Measuring National Well-being: Economic Well-being

Author Name(s): Jawed Khan and James Calver; Office for National Statistics

Abstract

This article considers ways to measure the economic well-being of the UK. It reaffirms the importance of Gross Domestic Product (GDP) as the central and indispensable measure of economic activity. But it also considers ways in which GDP falls short as a measure of economic well-being. It proposes a set of seven additional indicators, which with GDP could constitute a “dashboard” for the purpose of assessing changes in the various dimensions of economic well-being.

Background

In recent years, there has been substantial discussion about the best way to measure national well-being. The Commission on the Measurement of Economic Performance and Social Progress Report (Stiglitz et al. 2009) crystallised many of these issues and its recommendations led to subsequent work to refine and implement these, around the world. In the United Kingdom, the National Statistician set up the Measuring National Well-being programme in 2010 to take this agenda forward.

This article considers the measurement of economic or material well-being. This is a subset of the overall issue of measuring well-being and recognises that many dimensions of well-being are outside the material sphere (see, for example, the ONS “Wheel of Well-being”). Nevertheless, as the Stiglitz Commission recognised, measuring changes in economic well-being is important in its own right.

In the UK, the National Accounts, and Gross Domestic Product (GDP) in particular, currently have the highest profile in regard to changes in the economy and the measurement of economic progress. In its own terms, this prominence is fully warranted. GDP measures the sum total of the final output that the economy produces. Equivalently, it measures the income that, as a nation, we earn from that production. Similarly, it measures what is available to spend – either to consume or to invest in capital for the future.

Given that it measures aggregate activity in the economy, GDP, supported by other information, inevitably and correctly plays a central role in discussion about monetary and fiscal policy and about the state of the economy generally. It is therefore of vital importance.
At the same time, GDP has long known weaknesses as a measure of economic welfare or well-being. The founding fathers of national accounting, Hicks, Kuznets, Samuelson, Tinbergen, were well aware of this, and explicit about it. The System of National Accounts (SNA) - the international convention that governs national accounting in most countries - recognises the limitations of GDP as a measure of well-being:

“Movements of GDP cannot be expected to be good indicators of changes in total welfare unless all the other factors influencing welfare happen to remain constant, which history shows is never the case”.

This should not be taken, however, as a counsel of despair. The approach adopted in this article is as follows:

• Diagnose the ways in which GDP is defective in measuring changes in economic well-being.
• Propose additional measures that deal with these issues.
• In this way, construct a dashboard of a small number of indicators that together give a more rounded and comprehensive basis for assessing changes in material well-being.

The rest of this article takes this procedure forward.

Notes


Problems With Using GDP as a Measure of Economic Well-being

The issues concerning the use of GDP as a measure of welfare can be broadly considered in two groups:

• Some apply generally to the way GDP is defined and constructed. One point here is that GDP is defined without reference to the number of people in the population that produce the output it covers and benefit from the income generated. If GDP increases but the population producing it rises by the same percentage, there would be no reason to suppose the well-being of individuals would have increased. One obvious adjustment to make therefore is to consider, instead, measures defined in per capita terms. There are, however, other issues related to GDP’s ability to function as a measure of well-being, as set out below.

• A further set of issues relate to what the Stiglitz Commission called the need to emphasise the household dimension. Its observation was that only people actually experience well-being, rather than companies or other legal institutions. The implication is that alongside looking at what is happening to the economy as a whole, attention should be paid to what is happening specifically to households. It is also important, in this context, that GDP and, for that matter aggregate household measures of income give only an aggregate picture. There is also a need to consider who is benefiting from that income, as well as the total position.

The following sections discuss and address these issues in turn.
A. General Issues

1. Adjusting for population change

The first issue under the general heading is to adjust Gross Domestic Product (or other relevant aggregates) for population change. This can be done straightforwardly and the following chart compares the path in recent years of Gross Domestic Product (GDP) per capita with the more familiar GDP profile.

Figure 1: GDP and GDP per capita, 1997 - 2013

United Kingdom

Source: Office for National Statistics

Download chart

XLS format
(9.7 Kb)
Figure 1 shows that there had been little recovery in GDP per capita as compared with 2008, whereas GDP had recovered significantly from the low point reached in 2009. Underlying this conclusion is the fact that the slow recovery in GDP itself since 2009 had been matched by an increase in population of roughly the same order.

2. Adjusting for capital consumption

GDP is “gross” in the sense that it includes depreciation or capital consumption. It treats such consumption of capital as no different from any other form of consumption. But most people would not regard depreciation of their cars or houses, for example, as adding to their material well-being. On this basis, looking at Net Domestic Product (NDP), as the Stiglitz Commission suggested, is liable to have a closer relationship with economic well-being than GDP. Figure 2 below compares the behaviour of GDP per head with NDP per head in recent years. The figure shows that the trend in the UK NDP per capita closely mirrored the trend in GDP per capita, increasing during the pre-crisis period and falling during and after the recession.

**Figure 2: GDP and NDP per capita (2010 prices), 1997 - 2012**

United Kingdom

Source: Office for National Statistics

Download chart

[XLS format](10.2 Kb)
3. Real Net National Disposable Income (RNNDI)

GDP measures the production in a country and, correspondingly, the income generated from that production. However from the viewpoint of assessing well-being, it is more likely to be the total income of the resident population that is relevant, including that from other sources. Three adjustments can be made to address this issue.

First, not all income generated by production in the UK will be payable to UK residents. Some of the capital employed will be owned by non-residents and they will be entitled to the return on that investment. Conversely, the UK’s residents receive income from production activities taking place elsewhere, based on their investments overseas. These offsetting flows of income are increasingly important in a progressively globalising world. When NDP is adjusted for these income flows to and from the rest of the world, the statistic known as Net National Income (NNI) is the resulting income measure.

Second, adjustments need to be made for net current transfers (for example, current international co-operation or remittances between households) from and to other countries. Making this adjustment to NNI gives Net National Disposable Income (NNDI).

Third, changes in standards of living are also determined by prices of products that can be acquired with a given sum of money. One factor here is the domestic price level itself. In addition, there will be an effect from the relative price of foreign products - the rate at which exports may be traded against imports from the rest of the world, also known as terms of trade. When UK export prices rise more quickly than the prices of it imports, UK citizens are better off and vice versa. Real Net National Disposable Income (RNNDI) results from adjusting NNDI for changes in the price level that income recipients face. RNNDI might be expected to have a close correlation with economic well-being.

Figure 3 below compares the behaviour of RNNDI per capita with GDP per capita. Unlike the GDP per capita measure which has been broadly flat since 2009, the RNNDI per capita measure has been continuing to fall gently to the end of 2013.
4. Wealth

GDP measures the flows of output or income but not the corresponding stock of wealth and net assets. Thus, it is possible that a nation might be increasing its output and consumption while running down its assets, but this output and consumption would not be sustainable. Or the reverse might be the case and GDP would then underestimate the true position in regard to sustainable future consumption and thus well-being. In principle, a wide range of assets and liabilities might be appropriate to this calculation, including for example, natural capital, so-called human capital and social capital. However, this article takes into account only physical and financial capital, where data are readily available and published regularly.
Figure 4 shows that wealth defined in this way rose fairly steadily in real terms in the years to 2007. It then fell under the influence of the financial crisis and the recession. Thereafter, there was some recovery but to 2012 it had not yet resumed its upward trend.

B. Emphasising the Household Dimension

5. Real Adjusted Household Disposable Income

As discussed earlier, on the basis of it being people, not institutions, who experience well-being, looking at developments within the household sector may be at least as important as looking at the economy overall. Both OECD (2011) and Stiglitz (2009) argued that when assessing well-being, it is better to look particularly at developments from the perspective of households and individuals, as well as at the aggregate condition of the economy.
In this context, it is natural to have regard to Real Household Disposable Income (RHDI). This has long been published as part of the National Accounts and represents the income received by the household sector, adjusted for taxes paid and benefits received and also taking account of changes in the price level.

In addition, regard needs to be taken of the fact that households receive some material benefits via free public services such as the NHS and schools which would otherwise have to be paid for directly. Real Adjusted Household Disposable Income (RAHDI) is a statistic regularly published in the UK Economic Accounts, which includes the value of these social benefits. It seems directly relevant to assessment of households’ economic well-being.

Figure 5 below compares RAHDI per capita with the path for GDP per capita. It suggests that households did not experience the full effects of the recession in 2008 and 2009. Indeed, household incomes held up during the first part of the recession. However, RAHDI per capita continued to fall gently thereafter to the end of 2013.

Figure 5: RAHDI and GDP per capita (2010 prices), 1997 - 2013

United Kingdom

Source: Office for National Statistics
6. Median real household income

Average measures of household income per person are helpful but give no indication about how available resources are distributed across people and households. For example, average income per capita might remain unchanged while the distribution of income also changed, with implications for the typical household.

One indicator which is helpful in this respect is median real household income, that is, the income that the middle household receives if all households are ranked from highest to lowest (or the reverse) in terms of the income they receive. If, for example, household incomes per capita were rising but only because high income households were enjoying large further increases in income, this would not be reflected in the median household income series.

Figure 6: Median real household income(1), GDP and RHD1 per capita, 1997 - 2011
United Kingdom
Figure 6 suggests that median real household income and real household disposable income per head grew broadly in line with each other over this period. In particular, both held up during the first phase of the recession as measured by GDP overall. However, both of them have shown a decline since GDP itself began a sluggish recovery.

7. Household Wealth

Just as for the economy overall, income provides only a partial view of the economic resources available to households to support consumption. What is happening to their wealth is also important in assessing whether current consumption is sustainable or whether, per contra, higher levels of wealth mean more consumption could be sustained and well-being thus raised, with no change in income.

As for the economy overall, there are a number of different dimensions of wealth. But this article concentrates on physical and financial assets and liabilities, where regular statistics are already published.

Figure 7 below shows household wealth on this basis in real terms, using the GDP deflator to correct for changes in the price level. The figure shows that there was an increase in household wealth from 1997 to 2007, driven mainly by rising house prices. However, the onset of the recession in 2008 saw the net worth of households dropped significantly, but in 2012 it recovered and was almost at the pre-crises level.
Summary and Further Work

This article has examined the limitations of GDP as a measure of economic well-being, while acknowledging its central importance as a measure of economic activity. On the basis of this consideration, the article suggests a dashboard of seven regularly published indicators to give the means for a more rounded and complete assessment of changes in economic well-being.

The dashboard outlined covers both economy wide statistics and also some more specifically focused on the household sector.

Economy wide
• Gross Domestic Product (GDP) per capita.
• Net Domestic Product (NDP) per capita.
• Real Net National Disposable Income (RNNDI) per capita.
• Real Net Financial and Physical Assets.

Households

• Real Adjusted Household Disposable Income (RAHDI) per capita.
• Median Real Household Income.
• Real Household Net Financial and Physical Assets.

As is widely agreed, economic well-being has a number of dimensions and any assessment needs to take these various dimensions into account. However, several points seem apparent from the above indicators:

• Unlike GDP, which has now recovered substantially from the falls in the recent recession, GDP per capita has recovered only a little of the fall seen during the recession.
• Real Net National Disposable Income per capita has continued to fall gently.
• Real Adjusted Household Disposable Income per capita held up well during the deepest phase of the recession. However, it has been falling gently in the subsequent period.
• Median real household income and real household disposable income have grown broadly in line with each other in recent years, suggesting there have not been major distributional factors at work.

As the article has suggested at various points, there are ways in which the dashboard could be developed further, for example by considering a wider range of capital, such as natural capital and human capital. Work is proceeding to generate better estimates of these aggregates. That, in turn, would allow broader estimates of capital consumption to be taken into account when measuring variants of Net Domestic Product. When the results of such work are available, consideration could be given to updating the dashboard accordingly.

The ONS is also currently updating the Household Satellite Accounts (HHSA) which measures household production in the UK. This provides benefits which themselves should be taken into account in assessing material well-being. The HHSA provide a means by which the influence of changing patterns of unpaid work on the economy can be measured. This activity is divided into several principal functions providing housing, transport, nutrition, clothing, laundry services, adult care, child care and voluntary work. In 2013, ONS published estimates of Informal Childcare in the UK, Informal Adult Care in the UK and Valuing voluntary activity in the UK. Over the coming year, ONS plans to update the remaining sections of the household satellite account.

References


ONS (2013) United Kingdom National Accounts

Background notes

1. Details of the policy governing the release of new data are available by visiting www.statisticsauthority.gov.uk/assessment/code-of-practice/index.html or from the Media Relations Office email: media.relations@ons.gsi.gov.uk

Copyright

© Crown copyright 2014

You may use or re-use this information (not including logos) free of charge in any format or medium, under the terms of the Open Government Licence. To view this licence, visit www.nationalarchives.gov.uk/doc/open-government-licence/ or write to the Information Policy Team, The National Archives, Kew, London TW9 4DU, or email: psi@nationalarchives.gsi.gov.uk.

This document is also available on our website at www.ons.gov.uk.