.482	0.343	0.442	0.527	0.216	0.311	0.310	0.436
1995	0.276	0.390	0.357	0.395	0.356	0.352	0.482	0.348	0.486	0.544	0.227	0.320	0.307	0.443
1996	0.285	0.404	0.369	0.415	0.355	0.350	0.485	0.360	0.490	0.538	0.246	0.319	0.315	0.452
1997	0.306	0.417	0.383	0.415	0.365	0.365	0.495	0.360	0.495	0.554	0.257	0.330	0.326	0.455
1998	0.315	0.435	0.397	0.412	0.326	0.369	0.502	0.361	0.493	0.600	0.264	0.338	0.329	0.463
1999	0.328	0.464	0.411	0.457	0.233	0.365	0.506	0.371	0.483	0.621	0.269	0.352	0.334	0.475
2000	0.345	0.470	0.426	0.465	0.275	0.389	0.512	0.380	0.471	0.646	0.291	0.369	0.356	0.485
2001	0.360	0.466	0.439	0.513	0.358	0.390	0.524	0.401	0.497	0.673	0.306	0.400	0.360	0.494
2002	0.363	0.473	0.457	0.511	0.408	0.383	0.523	0.400	0.494	0.691	0.298	0.407	0.367	0.508
2003	0.351	0.488	0.467	0.546	0.416	0.391	0.537	0.395	0.529	0.725	0.294	0.405	0.375	0.523
2004	0.363	0.488	0.472	0.557	0.450	0.393	0.549	0.396	0.560	0.760	0.305	0.399	0.369	0.533
2005	0.375	0.496	0.493	0.595	0.455	0.399	0.569	0.413	0.567	0.796	0.325	0.427	0.379	0.553
2006	0.370	0.518	0.518	0.603	0.457	0.417	0.590	0.408	0.591	0.819	0.318	0.441	0.365	0.579
2007	0.364	0.532	0.540	0.578	0.437	0.417	0.605	0.414	0.582	0.839	0.298	0.469	0.385	0.591
2008	0.395	0.541	0.547	0.579	0.480	0.407	0.615	0.418	0.608	0.835	0.309	0.455	0.430	0.588
2009	0.376	0.572	0.545	0.602	0.500	0.416	0.643	0.430	0.650	0.917	0.310	0.452	0.420	0.614
Absolute Change in Points														
80-09	0.202	0.368	0.368	0.381	0.245	0.205	0.390	0.231	0.309	0.557	0.227	0.206	0.244	0.298
80-90	0.078	0.102	0.120	0.131	0.080	0.082	0.103	0.093	0.107	0.134	0.084	0.055	0.085	0.099
90-00	0.094	0.164	0.129	0.114	-0.060	0.096	0.156	0.087	0.023	0.152	0.123	0.068	0.095	0.070
00-09	0.030	0.102	0.119	0.136	0.225	0.027	0.131	0.050	0.180	0.271	0.020	0.083	0.064	0.129
Per cent Change														
80-09	116.4	180.4	207.8	173.1	96.3	97.3	154.2	115.8	90.7	154.8	272.0	83.6	139.2	94.5
80-90	44.7	49.8	68.0	59.3	31.5	39.1	40.6	46.8	31.4	37.2	101.0	22.5	48.3	31.3
90-00	37.5	53.6	43.2	32.6	-17.8	32.8	43.9	29.9	5.1	30.8	73.5	22.4	36.7	17.0
00-09	8.8	21.8	27.9	29.3	81.7	6.8	25.7	13.2	38.1	42.0	6.7	22.4	18.0	26.6

Source: CSLS Database for the IEWB for OECD Countries, Table 9

Table 4a: Total Per-capita Stocks of Wealth, OECD, 1980-2009 (2000 US dollars)

	Australia	Belgium	Canada	Denmark	Finland	France	Germany	Italy	Netherlands	Norway	Spain	Sweden	United Kingdom	United States
1980	95,510	102,172	96,213	105,743	113,339	103,610	112,938	101,128	132,267	136,406	75,638	111,395	95,870	126,776
1981	98,074	105,087	98,444	109,854	115,757	106,242	115,090	102,891	130,733	141,330	77,383	113,686	98,439	129,054
1982	100,741	107,023	102,744	112,391	117,990	108,550	111,360	105,117	135,581	145,542	78,823	115,566	100,423	132,088
1983	103,192	108,734	105,765	114,757	120,078	110,821	119,637	108,454	138,525	147,985	80,488	117,127	102,411	133,820
1984	104,974	111,031	108,758	116,661	122,624	112,822	121,917	110,845	140,964	152,265	82,288	119,018	104,317	135,259
1985	106,843	113,458	111,116	118,879	124,764	114,205	123,886	112,970	143,203	156,090	83,879	120,200	106,094	137,334
1986	109,006	115,249	113,349	122,304	126,713	115,591	126,101	115,011	145,726	156,849	85,537	121,093	108,981	139,813
1987	109,567	117,531	115,159	125,002	127,659	117,061	128,978	116,935	148,800	158,516	87,491	122,186	109,442	142,341
1988	109,181	118,658	117,653	128,495	129,530	118,653	130,825	119,025	150,877	160,564	89,680	123,125	111,464	144,379
1989	110,595	121,143	119,882	131,506	130,683	120,540	132,960	120,515	152,884	162,858	92,012	124,083	113,970	146,465
1990	112,562	124,523	122,677	134,449	130,962	121,712	135,519	121,623	155,830	165,826	94,134	123,580	114,497	148,543
1991	114,186	128,261	125,389	137,065	133,495	123,180	158,143	124,063	157,847	168,337	96,647	125,075	116,979	149,853
1992	116,403	131,465	128,156	140,627	135,111	125,687	158,806	126,383	158,478	170,674	99,742	128,355	119,886	150,610
1993	116,262	134,932	130,710	143,464	135,821	128,336	160,752	129,646	160,024	171,698	102,614	126,832	123,113	152,094
1994	115,696	137,862	133,693	144,290	133,939	131,617	163,215	132,665	154,564	173,243	104,810	125,618	125,500	153,108
1995	118,063	142,943	135,681	144,066	135,525	134,747	163,345	133,834	164,165	176,879	107,308	127,618	124,690	154,654
1996	120,039	146,021	138,438	148,539	135,271	134,258	163,933	136,396	165,108	175,502	111,319	127,477	126,541	156,651
1997	124,673	149,029	141,486	148,485	137,490	137,548	166,207	136,368	166,172	179,035	113,896	129,828	128,953	157,380
1998	126,578	152,841	144,529	147,926	128,887	138,358	167,650	136,606	165,598	189,128	115,443	131,571	129,561	159,191
1999	129,507	159,316	147,680	157,810	108,484	137,621	168,522	138,800	163,558	193,713	116,500	134,644	130,701	161,630
2000	133,258	160,568	150,938	159,614	117,849	142,833	169,832	140,853	160,805	199,255	121,181	138,437	135,469	164,018
2001	136,528	159,699	153,713	170,146	135,987	142,991	172,598	145,522	166,513	205,184	124,577	145,311	136,404	166,008
2002	137,018	161,318	157,866	169,745	146,919	141,542	172,260	145,207	165,870	209,144	122,752	146,848	137,981	168,938
2003	134,391	164,623	160,070	177,280	148,741	143,202	175,378	144,187	173,629	216,713	122,014	146,430	139,703	172,179
2004	137,183	164,531	161,154	179,757	156,294	143,754	177,977	144,285	180,307	224,440	124,409	145,012	138,528	174,505
2005	139,722	166,344	165,783	188,186	157,300	144,959	182,334	148,029	181,950	232,265	128,724	151,229	140,640	178,794
2006	138,756	171,279	171,227	189,848	157,673	148,929	186,905	147,047	187,279	237,357	127,169	154,253	137,459	184,531
2007	137,367	174,334	175,914	184,462	153,393	148,902	190,193	148,381	185,282	241,679	122,900	160,433	141,949	187,293
2008	144,127	176,298	177,562	184,638	162,853	146,762	192,562	149,135	190,987	240,928	125,329	157,315	151,881	186,650
2009	139,956	183,070	177,046	189,574	167,276	148,662	198,702	151,876	200,265	258,804	125,467	156,613	149,528	192,379
Absolute Change in Points														
80-09	44,447	80,898	80,834	83,831	53,937	45,053	85,764	50,749	67,998	122,398	49,829	45,218	53,659	65,603
80-90	17,052	22,351	26,465	28,706	17,623	18,103	22,581	20,495	23,564	29,420	18,497	12,185	18,627	21,767
90-00	20,696	36,045	28,261	25,164	-13,113	21,121	34,313	19,230	4,975	33,429	27,046	14,856	20,973	15,476
00-09	6,698	22,502	26,108	29,960	49,427	5,829	28,870	11,023	39,460	59,549	4,286	18,177	14,059	28,360
Per cent Change														
80-09	46.5	79.2	84.0	79.3	47.6	43.5	75.9	50.2	51.4	89.7	65.9	40.6	56.0	51.7
80-90	17.9	21.9	27.5	27.1	15.5	17.5	20.0	20.3	17.8	21.6	24.5	10.9	19.4	17.2
90-00	18.4	28.9	23.0	18.7	-10.0	17.4	25.3	15.8	3.2	20.2	28.7	12.0	18.3	10.4
00-09	5.0	14.0	17.3	18.8	41.9	4.1	17.0	7.8	24.5	29.9	3.5	13.1	10.4	17.3

Source: CSLS Database for the IEWB for OECD Countries, Table 2

Table 5: Scaled Index of Equality Measures, OECD, 1980-2009

	Australia	Belgium	Canada	Denmark	Finland	France	Germany	Italy	Netherlands	Norway	Spain	Sweden	United Kingdom	United States
1980	0.554	0.851	0.467	0.567	0.850	0.619	0.803	0.581	0.755	0.715	0.481	0.769	0.644	0.266
1981	0.554	0.851	0.467	0.567	0.850	0.619	0.803	0.581	0.755	0.729	0.492	0.768	0.613	0.244
1982	0.549	0.851	0.494	0.567	0.850	0.607	0.804	0.581	0.755	0.742	0.503	0.747	0.580	0.222
1983	0.545	0.851	0.501	0.567	0.850	0.595	0.805	0.581	0.755	0.754	0.514	0.724	0.544	0.199
1984	0.540	0.851	0.508	0.567	0.850	0.582	0.600	0.581	0.737	0.765	0.524	0.700	0.505	0.176
1985	0.535	0.851	0.514	0.567	0.850	0.568	0.625	0.581	0.717	0.775	0.534	0.675	0.463	0.152
1986	0.526	0.850	0.521	0.567	0.850	0.554	0.647	0.581	0.696	0.785	0.544	0.648	0.417	0.128
1987	0.516	0.849	0.527	0.567	0.850	0.539	0.669	0.446	0.672	0.788	0.554	0.620	0.420	0.128
1988	0.506	0.848	0.537	0.581	0.847	0.524	0.689	0.547	0.647	0.791	0.563	0.622	0.423	0.128
1989	0.496	0.848	0.546	0.595	0.845	0.508	0.708	0.630	0.620	0.794	0.573	0.624	0.426	0.128
1990	0.457	0.849	0.554	0.609	0.842	0.558	0.696	0.634	0.591	0.797	0.582	0.626	0.428	0.128
1991	0.415	0.850	0.563	0.622	0.839	0.602	0.684	0.637	0.560	0.799	0.533	0.628	0.430	0.129
1992	0.369	0.851	0.557	0.635	0.856	0.640	0.672	0.502	0.560	0.785	0.480	0.629	0.453	0.131
1993	0.319	0.811	0.552	0.708	0.870	0.674	0.659	0.321	0.560	0.770	0.421	0.627	0.475	0.134
1994	0.264	0.766	0.546	0.768	0.883	0.703	0.645	0.385	0.560	0.754	0.356	0.624	0.495	0.136
1995	0.291	0.714	0.523	0.817	0.893	0.706	0.649	0.441	0.578	0.737	0.284	0.621	0.368	0.146
1996	0.317	0.733	0.499	0.817	0.877	0.709	0.653	0.392	0.596	0.735	0.311	0.638	0.355	0.155
1997	0.342	0.722	0.474	0.817	0.860	0.712	0.657	0.338	0.613	0.732	0.337	0.652	0.341	0.164
1998	0.366	0.715	0.407	0.816	0.841	0.715	0.661	0.278	0.629	0.729	0.363	0.665	0.327	0.173
1999	0.388	0.708	0.418	0.815	0.821	0.718	0.665	0.341	0.646	0.727	0.387	0.677	0.312	0.173
2000	0.410	0.700	0.427	0.815	0.799	0.721	0.668	0.398	0.627	0.724	0.410	0.687	0.342	0.178
2001	0.430	0.700	0.426	0.805	0.798	0.712	0.674	0.404	0.607	0.717	0.417	0.709	0.370	0.165
2002	0.443	0.700	0.425	0.795	0.796	0.702	0.679	0.409	0.587	0.709	0.425	0.730	0.397	0.151
2003	0.456	0.700	0.423	0.784	0.795	0.693	0.684	0.412	0.566	0.701	0.432	0.750	0.422	0.150
2004	0.456	0.700	0.422	0.773	0.793	0.683	0.690	0.422	0.545	0.692	0.415	0.769	0.446	0.123
2005	0.456	0.700	0.422	0.773	0.793	0.672	0.690	0.422	0.545	0.692	0.415	0.786	0.446	0.123
2006	0.456	0.700	0.422	0.773	0.793	0.672	0.690	0.422	0.545	0.692	0.415	0.786	0.446	0.123
2007	0.456	0.700	0.422	0.773	0.793	0.672	0.690	0.422	0.545	0.692	0.415	0.786	0.446	0.123
2008	0.456	0.700	0.422	0.773	0.793	0.672	0.690	0.422	0.545	0.692	0.415	0.786	0.446	0.123
2009	0.456	0.700	0.422	0.773	0.793	0.672	0.690	0.422	0.545	0.692	0.415	0.786	0.446	0.123
Absolute Change in Points														
80-09	-0.098	-0.150	-0.045	0.206	-0.056	0.053	-0.113	-0.160	-0.209	-0.023	-0.066	0.017	-0.198	-0.143
80-90	-0.097	-0.002	0.087	0.041	-0.008	-0.061	-0.106	0.052	-0.164	0.082	0.100	-0.143	-0.216	-0.138
90-00	-0.048	-0.149	-0.127	0.206	-0.043	0.163	-0.028	-0.236	0.036	-0.073	-0.172	0.061	-0.086	0.050
00-09	0.047	0.000	-0.005	-0.042	-0.006	-0.049	0.021	0.024	-0.082	-0.032	0.005	0.099	0.104	-0.056
Per cent Change														
80-09	-17.6	-17.7	-9.7	36.3	-6.6	8.6	-14.1	-27.5	-27.8	-3.2	-13.8	2.2	-30.8	-53.9
80-90	-17.4	-0.2	18.7	7.3	-1.0	-9.8	-13.3	9.0	-21.7	11.4	20.9	-18.6	-33.5	-51.7
90-00	-10.4	-17.5	-22.9	33.9	-5.1	29.1	-4.0	-37.2	6.0	-9.1	-29.5	9.8	-20.0	38.7
00-09	11.4	0.0	-1.2	-5.1	-0.7	-6.7	3.2	5.9	-13.0	-4.5	1.2	14.4	30.3	-31.2

Source: CSLS Database for the IEWB for OECD Countries, Table 9

Table 6: Scaled Index of Economic Security, OECD, 1980-2009

	Australia	Belgium	Canada	Denmark	Finland	France	Germany	Italy	Netherlands	Norway	Spain	Sweden	United Kingdom	United States
1980	0.688	0.803	0.689	0.788	0.814	0.785	0.788	0.765	0.781	0.831	0.750	0.873	0.819	0.458
1981	0.684	0.778	0.687	0.757	0.810	0.775	0.770	0.758	0.630	0.839	0.727	0.864	0.791	0.444
1982	0.655	0.759	0.654	0.750	0.806	0.766	0.755	0.750	0.728	0.833	0.715	0.856	0.778	0.413
1983	0.644	0.743	0.653	0.744	0.802	0.760	0.734	0.739	0.728	0.821	0.717	0.852	0.770	0.406
1984	0.674	0.741	0.667	0.769	0.806	0.746	0.674	0.732	0.741	0.827	0.692	0.854	0.766	0.421
1985	0.690	0.746	0.679	0.778	0.809	0.738	0.683	0.726	0.754	0.834	0.683	0.851	0.767	0.412
1986	0.686	0.754	0.682	0.790	0.808	0.726	0.706	0.718	0.750	0.840	0.686	0.849	0.771	0.411
1987	0.688	0.755	0.689	0.787	0.811	0.722	0.714	0.710	0.755	0.838	0.692	0.844	0.762	0.417
1988	0.691	0.765	0.703	0.782	0.816	0.721	0.719	0.706	0.748	0.826	0.694	0.850	0.771	0.414
1989	0.697	0.774	0.704	0.770	0.827	0.720	0.733	0.703	0.749	0.810	0.707	0.857	0.775	0.409
1990	0.680	0.776	0.695	0.768	0.825	0.735	0.744	0.709	0.746	0.804	0.714	0.861	0.768	0.395
1991	0.647	0.769	0.672	0.767	0.784	0.737	0.741	0.709	0.743	0.808	0.706	0.849	0.739	0.381
1992	0.630	0.757	0.664	0.770	0.736	0.735	0.743	0.710	0.755	0.806	0.682	0.826	0.738	0.373
1993	0.618	0.732	0.662	0.758	0.692	0.726	0.726	0.715	0.762	0.804	0.635	0.795	0.742	0.384
1994	0.619	0.714	0.675	0.793	0.699	0.722	0.717	0.702	0.753	0.809	0.619	0.794	0.750	0.407
1995	0.643	0.701	0.684	0.818	0.710	0.732	0.721	0.693	0.751	0.813	0.619	0.797	0.757	0.418
1996	0.647	0.714	0.683	0.816	0.714	0.727	0.714	0.687	0.740	0.816	0.623	0.789	0.756	0.427
1997	0.663	0.715	0.686	0.822	0.735	0.727	0.699	0.678	0.762	0.811	0.633	0.783	0.758	0.436
1998	0.671	0.719	0.678	0.824	0.745	0.732	0.702	0.675	0.755	0.816	0.646	0.794	0.762	0.441
1999	0.690	0.739	0.695	0.822	0.752	0.736	0.709	0.692	0.759	0.820	0.667	0.801	0.755	0.440
2000	0.695	0.745	0.711	0.827	0.746	0.750	0.714	0.705	0.769	0.826	0.675	0.806	0.757	0.429
2001	0.692	0.747	0.699	0.821	0.753	0.757	0.714	0.723	0.765	0.829	0.701	0.797	0.765	0.411
2002	0.690	0.732	0.690	0.821	0.751	0.752	0.707	0.726	0.753	0.818	0.691	0.795	0.761	0.380
2003	0.689	0.701	0.689	0.815	0.746	0.740	0.699	0.730	0.733	0.811	0.674	0.794	0.764	0.363
2004	0.692	0.702	0.692	0.813	0.749	0.734	0.687	0.738	0.723	0.814	0.673	0.786	0.770	0.366
2005	0.699	0.698	0.694	0.820	0.750	0.729	0.676	0.738	0.703	0.818	0.682	0.777	0.771	0.370
2006	0.699	0.694	0.696	0.829	0.760	0.731	0.687	0.747	0.708	0.832	0.677	0.787	0.764	0.378
2007	0.707	0.695	0.697	0.829	0.769	0.738	0.703	0.754	0.704	0.839	0.680	0.800	0.766	0.368
2008	0.707	0.686	0.691	0.832	0.770	0.738	0.709	0.744	0.689	0.838	0.647	0.796	0.764	0.335
2009	0.694	0.664	0.661	0.803	0.742	0.722	0.698	0.728	0.650	0.829	0.577	0.768	0.737	0.280
Absolute Change in Points														
80-09	0.007	-0.140	-0.028	0.014	-0.072	-0.063	-0.090	-0.036	-0.131	-0.002	-0.173	-0.105	-0.082	-0.179
80-90	-0.008	-0.027	0.006	-0.021	0.010	-0.049	-0.044	-0.056	-0.035	-0.027	-0.036	-0.013	-0.050	-0.063
90-00	0.015	-0.031	0.016	0.059	-0.078	0.015	-0.030	-0.004	0.023	0.022	-0.039	-0.054	-0.012	0.034
00-09	-0.001	-0.082	-0.050	-0.024	-0.004	-0.028	-0.016	0.023	-0.119	0.004	-0.098	-0.038	-0.020	-0.149
Per cent Change														
80-09	1.0	-17.4	-4.1	1.8	-8.8	-8.0	-11.5	-4.7	-16.7	-0.2	-23.1	-12.1	-10.0	-39.0
80-90	-1.1	-3.4	0.9	-2.6	1.3	-6.3	-5.6	-7.3	-4.5	-3.2	-4.8	-1.5	-6.1	-13.8
90-00	2.2	-4.0	2.3	7.7	-9.5	2.0	-4.0	-0.5	3.1	2.7	-5.5	-6.3	-1.5	8.6
00-09	-0.1	-11.0	-7.1	-2.9	-0.5	-3.7	-2.3	3.2	-15.5	0.4	-14.5	-4.8	-2.7	-34.8

Source: CSLS Database for the IEWB for OECD Countries, Table 9

Table 7: Summary of the Effects of Alternative Weighting Schemes on the Index of Economic Well-being, Selected OECD Countries, 1980-2009

	<u>Baseline</u>				<u>Alternative 1</u>				<u>Alternative 2</u>				<u>Alternative 3</u>			
	1980	2009	Change in Points	Compound Annual Growth	1980	2009	Change in Points	Compound Annual Growth	1980	2009	Change in Points	Compound Annual Growth	1980	2009	Change in Points	Compound Annual Growth
Norway	0.531	0.799	0.267	1.42	0.510	0.775	0.265	1.45	0.465	0.826	0.361	2.00	0.615	0.768	0.153	0.77
Denmark	0.451	0.684	0.233	1.45	0.452	0.678	0.225	1.40	0.408	0.648	0.239	1.60	0.531	0.722	0.191	1.06
Germany	0.514	0.650	0.136	0.81	0.508	0.639	0.131	0.79	0.414	0.630	0.217	1.46	0.625	0.663	0.038	0.20
Belgium	0.542	0.648	0.106	0.62	0.559	0.661	0.102	0.58	0.435	0.625	0.189	1.25	0.664	0.668	0.004	0.02
Sweden	0.534	0.637	0.103	0.61	0.535	0.651	0.116	0.68	0.452	0.582	0.130	0.88	0.644	0.698	0.054	0.28
Netherlands	0.573	0.636	0.063	0.36	0.585	0.644	0.059	0.33	0.508	0.660	0.152	0.91	0.654	0.618	-0.036	-0.19
Finland	0.501	0.626	0.125	0.77	0.475	0.621	0.146	0.93	0.380	0.564	0.184	1.37	0.626	0.684	0.057	0.30
France	0.465	0.609	0.144	0.94	0.470	0.641	0.170	1.07	0.410	0.582	0.173	1.22	0.553	0.652	0.099	0.57
Canada	0.412	0.575	0.164	1.16	0.432	0.595	0.163	1.11	0.389	0.620	0.231	1.62	0.474	0.556	0.082	0.55
United Kingdom	0.454	0.562	0.109	0.74	0.454	0.596	0.142	0.95	0.386	0.595	0.209	1.50	0.556	0.571	0.015	0.09
Australia	0.417	0.559	0.142	1.01	0.429	0.609	0.180	1.21	0.368	0.587	0.219	1.62	0.496	0.570	0.074	0.48
Italy	0.452	0.532	0.080	0.56	0.461	0.550	0.088	0.61	0.405	0.563	0.159	1.15	0.534	0.540	0.005	0.03
United States	0.355	0.482	0.127	1.06	0.364	0.526	0.161	1.27	0.381	0.595	0.214	1.55	0.351	0.376	0.025	0.24
Spain	0.366	0.451	0.085	0.72	0.377	0.480	0.103	0.84	0.325	0.458	0.134	1.19	0.456	0.471	0.014	0.11

Source: CSLS Database for the IEWB for OECD Countries, Table 9 and Appendix Tables 27-29

Weights:

Baseline: 0.25 Consumption + 0.25 Wealth + 0.25 Equality + 0.25 Economic Security

Alternative 1: 0.40 Consumption + 0.10 Wealth + 0.25 Equality + 0.25 Economic Security

Alternative 2: 0.33 Consumption + 0.33 Wealth + 0.00 Equality + 0.33 Economic Security

Alternative 3: 0.20 Consumption + 0.10 Wealth + 0.40 Equality + 0.30 Economic Security