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MEASURING AND FOSTERING THE PROGRESS OF SOCIETIES

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MEASURING AND FOSTERING THE PROGRESS OF SOCIETIES

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Introduction

1. The OECD, in common with many other organisations, has typically measured material living standards in member countries in terms of the level and growth of gross domestic product (GDP). But for a number of years, there has been evidence of a growing gap between the image conveyed by GDP and the perceptions of ordinary people about their own conditions. While this gap was already evident during the years of strong growth and 'good' economic performance that characterised the early part of the decade, the financial and economic crisis of the past few years has further amplified it.

2. The discussion on looking at other measures than GDP is not new. Clearly, policy makers have never focused single-mindedly on GDP. They rather seek to enhance the overall well-being of citizens, today and in the future, taking into account other factors such as distributional concerns and environmental quality. The extent to which they are successful in balancing these different dimensions of well-being often depends on the availability of reliable measures for tracking developments in these dimensions, as well as on their own assessment of what matters (or should matter) for most of their citizens.

3. This document reviews the various potential components of well-being, and assesses whether measures of GDP growth can serve as adequate proxies for the level and changes of well-being in OECD countries, drawing on various documents prepared by the OECD Secretariat in the recent past, notably in the context of the OECD-hosted Global Project. "Well-being" is, of course, a complex concept. Dictionary definitions differ, but notions of prosperity, health and happiness generally figure. Well-being is not something that one can give a precise number to. Numerical indicators relevant to measuring the different components of well-being exist, and it is plausible to argue that the general well-being of society as a whole has risen or fallen if a set of outcomes indicators move in a given direction. However, when these different indicators move in opposite directions, it is not possible to say if well-being is being enhanced or reduced unless all indicators are expressed in a common metric.

4. This document reviews different approaches to the measurement of well-being. It first looks at monetary measures: these include both measures directly available in the national accounts for the economy as a whole or for households, and those that could be developed to capture the influence of other components of well-being (such as household production, leisure time and income distribution) in money terms. It then looks at various *non-monetary* measures, such as indicators of social conditions and environmental quality and at surveys of self-reported happiness and life-satisfaction.

Monetary measures of well-being

GDP and other national accounts indicators

5. Economists often assess well-being through measures of GDP per capita. GDP is a measure of the value of final goods and services produced within a country in a given time-period. Hence, it is mainly a measure of economic production (the production that takes places within the "production boundary" of the *System of National Accounts*) rather than of the economic well-being that people derive from it. There are two main reasons for clearly distinguishing between production and well-being. The first is that some of the activities included in GDP correspond to a reduction in peoples' well-being (as in the case of higher transport costs due to higher congestion and longer commuting) or to activities aimed at remedying some of the social and the environmental costs associated to production (as in the case of environmental protection expenditures). The second reason is that people's well-being depends on a range of factors that go well beyond their income and that are omitted by the system of economic accounts.

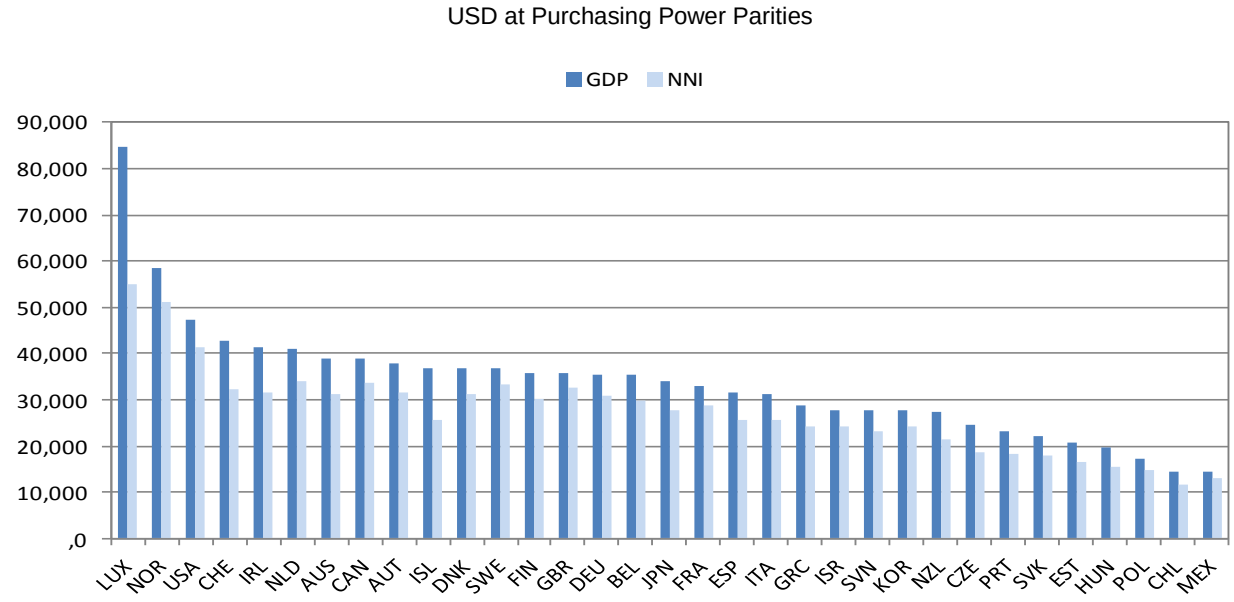
6. Within the national account framework, however, better measures of people's material living standards than GDP per capita exist, even if data availability and reliability restrict the scope for cross-

country and inter-temporal comparisons. One such measure is *national income*. While GDP is a production concept, the way that it is constructed makes it equal to the total income earned in the production process. Some of this income is paid to non-residents, while residents receive some income from production in other countries. GDP can be adjusted for "net income from abroad" to arrive at the concept of gross national income, GNI, which is more relevant for the well-being of residents of a country.

7. GDP also makes no allowance for the using up of capital goods during the production process and thereby overestimates the value of output that might contribute to well-being. An allowance for depreciation of capital can be subtracted from GDP and GNI to arrive at the corresponding net concepts of NDP and NNI. While all countries provide estimates of capital depreciation, it is known that they are difficult to derive accurately and to compare across countries.

8. For the majority of countries there is little difference between NNI and GDP per capita relativities expressed at PPP rates. There are however exceptions, most notably Luxembourg and Iceland (Figure 1); differences are also likely to be significant for many developing and emerging countries characterised by a significant presence of multinational enterprises in their territory (whose profits are then transferred abroad) and of immigrants working abroad (who transfer part of their income to their country of origin in the form of remittances).

Figure 1. Gross Domestic Product and Net National Income per capita, 2008



Source: OECD, National Accounts of OECD Countries, 2008.

9. Even per-capita NNI is a poor approximation of the economic resources actually enjoyed by individuals and households. A better measure is the income from all sources available to households after they have paid taxes, and how much of it they consume, including goods and services that they receive free of charge from the government and non-profit institutions.[1] For all OECD countries household disposable income per person is lower than per-capita GDP, and per-capita household consumption levels are generally lower still; but cross-country comparisons show that there is a reasonably close correspondence

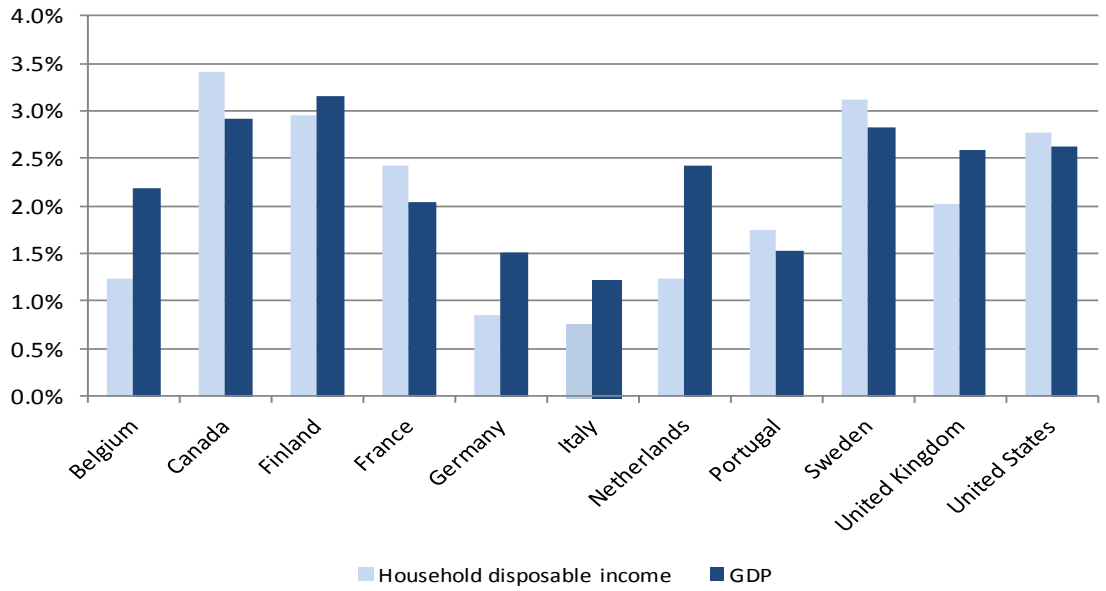
1 Consideration of the value of the in-kind services that households receive from government leads to the concepts of *adjusted* disposable income and *actual* consumption expenditures.

between household disposable incomes (in particular when including publicly provided in-kind services), their consumption, and GDP per capita.

10. There are however much more significant differences when looking at changes in household and economy-wide measures of economic resources. In particular, household disposable incomes and consumption have risen less quickly than GDP in several countries in the past decade, for example due to a shift towards higher company profits (Figure 2). As households are the ultimate owners of companies, a faster growth of business income should increase household well-being (through higher asset values) but this effect is not taken into account in national accounts measures of income flows. Further, increases in asset values and company profits are likely to benefit a relatively small share of households, which points to the importance of moving from measures of *average* income to measures that account for the diversity of households' conditions (see below).

Figure 2. GDP and household disposable income in real terms

Average annual growth over the period 1998-2008



Note. Data refer to the growth rates in total (rather than per capita) GDP and household disposable income.

Source: OECD National Accounts.

Accounting for other components of well-being within a monetary framework

11. The determinants of individual and societal well-being go obviously beyond production and consumption of economic resources. As a result, several approaches have been explored to extend national account aggregates to a range of other dimensions that have value for individuals and communities. While monetary valuation of non-market factors requires some problematic assumptions, illustrative calculations highlight the potential importance of some of these factors.[2]

2 A comprehensive approach to the construction of non-market accounts in the fields of home production, human capital, the environment, health and education, government and the non-profit sector is described in Abraham and Mackie (2005), which summarises the conclusions of a panel of the National Research Council for the United States.

Government services to households

12. The services that government provide to households for their own use, such as education and health, are included in measures of GDP but not in those of household disposable income. These services tend to be large in scale but are badly measured, with valuation typically based on the inputs used to produce these services rather than on actual output produced. Productivity change in the government sector is ignored, and measures of GDP growth are underestimated in the presence of positive productivity growth in the public sector. Cross-country comparisons of GDP growth are also affected when statistical offices follow different methodologies in how they measure changes in the volume of these services.[3]

13. Better measuring the public services provided to individual household is central to the better assessment of well-being. This requires information that is detailed enough to avoid mixing up true changes in volume of these services with compositions effects; for example, the observation of higher average spending per student may reflect either higher unit costs (i.e. lower service volumes) or a larger share of students taking up more expensive courses (i.e. higher service quality). Comparing the production of government services across countries also requires developing suitable purchasing power parities for these services. Improving the measures of these government services is especially important when moving from economy-wide measures to measures that are specific to the household sector, *inter alia* because these services are an important channel through which government affect how economic resources are distributed among the population (OECD, 2008).

Household production

14. The production boundary of the national accounts includes the goods that households produce for their own use but exclude most of the services (e.g. care for children and frail elderly, cooking, washing) that households produce for their own use.[4] This exclusion is important as, over the years, there have been major changes in how households function. For example, many of the services that people receive from other family members in the past (such as care) are now purchased in the market place. In theory, a shift in the locus of production should not affect measured outputs, unless these services are now produced more effectively than in the past. In practice, current measurement conventions lead to changes in measured outcomes.

15. As people, especially women, devote a significant share of their time to household chores, accounting for the services that households produce for their own use can have a significant impact on aggregate measures of household material living standards. Illustrative OECD calculations, prepared for the *Commission on the Measurement of Economic Performance and Social Progress (CMEPSP)* (Stiglitz, Sen and Fitoussi, 2009), show that household production may amount to about 35% of conventionally-measured GDP in France (average 1995-2006), about 40% in Finland and 30% in the United States, i.e. they are large enough to significantly affect cross-country comparisons of the level of economic well-

3 For example, the United Kingdom has moved since 1998 to a direct (output-based) measure of changes in government production for around two-thirds of government final consumption. As a result of this change, between 1995 and 2003, GDP in constant prices grew by 2¾ per cent per year, as compared to 3% if output in the public sector had continued to be measured by inputs. This change in methodology in how government output is measured explains nearly half of the difference between the published growth rates in GDP of the United Kingdom and the United States between 1995 and 2003 (Atkinson, 2005).

4 The only exception is represented by the services that households receive from ownership of their main residence (imputed rents).

being.[5] As importantly as levels, shifts in the locus of production will also affect measured growth rates of economic activity.

Leisure time

16. There is no doubt that for most people longer holidays and shorter working hours contribute to well-being as long as they are not accompanied by lower incomes (Beckerman, 1978). Leisure in this sense is a "good" but, as it is not sold on markets, it does not enter into the national accounts. Societies, as they become richer, have traditionally enjoyed some of the fruits of that progress in the form of increased consumption of leisure, either at the end of their working life or while working. While different societies may have different preferences between material consumption and leisure, our measurement system tends to bias our assessment of success *against* those that opt for enjoying more free time.

17. Again, illustrative calculations provide some broad illustration of the magnitudes involved. The estimates included in the report of the CMEPSP (Stiglitz, Sen and Fitoussi, 2009) show that accounting for leisure has a large impact in boosting a broader measure of material living standards at a point in time, affecting cross-country comparisons and lowering growth rates compared to those for GDP.

Household size

18. All estimates of per-capita income are obtained by summing income across all units and dividing the total among the resident population. This ignores the pooling of resources that occurs within each household and the fact that these have different sizes, often containing people with no independent income (*e.g.* children and spouses). Most analyses of well-being based on household-level data rest on the assumption that the economic needs of households rise less than their size: for example, a household comprising one couple and two children does not need twice the income of a childless couple to maintain the same level of well-being. While the adjustment is bound to be somewhat arbitrary, assuming some "sharing" of resources within households is clearly preferable than the alternative.

19. It is possible to adjust per-capita income for household size using data from household surveys. Correcting per-capita income data for the decline in household size that occurred in all OECD countries over the past decades implies a lower growth in "equivalised" income (*i.e.* income adjusted for household size) than in income per capita. Since 1995 Mexico, the Czech Republic and Portugal are among those countries where the reduction is greatest (Boarini *et. al* 2006). For some countries (*e.g.* Italy), a small rise in per capita household income turns into a small decline when accounting for the greater needs that are associated to lower household sizes.

Distribution and inequalities

20. Incomes vary between individuals, and OECD countries differ in the degree of inequality and in how these have changed over time. It is not possible to say *a priori* what impact income inequality has on well-being. If it is assumed that extra income brings smaller and smaller increments in well-being to individuals and that all individuals with the same income experience the same well-being, then general well-being will be highest if all individuals have the same income; a corollary would be that any increase in income inequality with no changes in average income reduces well-being. But it can also be argued that

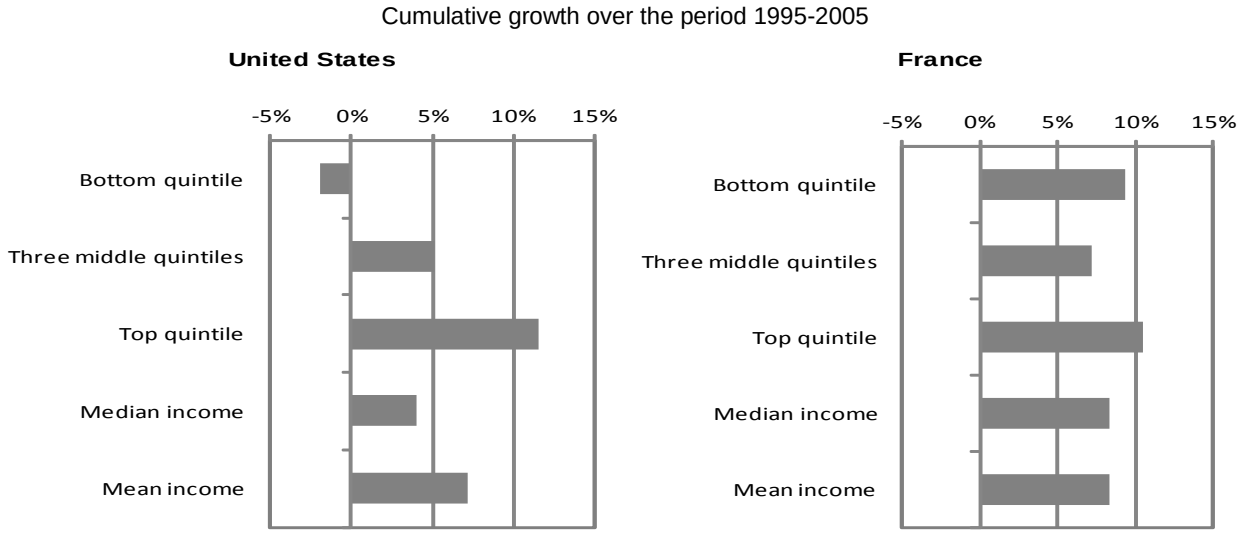
5 These calculations are based on estimates of the amount of time that households devote to housework, purchasing goods and services, caring for and helping households and non-household members, volunteer activities and so on. The value of the production of household services is measured by its costs, with the value of labour estimated by applying the wage rates of a non-qualified household worker to the number of hours that people spend on housework.

the possibility of increasing one's income is needed to spur effort and innovation, which benefits society as a whole, and that individuals differ in their preferences for leisure as opposed to material goods.

21. Whatever these judgements, it is possible to adjust national account measures of household income per capita to incorporate distributional concerns. One such adjustment involves weighting average incomes in each decile of the distribution with a coefficient representing the degree of aversion to inequality of each society; a higher value of this coefficient implies that lower weight is given to higher incomes (Kolm, 1969). Unsurprisingly, a high value for this coefficient can lead to a change in country rankings and affect country growth rates (Boarini *et al*., 2006).

22. Beyond the issue of combining average income growth and changes in its distribution into a single metric, it is obvious that information of how the pace of income growth differs among people at different points of the distribution conveys important information on the conditions of various groups of people. A conceptually simple way of capturing distribution aspects is to look at median (alongside mean) income (Figure 3). The "median individual" is, in some sense, the "typical" individual, the one who stays exactly in the middle of the distribution. If inequality increases, the difference between medians and means will widen, and the mean will give a biased assessment of the way living conditions evolve. Alternatively, changes in the disposable income of different income groups can be tracked. In all cases, information on distributions enriches our assessment of how various individuals are faring, and highlight significant differences across countries.

Figure 3. Growth in equivalised household disposable income in the United States and France



Source: Data drawn from OECD (2008), *Growing Unequal? Income Distribution and Poverty in OECD countries*, OECD, Paris.

Non-monetary measures of well-being

23. A complementary approach to assessing well-being is to look at indicators providing information on some of its specific components. One avenue is to look at whether OECD countries with higher GDP per capita (and faster growth of GDP per capita over time) experienced a better (or more rapid) improvement in social conditions. Another strand is to look at the relation between GDP and indicators of environmental conditions. Finally, we can consider how people answer questions about their subjective well-being and how these are related to money income.

Social indicators

24. Social factors — such as self-sufficiency, equity, health, and social cohesion — enter into well-being. Building on the OECD experience in collecting various types of social indicators, Figure 4 shows cross-country correlations between a selection of these social indicators and GDP per capita in both levels and changes over time:

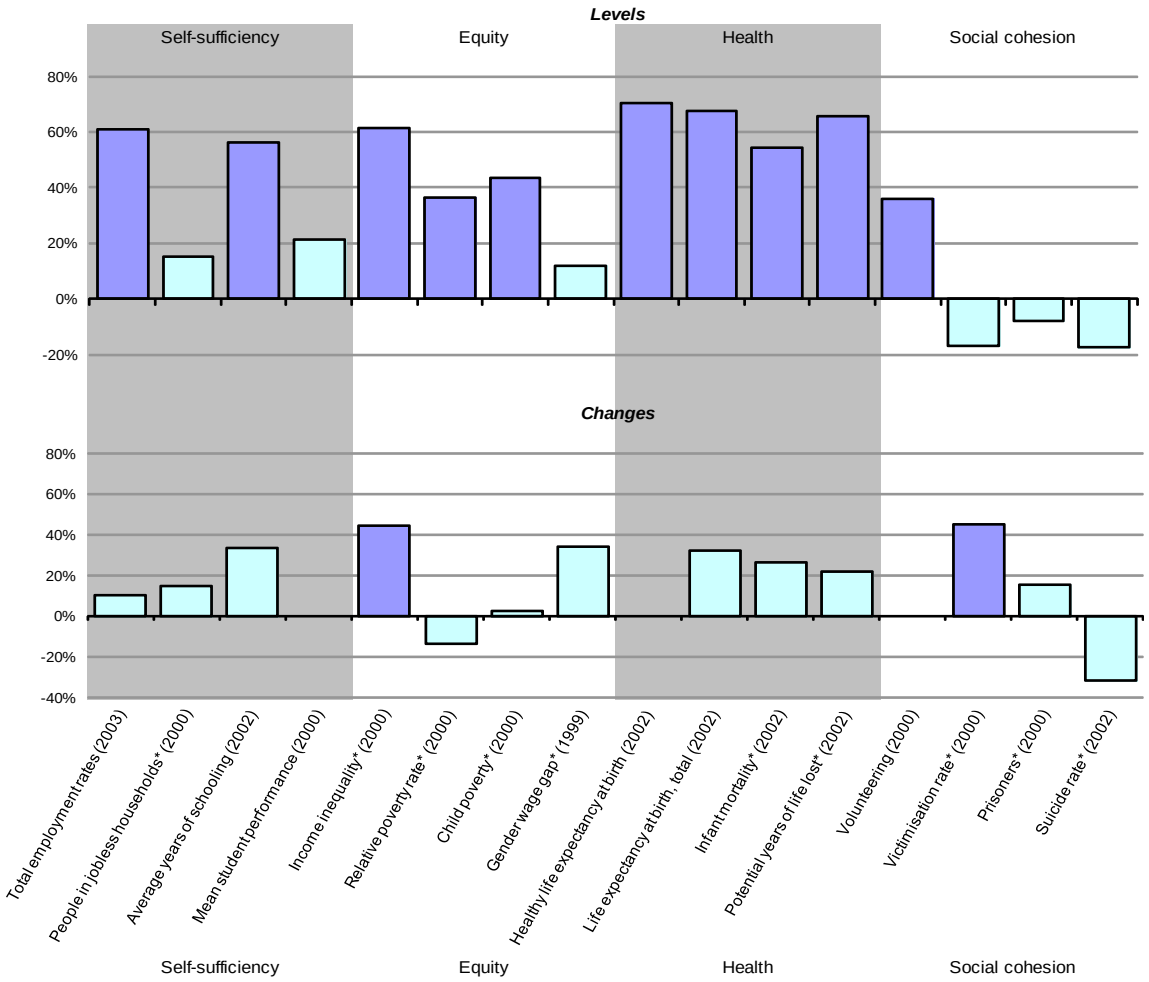
- *Self-sufficiency* is measured in terms of the overall employment rate, the proportion of the population in households where nobody has a job, the average number of years of schooling, and the average performance of schoolchildren at age 15. All these factors affect the ability of individuals to earn a decent living. Not surprisingly, employment rates and average years of schooling are strongly correlated with GDP per capita, but this is not the case for measures of student performance and of jobless households. The correlation between changes in self-sufficiency measures and GDP per capita is more tenuous.

- Measures of *equity* include income inequality, relative poverty rates, child poverty and the gender wage gap. In general, high GDP per capita is associated with more equitable outcomes as measured by these indicators, though the correlation is weak in the case of the gender wage gap. An increase in GDP per capita goes hand in hand with reduced income inequality and gender wage gaps, but is very weakly, if at all, related to changes in child and relative poverty.

- Key indicators of *health conditions* comprise life expectancy at birth, "healthy" life expectancy at birth (*i.e.* lifespan without disabling medical conditions), infant mortality rates, and potential years of life lost as a result of accidents or preventable diseases. All of these measures are more strongly correlated with GDP per capita across countries (*i.e.* higher incomes go hand in hand with better health, at least on average) but the association is weaker for changes in GDP per capita and changes in health indicators.

- Indicators of *social cohesion* in the positive sense, for example participation in community activities, are associated with higher levels of per capita income. Negative indicators (such as victimization, incarceration and suicides) bear no relationship to GDP.

Figure 4. Cross-country correlations between per capita GDP and different social indicators in OECD countries[1]



1. For variables where higher values of the indicators denote worse social outcomes (*e.g.* infant mortality, prisoners, denoted with an "*") correlations with per capita income are shown with the opposite sign (*e.g.* countries with higher per capita income have lower infant mortality rate – shown with a positive sign – and higher rates of imprisonment – shown with a negative sign). Per capita income is measured as GDP in current prices and purchasing power parities, divided by the total population. Correlations are computed between values of the GDP per capita and of the social indicators in the same period; the number of countries considered may vary among different pairs of variables depending on data availability.

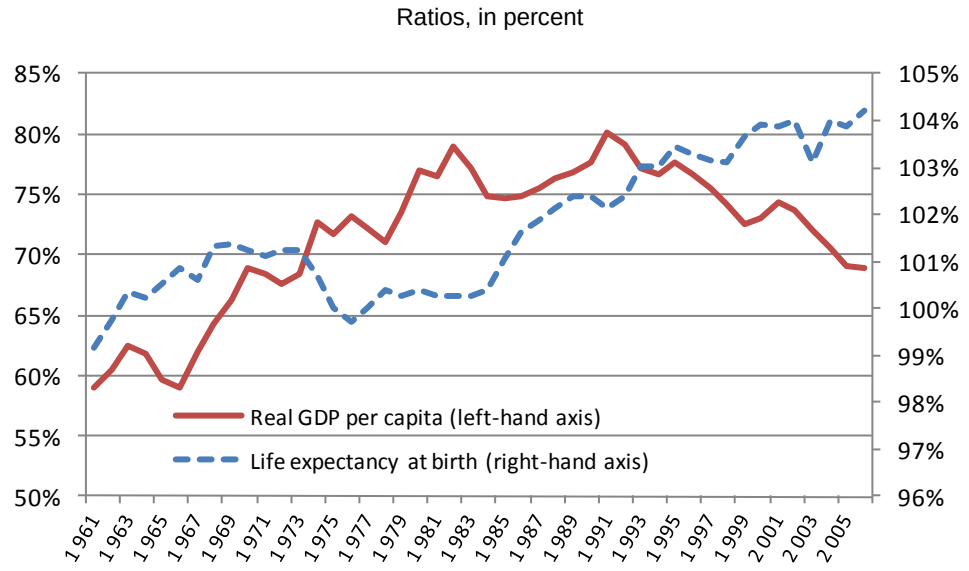
2. Changes between the first half of the 1980s to around 2000. For the exact period for each indicator, see Boarini *et al.* (2006). Lack of data prevents the computation of changes over time for some of the indicators.

Source: Boarini et al. (2006).

25. Overall, with the exception of social cohesion measures, the association between social conditions and the level of GDP per capita is positive but it is not strong (below 0.60, on average). Further, the correlation declines further when limiting the analysis to OECD countries with higher per capita income. As a result, experimental measures that aggregate these sixteen social indicators into a synthetic index lead to some significant differences in the ranking of some OECD countries relative to a ranking based on GDP per capita alone, a conclusion that does not change very much when the weights are varied (Boarini *et. al* 2006).

26. Further, the correlation[6] between changes in GDP per capita and various social outcomes are generally insignificant (Boarini *et al.*, 2006). This implies that a country may record a worsening in its relative performance when looking at GDP per capita alongside improvements in another indicator. For example, the gap in GDP per capita between Italy and the United States has worsened by around 12% since 1991, while at the same time Italy doubled its advantage in terms of life expectancy, by increasing its advantage from 1.6 years in 1991 to 3.3 years in 2006, Figure 5). While answers to the question of which of these two developments matter the most for an overall assessment of progress in the two countries will depend on the preferences and circumstances of each person, it is also clear that a measurement system exclusively focused on the material aspects will implicitly favour one answer relative to the other.

Figure 5. Gaps in GDP per capita and life-expectancy between Italy and the United States



Source: OECD (2009), *OECD Factbook*, OECD, Paris.

Well-being and the environment

27. The state of the environment also affects people's well-being. Low environmental quality (such as air and water pollution) can result in health problems, and some forms of pollution can reduce the amenity value of the natural habitat. And even if current environmental conditions may not have noticeable effects at present, they may have serious consequences for future generations, and hence on the well-being of those living today who are concerned about living standards of people yet to be born. The concern over climate change is an example of such inter-temporal concerns.

28. The relationship between the state of the environment and per-capita GDP is complex. On one side, higher levels of output may stress the environment more (through a 'scale' effect) but, on the other, they also raise the capacity of societies to mitigate and deal with these stresses. In the past 10-15 years, emissions of most pollutants have grown more slowly than GDP in most OECD countries. The tonnages of traditional pollutants loosed into the air and into water systems have actually fallen in most member

6. Practical steps to better integrate physical measures of environmental stress within national accounts are described in the 2003 *Handbook of Integrated Environmental and Economic Accoun*ts (SEEA). However, such satellite accounts are not widely used in OECD countries.

countries. In addition, greenhouse gas emissions have fallen in absolute terms in about half of all OECD countries – although they are continuing to accumulate in the atmosphere. But as consumption patterns of the rich countries are emulated elsewhere (e.g. in terms of transport, energy, food), this raises environmental pressures on a global scale.

29. There has been less success in managing in a sustainable manner renewable natural resources – as it is the case for several important fish stocks. Although there are no standard accounts available that adjust GDP for changes in the state of the environment, some of the improvements discussed above may suggest that environmental degradation may have become less of a drag on how well-being is changing over time since the early 1990s in most countries. However, this would not necessarily be the case if the cost of emissions and discharges has become higher with time as concentrations of pollutants and emitted substances continue to increase (as is the case for greenhouse gases).

Subjective well-being

30. Instead of attempting to evaluate well-being on the basis of objective indicators, it is also possible to use subjective[7] measures for the same purpose. Subjective measures have always been part of the traditional toolkit of statisticians, as many features of our economy and society are measured through people's responses to a standard set of questions (e.g. unemployment). The specific features of the measures of subjective well-being discussed here is that what people report about their own conditions has no obvious objective counterpart. Only people can provide information about their own evaluations of their life, of their positive (e.g. pride, meaning) and negative (e.g. fears, anxiety) feelings.

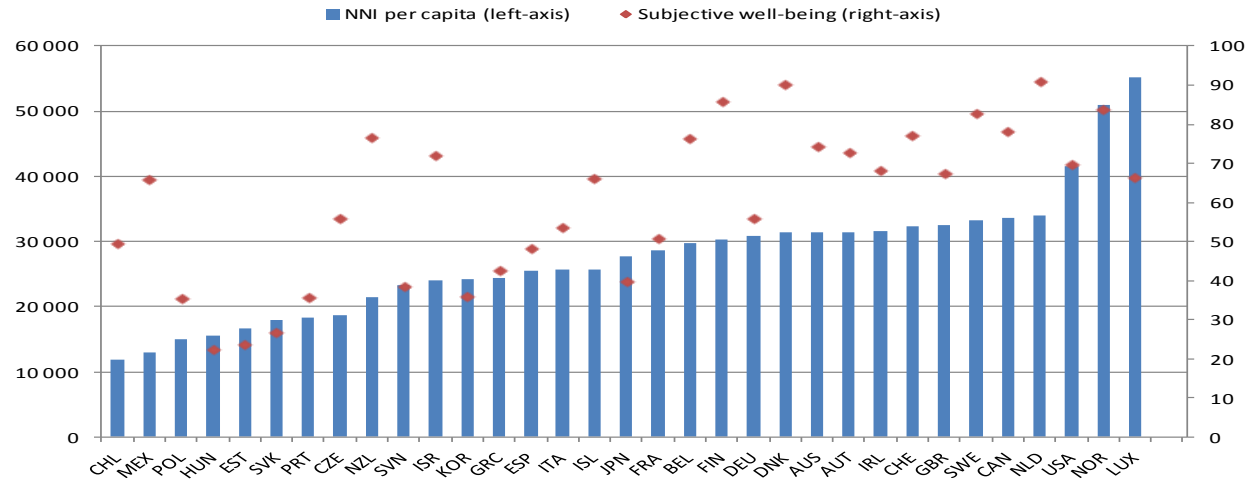
31. One way of determining whether persons are satisfied with their life (or not) is simply to ask them.[8] Surveys exist for most countries and for many years, for example the Gallup World Poll, A representative sample of people in each country is asked to check the response that best describes their life, from the worse possible outcome to the best one. The results seem to be reliable, in that individuals self-reporting high levels of happiness and satisfaction are also seen in that light by their friends and relatives, are more resilient to stress, are more likely to recall positive events in their lives, smile more, live longer and are less likely to suffer from depression or lose their jobs (Layard, 2005).

32. In 2008, on average, around 63% of people in OECD countries reported a high satisfaction with their life, Among OECD countries, the share of people reporting high life satisfaction at present ranges between 85% or more in the Netherlands, Denmark and Finland, and 36% or less in Hungary, the Slovak Republic, Turkey, Poland, Portugal and Korea, while the major non-OECD countries (expect Brazil) report lower life evaluation (Figure 6). There is a tendency for the richer OECD countries to report higher levels of life satisfaction, but the relation is weak and seems to flatten out at higher income levels.

7. Practical guidance on the construction of composite indicators is provided by Hoffman *et al*. (2005).

8. There are of course circumstances where the increased happiness of some individuals necessitates the reduced happiness of others – the "rejoicing at others' misfortune" syndrome.

Figure 6. Net National Income per capita and subjective well-being, 2008



Note: Data on subjective well-being shown here are based on ladder-of-life questions, which ask respondents to rate their life from the worst (0) to the best (10) level, and refer to the share of people who rate their life today at step 7 or higher. Data on NNI per capita are expressed in USD at PPP rates.

Source: OECD Annual National Accounts and Gallup World Poll.

33. Beyond country-ranking, the most relevant findings from these subjective measures are at the levels of individuals. A first finding from these surveys is that as individuals become better off during their lifetimes, as most people do, their self-reported satisfaction does not rise proportionately (in fact they change very little for most of the samples), while those who become worse off report decreased happiness levels. It may be that people adapt to higher income and consumption, or that individual well-being depends strongly on how they compare to friends, relatives and colleagues. This could explain why the link between life-evaluations scores and NNI per capita is rather tenuous. A second finding is that, apart from income, empirical studies find that subjective well-being is higher for people having a job, with stronger social connections, with better health and education, as well as in countries where the quality of institutions is perceived to be higher and (in some countries) income inequality is lower. These findings suggest that the main importance of these subjective indicators is probably not in providing country-ranking, but mainly in informing about the importance that people attribute to various factors that matter for their life.

The ultimate goal of this measurement agenda: feeding into the policy debate

34. Developing better measures of progress brings to the fore the question of how to design policies and processes that best support these goals. While the OECD has developed, over the years, a rich set of recommendations on how various policies can best support countries' economic growth (for example through its *Going for Growth* series) the extent of knowledge on the policies that "work best" in enhancing other dimensions of people's well-being is more scant in other domains.

35. Developing such understanding is a daunting task that can only be achieved incrementally. Some measures of societal progress may appear as too general to be amenable to policy interventions. Further, broad measures of outcomes in different fields (e.g. health status) will reflect several factors, some pertaining to the characteristics of the individuals (i.e. patients), others to those of the government programmes directly tasked with service delivery and implementation (e.g. the health care system), and others, yet to be featured, relating to the environment where people live. Many of these factors may not be amenable to policy interventions, and yet it is critical to indentify relevant connections between various well-being outcomes to various areas of government policies.

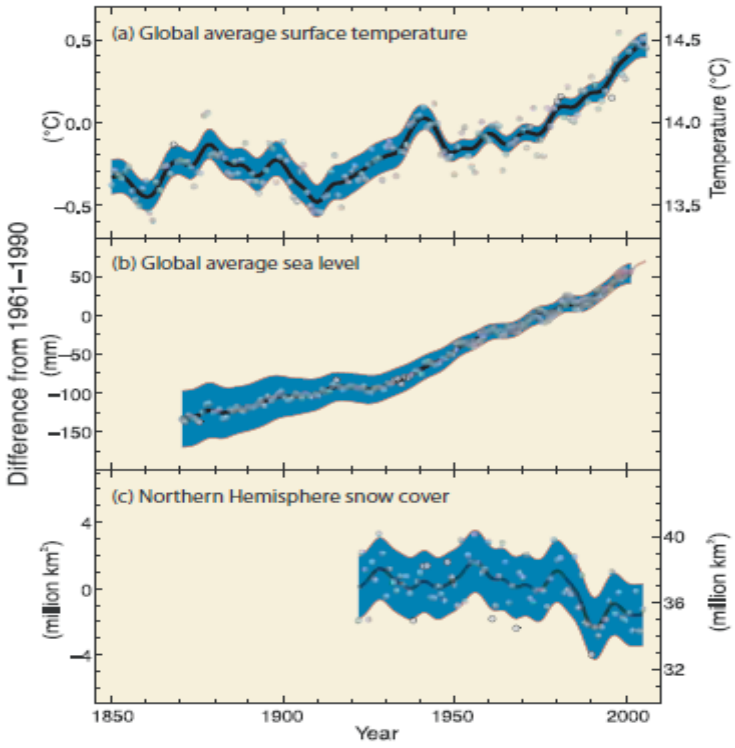
36. Better measures of the various well-being outcomes can lead to better policies through a variety of channels:

- First, better measures can help put into light issues which political leaders may have been less attentive to in the past (as witnessed by the role played by the indicators gathered by the *International Panel on Climate Change* in leading to an intergovernmental process on climate change policies, Figure 7).

- Second, better measures of progress outcomes, supported by adequate data collection methodologies (e.g. longitudinal data) and analytic tools (e.g. micro-simulation models) can lead to a better understanding of the full range of factors driving these outcomes.

- Third, better measures of outcomes can lead to a better assessment of countries' comparative performance in various fields, and to the establishment of detailed strategies when these outcomes are found to fall short of the performance of other countries.

Figure 7. Trends in global temperature, sea-levels and snow cover in the Northern hemisphere, 1850-2000



Note: Observed changes in *a)* global average surface temperature; *b)* global average sea level from tide gauge (blue) and satellite (red) data; and c) Northern hemisphere snow cover for March-April. All changes are relative to corresponding averages for the period 1961-1990. Smoothed curves represent decadal average values while circles show yearly values. The shaded areas are the uncertainty intervals estimated from a comprehensive analysis of known uncertainties (a and b) and from the time series (c).

Source: Reproduced from IPCC, 2007a, Figure SPM.3.

37. The scope of the agenda of measuring well-being and progress is not limited only to industralised countries. Improvements in the measurement of income, consumption and wealth, as well as of inequalities in their distribution, will allow developing and emerging countries to deepen the assessment of their efforts towards the Millennium Development Goals, informing institutional building, policy design and re-

distribution mechanisms. Research conducted in Latin-America (IDB, 2008) shows that measuring well-being can:

- highlight specific national/regional cultural dimensions that have to be taken into account when assessing progress;

- identify important people's concerns and expectations that are not in the radar screen of current development policies;

- inform about politically significant gaps between people's perception and factual situation in critical areas; and improve assessments of public participation, political voice and quality of governance, that are at the core of the democracy and human rights approach to development.

38. The implementation of this agenda in the developing world must build on – and be a useful complement to – the National Strategies for the Development of Statistics (NSDS) promoted by PARIS21, the DAC and the UN System.

The statistical work agenda ahead

39. The OECD is well placed to contribute to the implementation of the agenda of measuring well-being and progress, based on its long-standing experience in the area. For instance, regarding *economic resources*, previous OECD reports have discussed the limits of GDP as a welfare measure, and publications such as "Society at a Glance" have brought together a wealth of information to complement simple comparisons of GDP (OECD, 2006). The new publication "National Accounts at a Glance" (OECD, 2010) highlights the role of complementary indicators of living standards such as household disposable income. The OECD has worked to develop methodologies to measure the volume of government services provided to individuals (such as education and health care services) based on outputs, rather than inputs, while inequalities in income and wealth have been at the centre of the recent OECD report "Growing Unequal?" (OECD, 2008).

40. People's economic resources are best captured from a household perspective and work is planned to better integrate data on household income, consumption and wealth. Measuring and valuing the production activity of households (childcare, cooking, education etc.) is another relevant aspect. Also, ongoing work on improved measures for health and education services that are often delivered by government will help to improve measures of actual consumption.

41. The OECD has taken the lead in developing data on many aspects of *quality of life*. These include measures of students' skills (e.g. through surveys of 15-year old students); health conditions (e.g. measures of morbidity, mental health, quality of health care services, and health inequalities); and leisure time. Other activities have measured how well governments function (i.e. "Government at a Glance") and how good the quality of the environment is (e.g. "Key Environmental Indicators").

42. The OECD has also worked recently on the measurement of trust and vulnerability, and how measures of subjective well-being could inform social policies. Work will soon start to develop guidelines on how to measure the different aspects of subjective well-being so as to improve international comparability of results.

43. The OECD has been active in developing better measures of the various types of capital that underpin *sustainability*. On man-made capital, the OECD has developed guidelines for measuring physical and intangible assets such as R&D, and has ongoing activities on measuring financial balance sheets and pension wealth. On natural capital, the OECD has led the way in measuring material flows, and work is

currently envisaged on natural resources and ecosystem services (e.g. biodiversity); this work will feed into the OECD *Green Growth Strategy*, to measure progress towards environmentally sustainable growth and to explore how policies can be harnessed to that end. On human capital, work is underway to develop survey measures of the skills and competences of the adult population (PIAAC) that could complement those currently available for lower-secondary students (PISA); and to develop monetary estimates of educational capital based on the discounted life-time income approach. Social capital has also featured prominently in past OECD work (e.g. the 2001 report on "The Well-being of Nations").

44. The information that already exists will be brought together in a dedicated OECD publication focused on people's life and well-being. Partnerships could also be envisaged with individual countries and other international organisations in order to prepare country reports on measuring societal progress.

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