

Measuring and understanding the economy: a literature review

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The IPPR Commission on Economic Justice is a landmark initiative to rethink economic policy for post-Brexit Britain. Launched in November 2016, the Commission brings together leading figures from across society – from business and trade unions, civil society organisations and academia – to examine the challenges facing the UK economy and make practical recommendations for reform.

The Commission is undertaking a wide-ranging programme of research and policy consultation on issues including industrial strategy, macroeconomic policy, taxation, work and labour markets, wealth and ownership, sub-national economic policy and technological change. Through a major programme of communications, events and stakeholder engagement it aims to contribute to both public debate and public policy on the economy.

Non-partisan, it has been welcomed by both government and opposition parties. The Commission's Interim Report, *Time for Change: A New Vision for the British Economy*, was published in September 2017. Its Final Report will be published in autumn 2018.

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Introduction

Gross Domestic Product (GDP) is the measure of all final goods and services produced and traded within an economy in a given period of time, typically measured by adding together personal consumption, government expenditure, net exports and net capital formation. Despite seemingly being a mere unit of measurement, the use of GDP has attracted a significant amount of criticism, particularly for the way in which the concept has often been used by politicians and policy makers as shorthand for economic progress or an indicator of wider societal well-being (see Costanza et al. 2009). This is not, of course, a new criticism. Simon Kuznets, one of the co-creators of GDP, warned in the 1930s against the misappropriation of the concept, arguing that ‘the welfare of a nation can ... scarcely be inferred from a measurement of national income’ (Kuznets, 1934).

As we shall see, GDP does not capture a number of critical aspects of a nation’s welfare, including the quality of its citizen’s lives, equality between those citizens and the depletion of natural resources, whilst it actively shapes the way in which policy makers see the economy and look to shape future growth – fuelling short term measures to boost economic growth today, at the cost of long-term decline or by adding to our carbon emissions. Nevertheless, for decades following the Second World War, GDP growth became the key focus for economic policy makers, acting a key frame for measuring and understanding an economy underpinned by the then-dominant Keynesian settlement (see Syrquin 2016), and remains so today. Moreover, whilst many assumed the global financial crisis might throw GDP’s utility into doubt, and thus allow for the promotion of alternative measurements, in reality the crisis served only to reinforce a traditional growth agenda as governments pursued economic recovery (Bleys and Whitby 2015).

This review of the literature seeks to both explore the limitations of GDP in measuring aspects of our economy and society, as well as alternative ways of measuring and understanding the economy. The first half of the review seeks to set out critiques found within the literature of the way in which GDP measures (or failures to measure) aspects of economic activity which are either hard to capture or emerging trends, from the age-old problem of disregarding unpaid domestic work to increasingly important developments in natural capital resource depletion and its associated consequences for climate change. The second half looks more specifically at the issue of societal welfare, the failure of GDP to understand societal well-being and alternatives which are able to better capture such trends, before discussing some of the advantages and disadvantages associated with these alternatives approaches, including the use of composite indexes vis-à-vis a ‘dashboard’ approach, and the potential obstacles in the way of the adoption of a new measure.

The final part of the review considers the difficulty progressive thinkers and actors confront when seeking to replace GDP with alternative measures and understandings of the economy. The review was commissioned by the IPPR Commission on Economic Justice. We are grateful to Michael Jacobs and David Yarrow for their support in the production of the review.

Part 1: The shortcomings of GDP

Unpaid work

There are multiple critiques of GDP as a measurement which can be characterised as falling into one of three categories: criticisms of the so-called ‘production boundary’, criticisms of GDP as an abstract and national ‘average’, and criticisms of GDP’s failure to capture some characteristics of economic activity, including emerging trends in digital technology. Firstly, a key problem with GDP concerns *what* is measured, that is, what is considered to be within the ‘production boundary’ within the UN’s internationally agreed System of National Accounts (SNA)¹, which sets the standard on what is to be included within GDP measurements. As Ahmad and Koh (2011) note in an OECD report, the SNA ‘are generally based on the idea that households are final consumers, rather than producers’, meaning that ‘non-market services produced by households for own-consumption, with the notable exception of dwelling services, are not included in economic aggregates in the SNA’. Despite the fact that unpaid work constitutes a sizable proportion of the productive activity in our economy, based upon the SNA system, GDP means this activity remains unaccounted for when measuring economic growth. Yet unpaid domestic is already measured by many national statistics agencies, including the UK’s Office for National Statistics, but these measurements are placed in ‘Household satellite accounts’ and kept separate from the main national accounts data that feeds into GDP.

The ONS (2016a) calculates that total unpaid work in the UK has a value of £1.01tn, equivalent to approximately 56% of GDP. Of this work, women contribute around 26 hours of unpaid work a week, compared to 16 hours on average for men (ONS 2016a). Such work is excluded from official GDP figures, as it is seen to fall outside of the ‘core production boundary’ by the UN’s System of National Accounts (SNA). However, it is currently recorded by the UK government in its ‘household satellite account’ data (see ONS 2016b), which relies upon time-use survey data. In a US-based study Landefeld et al. (2008) argue that including household work within the production boundary would increase US GDP by 19% using average housekeeper’s hourly wages as a ‘replacement cost’.

Feminist scholars have long sought to bring unpaid productive work into mainstream economic accounts (see Waring 1990; Hoskyns and Rai 2007). Rather than view the household as separate from the traditional state-market dualism, in order to properly conceptualise how our economy operates, it is essential to see the public (state), the private (capital) and the domestic (household) as necessarily interconnected (Hoskyns and Rai 2007; Elson 1998). Indeed, the high-profile Stiglitz et al. (2009) report on the measurement of economic performance, conducted on behalf of the French government, argued that unpaid productive activity should be measured and accounted for because it ‘directly feeds in to household living standards’. Calls to incorporate unpaid domestic work into mainstream economic accounting is backed also by the ILO (see Antonopoulos 2009). In a 2011 report for the OECD, Ahmad and Koh (2011) argue that whilst some uncertainty remains over how precisely to measure household production in national contexts over time, given methodological issues as well as rapidly changing production methods and lifestyles, it is possible to produce meaningful cross-country comparison snapshots based on purchasing power parity.

There is, moreover, a second aspect of unpaid work which concerns labour performed within the workplace but which also acts to skew the relationship between GDP and people’s income and wellbeing, because it remains unremunerated. This can be the result of unpaid overtime work or even unpaid internship programmes, for example. The TUC (2017) have utilised time survey data to

¹ <https://unstats.un.org/unsd/nationalaccount/sna.asp>

suggest that in 2016, British workers worked 2.1 billion hours of unpaid overtime (the average employee doing 7.7 hours of free labour per week), with the public sector relying on more unpaid overtime than the private sector. This amounts to, the TUC calculate, £33.6 billion worth of unpaid but productive labour. Conway and Sturges (2014) show, moreover, that unpaid overtime has a differential impact across society, with part-time workers found to work significantly more unpaid overtime than full-time workers. This was particularly true in professional/managerial roles and within organisations that were not seen to offer good flexible working arrangements. Whilst the labour of these workers may increase production (which is captured by GDP), the fact that the workers are giving up their own time to work for free means that their contribution beyond their stipulated and paid for hours drops off the radar, as does their potentially worsening welfare resultant from the increased working hours.

Finance

Finance represents another highly contentious area of national account measurement, which shows how the ‘production boundary’ is both subject to changing economic priorities and has clear implications for how policy makers understand our economies and seek to engineer growth. Since the financial crisis in particular there is a growing literature which seeks to question and problematise the way in which financial activity has been incorporated into national accounting systems (Assa 2015; Christophers 2011). This literature highlights the political contingency of production boundary definitions. Assa (2015), for instance, draws our attention to the way in which national accounts necessarily rely upon statistics from various sources as *inputs* which, ‘through a combination of identities, accounting rules, pieces of economic theory, and assumptions (as well as increasingly more imputations where certain variables cannot be measured directly), are transformed to arrive at the final estimates’.

Both Assa (2015) and Christophers (2011) discuss the way in which finance was largely *excluded* from national accounts historically, given the large amount of ‘intermediary’ activity done by banks and other financial firms, which is generally omitted. It was only with revised versions of the SNA from 1968 on that finance was ‘made productive’, and from 1993 that today’s method for measuring the impact of financial intermediation services was established (see Christophers 2011). Indeed, until these changes were adopted by the UK national accounts system in the late 1970s, ‘only financial services for which UK banks explicitly charged their customers made a net positive contribution to the national production account’ (Christophers 2011). This means, Christophers notes, that prior to the 1980s UK Chancellors would have struggled to claim the value-added to the British economy by financial services in the way that politicians of all stripes have done since 2008 financial crisis and subsequent bank bailout programme. In modifying the SNA to provide an imputation for intermediary financial services, financial services have come to obtain an almost immovable position at the heart of economies, not least finance-led models like that of the UK. Arguably, this shaped the way in which policy-makers have acted towards financial markets both pre- and post-crisis, and thus it is important to understand the politically contingent nature of these measurements contained within GDP.

Depreciation of assets and natural capital

Another aspect of our economic activity which goes largely unnoticed by GDP is depreciation of capital, both natural capital (such as forests, land, minerals, rivers and oceans) and other capital assets (machinery, buildings, cars, equipment etc.). There have been calls to adopt net output calculations in order to address these challenges. Diewert and Fox (2005), for instance, argue that ‘cross-country

comparisons of economic growth and productivity are complicated by different countries employing different methodologies for accounting for quality change of investment goods'. Utilising net measures, they argue, would provide a solution to this because, 'the advent of the "new economy" has increased the proportion of investment in rapidly depreciating goods', and thus 'the old problem of how to best calculated depreciation' has only become more significant. However, calculating depreciation is difficult. As Fioramonti (2013) argues, in the production process assets and capital are naturally consumed due to wear, ageing, damage and obsolescence, and thus need to be replaced in order to continue generating economic growth. However, 'calculation of depreciation is a lengthy and often cumbersome process', leaving room for *gross* domestic product to come to represent the key metric of economic growth. Nevertheless, *net* domestic product, which accounts for such depreciation, provides a much more accurate measure of a country's actual output available for real consumption – thus reflecting more closely the sustainability of the economy and the welfare benefits of economic growth available to citizens (Fioramonti 2013).

This is a critical point from an economic justice perspective. As Baker and Rosnick (2007) argue, 'insofar as an increasing portion of output is devoted to depreciation, these resources are not available to increase living standards'. Spant (2003) equally notes that 'if GDP were to grow simply as a result of the fact that more money was being spent to maintain the capital stock because of increased depreciation, it would not mean that anyone had been made better off. There would be no more resources available for consumption. Nor would there be any more output available in future periods, because the size of the capital stock would not have increased.' Dean Baker (2007) discusses this issue in terms of 'usable productivity' – meaning, productivity growth that can be translated into higher wages and living standards. He argues that 'there been a growing gap between gross output and net output in the years since 1973 as an increasing share of GDP goes to replace worn out capital goods. Only net output can raise living standards, since the portion of output that goes to replacing depreciated capital equipment cannot directly affect living standards'. On this basis, a net measure of annual productivity growth across OECD countries is nearly 0.2 percentage points lower than a gross measure for the years from 1973- 2006. By contrast, he shows that the two measures 'were nearly identical over the period from 1947 to 1973 as the share of output going to depreciation changed little over this period'. Between 1973 and 1995 'usable productivity growth' equalled just 0.9 percent annually, compared to 3.1 percent in the period from 1947 to 1973 (Baker 2007). This has serious implications for how we understand the relationship between productivity growth and economic welfare. For example, Baker and Rosnick (2007) show that whilst the US has strong productivity growth in the period 1995-2005, on a measure of 'usable productivity' it becomes 'one of the laggards' amongst OECD countries.

Turning to the second aspect of depreciation, natural capital depreciation has long formed part of the critique of GDP as a measure. Many of the above issues relating to depreciation of other capital assets are also at play here, such as the difficulty of measuring depreciation, but the stakes are much higher. As Costanza et al. (2009) argue, GDP 'ignores changes in the natural, social, and human components of community capital on which the community relies for continued existence and well-being'. As a result, GDP 'not only fails to measure key aspects of quality of life; in many ways, it encourages activities that are counter to long-term community well-being ... [and] the depletion of natural resources faster than they can renew themselves'. From a similarly critical perspective, Fioramonti (2013) argues that GDP 'gives mankind the illusion that growth is about production, when it actually should be viewed as a transfer. Mankind does not produce anything. It simply turns natural wealth into money ... By definition, infinite growth on a planet of finite resources is incompatible with global justice, at least in so far as it triggers a dangerous zero-sum game'.

Such issues are not just the concern of critical scholars, with even those generally supportive of the basis of GDP as a measurement recognizing that ‘at present measurement of natural capital is very incomplete’ (Coyle and Mitra-Kahn 2017). This issue has formed a significant part of the institutional debate too. For instance, since 2007 the EU’s ‘beyond GDP’ programme has sought to improve the EU’s indicators of progress by complementing GDP with environmental indicators amongst other measurements (Bache et al. 2016). Coyle and Mitra-Kahn (2017) propose extending GDP to include environmental accounts, which are already collected in satellite by the ONS² in the UK case, as do other influential studies of alternative measures (see Stiglitz et al. 2009). Yet, as Landefeld et al (2010) note the dominant approach within the statistical community around the UN’s SNA framework argues that any expansion of GDP accounts ‘should take place in supplemental, or satellite, accounts that extend the scope of the accounts without reducing the usefulness of the core GDP accounts’. There remains, then, a lack of political will to incorporate satellite account data into the headline GDP measure currently.

There is, furthermore, much debate around how natural capital can and should be measured. In a somewhat controversial approach, although not completely original at the time, Costanza et al. (1997) sought to calculate the current economic value of ecosystem services, which includes goods and services from climate regulation to water supply, and from food production to raw materials. In doing so, they ascribed a rough average value of \$33 trillion per year to these ecosystem services, compared to a global GDP of around \$18 trillion per year at that time. Their rationale for doing so is both understandable and has progressive intentions. The authors argue that whilst these services contribute significantly to human welfare, they ‘are not fully captured in markets or adequately quantified in terms comparable with economic services and manufactured capital, they are often given too little weight in policy decisions. This neglect may ultimately compromise the sustainability of humans in the biosphere’ (Costanza et al. 1997). In an update of the paper, Costanza et al. (2014) now calculate the value of the same ecosystem services at between \$125 trillion and \$145 trillion per year in 2007 USD prices (compared with their original estimate which works out to be \$46 trillion per year in 2007 USD prices). From this they estimate a loss of eco-services from 1997 to 2011 due to land use change at between \$4.3–20.2 trillion per year (Costanza et al. 2014). In the intervening period between the two studies, the concept of valuing ecosystem services has been picked up by the United Nations in its 2005 project, Millennium Ecosystem Assessment, and in its 2010 report on the the Economics of Ecosystems and Biodiversity (TEEB) (see Costanza et al. 2014; TEEB Foundations, 2010).

A number of scholars, particularly from the critical left, have criticised this type of approach to measuring and understanding our planet’s natural assets (see Kallis et al. 2013 for a summary of this debate). Whilst ecological economists have derided the limitations of applying monetary valuations to nature, political ecologists have, following a Polanyian (Polanyi 2001 [1944]) perspective, taken a more critical stance towards what they view as the creeping commodification of nature as part of the capitalist process (see Kallis et al. 2013). Moberg (2012), for instance, argues against this approach, suggesting that in first seeking to put a price on nature, one creates a market for it. In doing so, he suggests, our lexicon changes: ‘We don’t call it nature any more: now the proper term is “natural capital”. Natural processes have become “ecosystem services”, as they exist only to serve us. Hills, forests and river catchments are now “green infrastructure”, while biodiversity and habitats are “asset classes” within an “ecosystem market”. All of them will be assigned a price, all of them will become exchangeable.’ McCauley (2006) similarly argues, ‘To make ecosystem services the foundation of our

² <https://www.ons.gov.uk/economy/environmentalaccounts>

conservation strategies is to imply — intentionally or otherwise — that nature is only worth conserving when it is, or can be made, profitable.’ From this standpoint, ‘Nature has an intrinsic value that makes it priceless’ (McCauley 2006).

The dilemma of critics of money valuations of natural capital is summarised neatly by Harvey (1996): ‘eschew the language of daily economic practice and political power and speak in the wilderness, or articulate deeply-held nonmonetizable values in a language (i.e. that of money) believed to be inappropriate and fundamentally alien’. For their part, Kallis et al. (2013) attempt to construct a framework of monetary valuation which meets the concerns of both sides. To do so, they situate a monetary valuation within a set of necessary reference questions to guide its application, focused around whether the monetary valuation will improve environmental conditions, reduce power inequalities and lead to commodification. This more cautious approach, they suggest, can be used to unite both sides of the argument (Kallis et al. 2013).

Investment and productivity

A second key issue with GDP is its failure to capture aspects of economic activity, particularly emerging trends in digital technologies and so forth, which challenge the basic parameters of measurement tools largely designed to understand Fordist-era growth models based upon mass industrial production. As has been widely reported on, the UK today has ‘a productivity puzzle’ – despite a recovery in other areas, since the 2008/2009 recession productivity growth has stagnated, with the level of labour productivity in Q2 2017 still 0.5% below what it was in Q4 2007 (Harari 2017; Barnett et al. 2014). Clearly this is a multi-faceted issue, but some such as Diane Coyle (2015; 2017) and Adair Turner (2014; 2017) argue that mismeasurement and changes in the nature of our economies may be playing a significant role in sustaining this puzzle. Coyle (2015) argues that productivity growth may be puzzling because GDP, as a measure of the economy, faces a serious issue in that ‘the economy consists less and less of material goods’. She makes the argument, for instance, that whilst the music industry’s sales have declined in monetary terms, ‘there is almost certainly more rather than less listening to music’. Similarly, Turner (2014) argues ‘Britain’s flat productivity reflects a combination of rapid automation in some sectors and rapid growth of low-productivity, low-wage jobs – such as Deliveroo drivers riding around on plain old-fashioned bicycles’. At the same time, he notes that the growth of ‘zero-sum’ intermediary services, such as commercial legal services, do not raise output because they are considered an intermediate cost, but in doing so contributing to the seeming productivity slowdown (Turner 2014; 2017). The growing prevalence of zero-priced goods and services online is thus resulting in a distorted picture of economic activity and productivity.

This type of arguments has, however, been criticised elsewhere. In an OECD paper, for example, Ahmad and Schreyer (2016) argue that whilst ‘practical measurement remains a challenge’, it is important to note that the productivity slowdown ‘is not a recent phenomenon and indeed predates both the crisis and the current technological wave characterized by the digitalized economy’ (see also Byrne et al. 2016). However, in a direct rebuttal to this research, Coyle (2017) suggests that a hint that measurement is one of the issues at the heart of the productivity puzzle ‘lies in the contrast between GDP per hour worked in nominal and real terms; while the growth of the former has slowed since 2008, the latter has flat-lined’. Coyle (2017) argues that it is likely nominal GDP is being over-deflated, whilst real GDP growth and productivity may be under-stated because of technological

change. This, she suggests, could be the product of three significant conceptual, definitional and practical questions relating to:

- The growth of online activities undertaken by the household sector, such as booking holidays online rather than at a travel agency. These become unpaid services not accounted for in GDP. This area may also include ‘voluntary digital production’ – including activities such as writing articles for Wikipedia or developing open source software.
- The development of new digitally-enabled business models might be altering GDP due to a lack of business model invariance. The changes include: ‘ad-funded free digital goods and services; cross-border value chains, the location of intangible investment, and its treatment in imports and GDP; the switch from high street to online retail and other services; the growth of second hand sales replacing new sales’. In all these cases, Coyle notes, ‘an activity included in measured GDP is being progressively substituted by activities that are not included’.
- Changes in quality of service. Coyle argues that the improved quality of digital goods and services is not adequately captured in measuring prices. For instance, a monthly subscription of £10 to a music streaming service provides a much greater range of listening choice and portability of listening compared to, for example, a single album on CD, which £10 would have bought a music consumer in the 1990s.

Coyle (2017) summarises her argument neatly by noting that the impressive productivity growth of the mid-twentieth century may have been ‘a measurement artefact due to substitution out of household production into the market’. Today, she argues, ‘substitutions are currently occurring in the opposite direction, thanks to digital technologies, and may correspondingly help account for part of the lacklustre real growth performance.’

The growth of investment in intangibles is a key part of this story also. Coyle and Mitra-Kahn (2017) include it one of three key aspects of economic activity that need to be immediately incorporated into adjustment to GDP. They note that whilst the SNA began to recognise the role of investment in intangibles in 1993 with its inclusion of investment in research and development, software and copyright content creation, ‘national accounts still miss the majority of investment in innovation’. For example, the measured investment in these aspects added 1 percentage point to nominal GDP when introduced, yet they only account for approximately a third of investment in all intangible assets in the UK (Coyle and Mitra-Kahn 2017).

The literature may not be settled on the extent to which mismeasurement is shaping the productivity puzzle, but it is clear that better measurement of indicators which feed in to productivity should be advocated for. The Industrial Strategy Commission (2017) has called for the establishment of a new independent expert body ‘to monitor the industrial strategy and the effectiveness of its range of policy interventions and mechanisms’. The body, which the report proposes could be called the Office for Strategic Economic Management (OfSEM), would operate like the Office for Budget Responsibility and seek to put together a ‘set of clear, outcomes focussed metrics that can be used to frame goals and to measure progress’. This would mean tracking metrics such as the UK’s GDP per head between least and best performing nations and regions and gross domestic expenditure on research and development comparative to other OECD economies.

In order to improve understanding of the UK’s economic development, the Commission proposes OfSEM would need to work on improving sector classifications. It argues that the current system does not accurately reflect today’s economy, including the rise of digital industries and other technology

driven changes to production. Others also point to the way in which technology is facilitating an increased blurring of the distinction between traditional manufacturing and the offer of high-value services, as part of a process of ‘servitisation’ wherein companies see potential to extend their offer (Helo et al. 2017), a problem which the ONS recognises has altered the measurement of manufacturing significantly over the last 15 years (Morgan and Stephens). In order to push forward a more dramatic updating of our system of sectoral classification and measurement, the Industrial Strategy Commission recommends that a new strategy should ‘should move beyond the sector approach to reflect today’s business models by analysing whole value chains, judging interventions by how effectively they can support the highest value-creating activities in existing and emerging industries’.

Information technologies

Clearly, a large part of this ‘productivity puzzle/mismeasurement’ debate concerns the role of information technologies, the internet and Big Data in reshaping economic activity over the past two decades or so in particular. These issues are currently amongst the most pressing for the international statistical community – the IMF will hold its Fifth Statistical Forum in November 2017 on the challenges of ‘measuring the digital economy’, for instance. In their rationale for holding the forum, the IMF point to a range of emerging issues, including:

- Internet platforms and apps offer a multitude of free products and facilitate peer-to-peer transactions
- They allow consumers to purchase products without visiting physical stores, which alters retail and transportation practices
- Expanded access to information has allowed consumers to find more varieties of products and better utilise market goods and services
- Allowed consumers to do things themselves that were normally part of the market function
- It is difficult to estimate employment and hours worked in the ‘gig economy’
- Adjustment for quality change in the deflators for technology remains very difficult in rapidly changing markets

The problem is, then, whether or not the collection and sampling methods used have ‘kept pace with changing business and consumer behaviour and habits’ (Coyle 2015). As Coyle remarks, ‘we have more access to economic data than ever before, thanks to the digital revolution; but paradoxically alongside this, greater uncertainty about what is being measured and whether it is meaningful.’

Changes in how we consume as a result of the digital revolution currently under way disrupts the way in which statistical information is currently compiled. For instance, it provokes the question of how it is possible to truly capture the value of ‘zero-cost’ products such as songs streamed hundreds of thousands of times on a digital platform service like Spotify (Coyle 2015). The so-called ‘sharing economy’ or ‘gig economy’ also renders measurement under current frameworks difficult. Hardie (2016) presents the product of the ONS’ feasibility report which sought to study potential ways the sharing economy could be measured. The research was based upon focus groups with businesses and individuals involved in the sharing economy. It found that: there was a lack of clarity over what activities precisely constituted the ‘sharing economy’, that there are issues with data confidentiality if attempting to access information relating to the activities of such businesses and that often transactions are not financial, but are based on a swap of goods and services. These issues have led

some to call for alternative measurements based upon time use. Brynjolfsson and Oh (2012) argue that ‘even when people do not pay cash, they must still pay “attention,” or time’ and thus a measurement model based upon time spent using such services would more accurately reflect both the level of activity in the economy and the welfare consumers derive from such services. Nakamura et al. (2017) have similarly developed a model to measure the size of the ‘free’ digital economy by suggesting that households must be understood as ‘active producers of viewership services that they barter for consumer entertainment’. Again, like Brynjolfsson and Oh’s model, this is essentially a measurement of time use. Nakamura et al. (2017) use this to suggest that in the USA from 1995 to 2014, free digital content ‘annually raises nominal GDP growth by 0.036 percentage point, real GDP growth by 0.089 percentage point, and total factor productivity growth 0.048 percentage point’.

Inequality

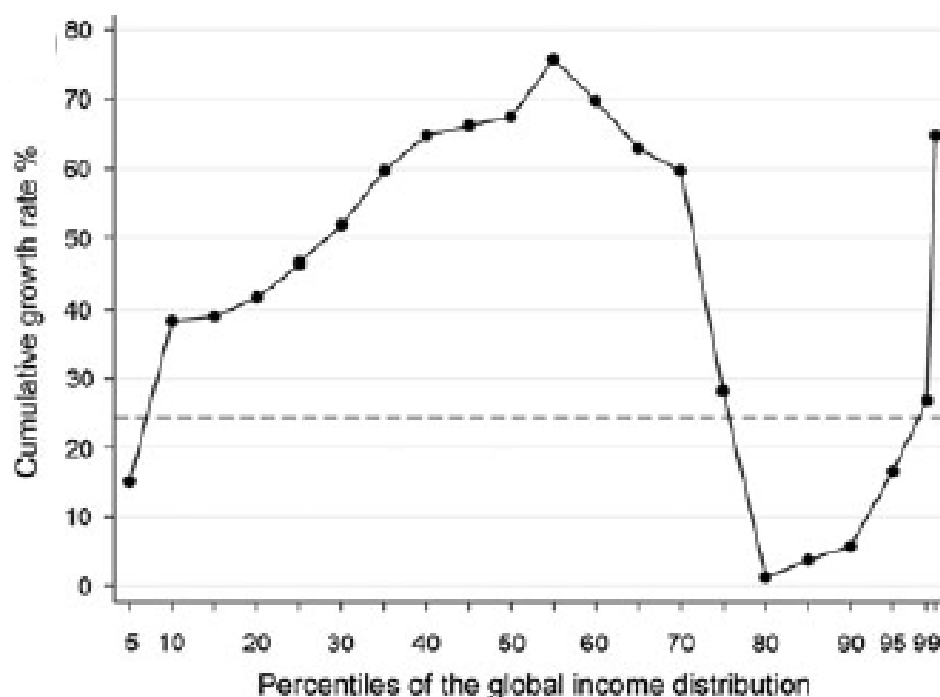
As well as the ‘definitional’ problem of what constitutes ‘productive’ economic activity, and its inability to capture some facets of economic change, a third criticism of GDP centres around its level of abstraction and inability to paint a picture of everyday life for people across the country. In producing a headline statistic based on growth in output which is averaged out for the entire national economy, GDP masks unevenness in growth between different local economies and the way in which the benefits of growth accrue differently across society. For decades, it had seemed that there was a long-run positive relationship between economic growth and the decline of inequality. The work of Simon Kuznets in the 1950s and 1960s famously developed a theory of long-run growth which foresaw income inequality decline. Kuznets’ (1955) theory suggested that although the shift towards industrialisation brought with it an initial rise in inequality, as industrial economies developed, the process of industrialisation would eventually result in rising income for the lower deciles of the income distribution alongside growing political interference in the form of growing welfare states. Kuznets’ curve theorem thus indicated continued growth of the economy (measured in terms of total output) would ultimately translate into lessening inequality. Patently, this optimistic assessment has not been borne out by reality.

Today, there is growing momentum towards addressing the disconnect between GDP growth and the wellbeing of societies, which is reflected in wider sociological debates around the role of inequalities in exacerbating negative social trends despite rising average incomes (Pickett and Wilkinson 2009). Indeed, the fact that GDP growth no longer seems to result automatically in rising living standards for many has been a staple of the post-crisis economic debate in the UK (see Plunkett 2011). With the publication of Piketty’s (2014) *Capital*, whose large historical datasets have helped to show that inequality tends to rise when the rate of return on capital exceeds the rate of economic growth, arguments suggesting economic growth is not the panacea it was once thought to be have been emboldened. Piketty argued, in particular, that Kuznets mistook a temporary moment of growing equality for a permanent trend.

Piketty et al. (2016) provide further ammunition to the case for needing to disaggregate GDP figures according to income distribution. In a paper based upon the USA, the authors combine tax, survey, and national accounts data to estimate the distribution of national income in the US over the past 100 years, in order to create what they call ‘distributional national accounts’. The authors argue their data show that whilst *average* pre-tax national income per adult has increased 60% since 1980, ‘it has stagnated for the bottom 50% of the distribution at about \$16,000 a year’. Moreover, in 1980, the top 1% adults ‘earned on average 27 times more than bottom 50% adults, while they earn 81 times more today’. This stagnation has been further developed by Branko Milanovic’s work on global inequality and its relationship to growth, the essence of which has been captured in his now-famous ‘elephant

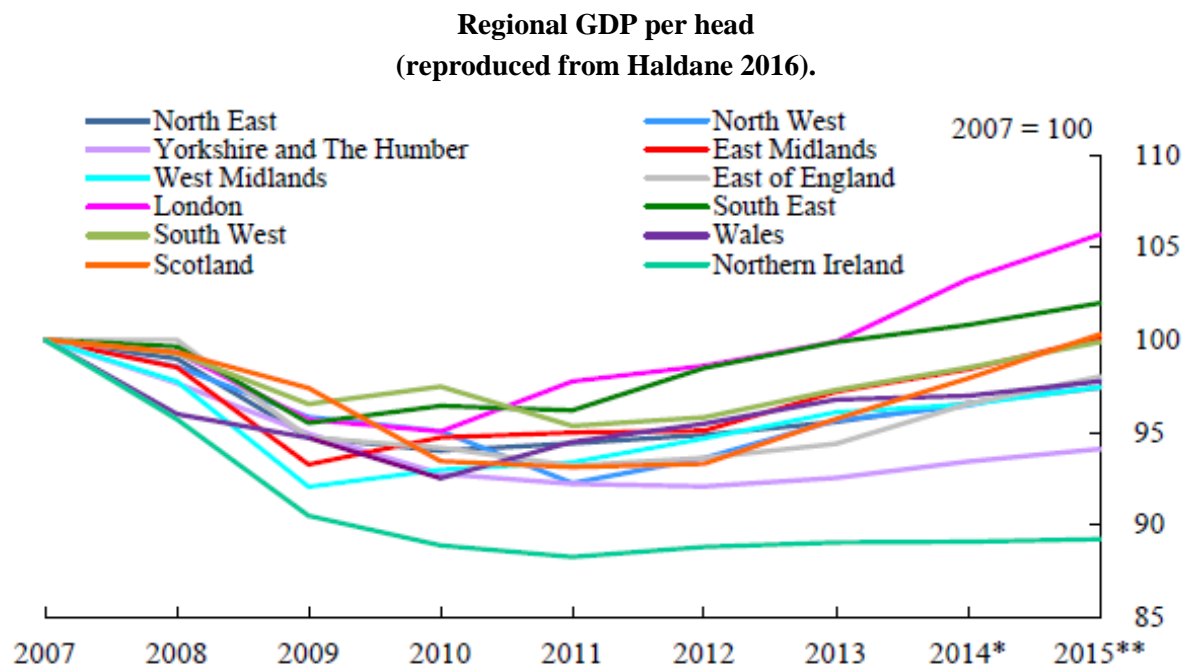
chart’ (see Chart 1 below) (Milanovic 2016). For many, the chart, which shows a stagnation of incomes for the 75th to 85th percentile of the global income distribution in the twenty years from 1988 to 2008, effectively told the story of stagnating incomes for the Western lower and middle classes highlighted by Piketty et al. Indeed, it has been used to help explain the rise of populism in the West, from Donald Trump being elected and the UK’s decision to leave the European Union (see Corlett 2016). There are problems contained within the construction of the elephant chart, including the possibility that the people who make up each decile of the global income distribution have changed over the past two decades (see Corlett 2016; The Economist 2016). However, Lackner and Milanovic (2016) are able to adjust for this and even their alternative chart shows a similar (albeit less dramatic) story of relative stagnation for this group despite economic growth over the past two decades (see The Economist 2016), which GDP figures just cannot show us.

**The ‘elephant chart’: global growth incidence curve 1988–2008
(Reproduced from Lackner and Milanovic 2016).**



Inequalities between regions of the UK has also been flagged as a serious deficiency of GDP as a measurement. The Industrial Strategy Commission argued that the inadequacy of current sub-national level statistics on growth is damaging for the UK’s regions. The report suggests that the absence of such statistics being widely available means that policy outcomes are not clear, and thus voters are less able to hold policy makers to account. The report also makes the point that as power has centralised in Westminster over the past century the amount of sub-national level statistics has atrophied, highlighting a problematic relationship between power, policy making and the impact of growth across the UK. Indeed, the significance of this former point is illustrated by the Chief Economist at the Bank of England, Andy Haldane (2016), who found that in only two regions of the UK – London and the South East – has GDP per head gone beyond its pre-crisis peak (see Chart 2 below). Excluding these two regions, then, means that the rest of the UK has not, in fact, recovered from the crash. Similarly, Forth (2017) argues for the need for better sub-national level GDP statistics.

He illustrates how despite politicians discussing Britain's recovery over the past 5 years or so, South Yorkshire's economy was collapsing nearly as quickly as Greece's – a fact masked by national GDP statistics, yet keenly felt by those living in the region (Forth 2017).



The welfare of society

As Sryquin (2016) notes, the economics profession has, over the past 80 years, employed Pigou's conception of economic welfare as the part of social welfare that 'can be brought directly or indirectly into relation with the measuring-rod of money' – using income as a proxy measure for social welfare. Yet, as we have already discussed, the difficulty in capturing economic inequalities within GDP as a measure; GDP growth is no longer generating increasing wealth for enough people in society which is leading to growing inequalities between different groups, whilst the headline national GDP figure masks the fact most parts of the UK are still worse off than they were in 2007. This ties in directly with the discussion we have already had around 'usable productivity', that is, productivity growth that can be translated into higher wages and living standards. Broadening this debate out a little, it is possible to see how GDP as the dominant metric used to measure and understand our economy ties into a wider debate around societal wellbeing, happiness and quality of life.

In a now well-known puzzle within the field, Easterlin (1973) found that growing markets and increases in income have not seen an attendant rise in aggregate happiness-survey results. Famously, of course, David Cameron came to power promising to refocus analysis on a wider sense of societal wellbeing and happiness, arguing: 'it's time we admitted that there's more to life than money and it's time we focused not just on GDP but on GWB – general wellbeing', and put money towards the ONS tracking national happiness (cited in Stratton 2010). The Office for National Statistics included four questions on 'subjective wellbeing' in the Annual Population Survey for the first time in April 2011. This idea tied in with Cameron's wider aim of pushing the 'Big Society' agenda of greater power given to civil society and the empowerment of individuals within communities to build the institutions necessary to lead fulfilling lives. One could see this move as a cynical attempt to refocus the optics of

government achievement at a time of low economic growth and the government's own measures designed to cut back on state expenditure, whilst attempting to maintain important societal institutions (see Smith 2010).

Whatever perspective is taken on this, however, it is clear that Cameron's stated intention to open up a greater understanding of how societal institutions operate and the relationship between the state, markets and civil society is an issue of interest for progressives and conservatives alike, and gets to the heart of the debate around measuring and understanding our economy. Kippin and Lucas (2011), for instance, set out a reply to the concept of the Big Society by developing the concept of 'social productivity'. They suggest that whilst the Big Society sees the state, market and society in opposition to each other, there is a need to see how each strengthens the other. This approach views value in public services as not something to be delivered to people, but draw upon Amartya Sen's (1999) capabilities approach to suggest that services that must be 'co-created' by citizens and that services should be judged solely on the basis of 'the extent to which they help citizens, families and communities to meet basic needs' (Kippin and Lucas 2011). 'Socially productive' public services should in this sense, 'help create social value for citizens and communities; enhance citizen autonomy, capability and resilience; unlock citizen resource; support existing social networks and build collective capacity' (Kippin and Lucas 2011). This is a step which moves away from a new public management style of public service delivery, where the utility of services is measured by their ability to reach certain targets and minimise costs. This idea finds resonance in the conception of the 'foundational economy' developed by Karel Williams and others (see Bentham et al. 2013).

Advocates of the foundational economy idea suggest that the paradigm underpinning the growth strategies of governments of all stripes has missed a key part of the way in which the economy works for ordinary people. Their argument is underpinned by a need to reframe our understanding of what they describe as the many 'economies' that are usually bundled up as 'the economy'. In particular, the authors argue that the aggregate measure of GDP, 'without a story of its own', acts as a vehicle for the policy occupations of different policy-makers. Such framings, they argue, 'turn some sectors of economic activity into the visible part of "the economy" whilst ignoring much else'. For example, they are critical of recent attempts in the post-crisis period to devise a 'new industrial strategy', which are usually focused on technology sectors, because these sectors have little immediate connection to the welfare of people across the country. Instead, their argument suggests that policy-makers should be more directly concerned with the areas of economic activity which bring immediate welfare benefits to citizens through the provision of basic infrastructure and goods. The foundational economy is thus seen to encompass diverse parts of the economy including utilities and infrastructure, healthcare and education and even some private retail services such as banking, food and petrol services – sectors which employ around 40% of the entire workforce. The manifesto for the foundational economy calls for the reframing of our understanding of the way in the economy works, 'to insist that it is not simply about point-value economic transactions, but also about reciprocal social relations...[and] that the provision of mundane goods and services provision is intertwined with the multiple identities of people as consumers, workers, and local residents so that prices, wages and quality of life need to be triangulated' (see Bentham et al. 2013).

It is important, however, to note at this point that some have sought to empirically debunk the empirical underpinning of the so-called 'Easterlin paradox' (see Stevenson and Wolfers 2008; 2013). Stevenson and Wolfers, for example, draw upon recent data from a broad array of countries and 'establish a clear positive link between average levels of subjective well-being and GDP per capita across countries, and find no evidence of a satiation point beyond which wealthier countries have no

further increases in subjective well-being'. Indeed, the authors argue that 'economic growth [is] associated with rising happiness' (Stevenson and Wolfers 2008). From a different perspective, some have argued that GDP growth actually *under*-reports rises in consumer welfare. Both Coyle (2015) and Turner (2014) argue that there is a GDP-welfare 'wedge'; that is, that GDP measurements increasingly fails to capture the *growth* in consumer welfare for a number of reasons. For example, Coyle notes that the explosion in the *variety* of products available to consumers 'does not figure at all in GDP', yet 'the scope for a better match between an individual consumer's tastes and goods and services supplied will increase consumer welfare without necessarily increasing price'.

Both Coyle and Turner also suggest that the massive increases in efficiency brought by information technology, such as the time and effort saved by shopping online, 'improve human welfare in ways not captured in measured output'. Turner argues, for instance:

[M]easured GDP and gains in human welfare eventually may become entirely divorced. Imagine in 2100 a world in which solar-powered robots, manufactured by robots and controlled by artificial intelligence systems, deliver most of the goods and services that support human welfare. All that activity would account for a trivial proportion of measured GDP, simply because it would be so cheap.

As such, the massive expansion of consumer choice brought on by digital services, developments in technology and so forth, go underrepresented when looking merely at GDP figures. There is an apparent contradiction here though. The criticism that GDP is missing economic activities such as these which may be enhancing human welfare sits uneasily alongside the argument that GDP is limited *precisely* because it is not synonymous with human welfare (see Syrquin 2016).

Calls for a focus on 'social productivity' and the 'foundational economy', on the other hand, force us to consider how we understand the way in which the economy works for ordinary people and how and where they derive a sense of wellbeing and purpose. In this sense, such arguments go well beyond the mere measurement of happiness and wellbeing, but that does not mean we should see the task of doing so as non-compatible. Rather, as the section below highlights, reframing how we *measure* the economy can have significant performative effects on how the economy is managed. In the decades since Easterlin's paradox first emerged, authors have corroborated his basic argument and sought to develop more intricate accounts of why precisely GDP is not a good measure of welfare (see Di Tella and MacCulloch 2008). The following section outlines some of the main different approaches to the measurement of concepts such as wellbeing, happiness and quality of life and latterly discusses the intricacies of the debate around the use of 'happiness' and 'subjective wellbeing' in accounting systems.

Part 2: Alternative measures of economic welfare

Index of Sustainable Economic Welfare

The Index of Sustainable Economic Welfare (ISEW) was developed by Daly and Cobb (1989) in their book *For the Common Good: Redirecting the Economy Towards Community, the Environment, and a Sustainable Future*, and is now among the most well-known alternatives to GDP (Bleys and Whitby 2015). It is, however, seen to not fundamentally challenge GDP but rather to ‘correct’ it (Costanza et al. 2009). The ISEW framework prioritises sustainability over growth, meaning ISEW seeks to account for both current environmental issues and long-term sustainable use of natural ecosystems and resources (Costanza et al. 2009). As such Daly and Cobb promote the measurement of ‘costs’ which should be registered as deficits and not as ‘goods’ in production and consumption as they are generally considered within the SNA framework. As such, ISEW more effectively captures depreciation, which as we have seen is a key drawback of GDP. Costs included in ISEW include the costs of commuting, car accidents, pollution of water, air and noise, etc., loss of land, environmental damage and net capital growth (see Waring 2003).

ISEW is, nevertheless, calculated in monetary terms using different valuation methods sourced from different types of literature (environmental economics, social economics, etc.), which is designed to make it directly comparable to GDP (Bleys and Whitby 2015). Whilst this arguably imbues ISEW with a strong measurement framework that is already understood and respected, it arguably promotes a number of methodological issues which leads some groups to suggest it does not go far enough. Waring (2003), for example, notes that whilst attempts to ascribe a value of leisure time were omitted from ISEW because it was felt that any attempt to do so would rely upon arbitrary assumptions, the authors do include highly speculative estimates of long-term environmental damage. Moreover, from a feminist perspective, Waring (2003) suggests that ISEW ‘remains patronising’ to women for failing to measure unpaid work.

There have been a number of different variants of the original ISEW framework. In 1995 ISEW was revised by a group called Redefining Progress, who changed the name to the Genuine Progress Indicator (GPI), whilst others have rebranded it as the Measure of Domestic Progress (MDP) and the index National Welfare Index (NWI) (see Costanza et al. 2009; Bleys and Whitby 2015). ISEW and GPI variants have been utilised and adapted by both national and local governments across the world, from the UK and France to Thailand and Vietnam (see Bleys and Whitby 2015). In the UK, the new economics foundation (NEF) have promoted the use of a ‘regional ISEW’ (see NEF and Jackson 2008). Reviewing the ISEW literature, Bleys and Whitby (2015) note that ISEW studies since the 1990s show broadly similar results: ‘while per capita GDP was almost constantly increasing in the countries that were studied, per capita ISEW levels stagnated or started to decrease in the mid-1970s or the early 1980s’. Bleys and Whitby (2015) note, however, that ‘despite these developments the ISEW and GPI have so far been unable to have a substantial or consistent impact on policy-making’. One reason for this could be, as Coyle (2014) argues, the numerous variants of ISEW undermine its strength because ‘the weights used for the various components are arbitrary, and there is no consensus about them’.

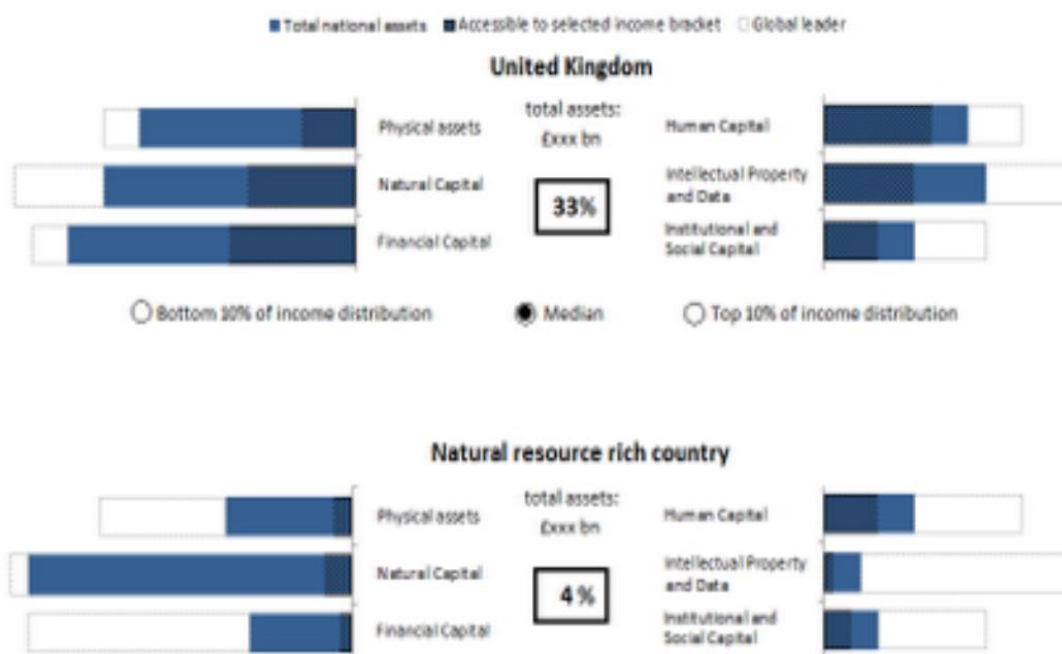
Extending and replacing GDP

In an award-winning³ essay, Coyle and Mitra-Kahn (2017) propose a set of measures designed to firstly ‘correct’ GDP, and then ultimately replace it. This two-stage reform seeks to firstly amend GDP through the incorporation of three measurements already in existence: accounting properly for intangibles; removing unproductive financial investment; and adjusting for income distribution. The second stage of their plan is a more radical replacement of GDP with ‘a small dashboard’ which records six key assets within the economy and the ability of individuals to access the assets they need in order to lead a fulfilling life. The assets are:

- physical assets
- natural capital
- human capital
- intellectual property
- social and institutional capital
- net financial capital

Coyle and Mitra-Kahn propose ‘a high-level dashboard providing the national balance sheet for each category of asset (shown in blue below), an easy comparison to the global leader in each asset class (dashed lines), and a clear indication of which part of these assets are accessible to the population depending on their income (shaded area)’ (see illustrate dashboard below).

Coyle and Benjamin Mitra-Kahn’s illustrative dashboard



³ See <http://global-perspectives.org.uk/indigo-prize/>. The Indigo Prize challenges entrants to consider how to measure economic activity in a twenty-first century economy.

UN Human Development Index

The Human Development Index (HDI) is also amongst the most well-known alternative measurements to GDP which focus on a wider conception of human wellbeing. The HDI currently collects data on 188 countries across the globe⁴. Unlike ISEW, which Constanza et al. (2009) categorise as a measure designed to ‘correct’ GDP, HDI is seen as a composite index which includes a GDP variant with non-GDP environmental or social indexes. Since the 1990s, the United Nations has carried out assessments⁵ of countries utilising the HDI, based upon the concept of human development developed by Amartya Sen and Mahbub ul Haq and anchored in Sen’s ‘capabilities approach’ (CA) (see also Sen 1999). Sen’s ‘capabilities approach’ distinguishes itself from the notion of subjective wellbeing, which underpins utilitarian approaches, by focusing, ‘not just on the resources an individual has at her disposal, nor how she feels about her life, but also on her freedom to achieve well-being—her capability to lead a flourishing and worthwhile life’ (Austin 2016). The CA seeks to provide a general framework designed to be tailored to specific contexts in order to better understand a combination of the resources a person possesses, features of the person and the wider environment that allows that person to flourish (Austin 2016; Sen 1999). The Human Development approach focuses similarly ‘on people and their opportunities and choices’, with the UN (2017) Human Development Programme suggesting that human development:

- ‘focuses on improving the lives people lead rather than assuming that economic growth will lead, automatically, to greater wellbeing for all’
- ‘is about giving people more freedom to live lives they value. In effect this means developing people’s abilities and giving them a chance to use them’
- ‘is, fundamentally, about more choice. It is about providing people with opportunities, not insisting that they make use of them. No one can guarantee human happiness, and the choices people make are their own concern.’

In order to measure human development, the HDI is a summary measure of average achievement in three key dimensions:

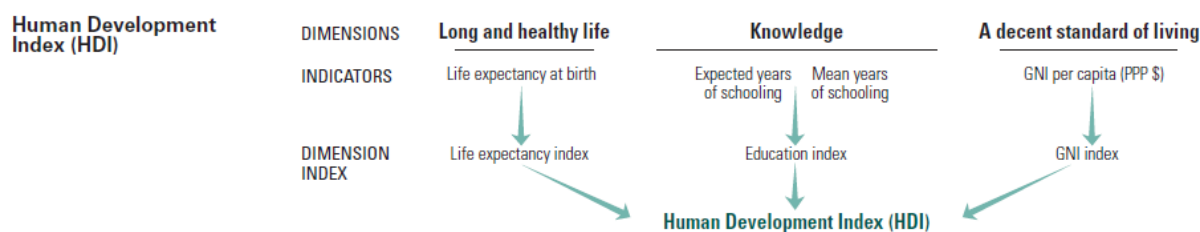
- having a long and healthy life - assessed by life expectancy at birth
- being knowledgeable - measured by mean of years of schooling for adults and expected years of schooling for children of school entering age
- having a decent standard of living - measured by gross national income per capita

The HDI ‘is the geometric mean of normalized indices for each of the three dimensions’, turning the three scores into a composite index (UN 2016) (see Chart 3 below). This method of measurement has, however, been criticised for essentially replicating the problems it set out to solve. As Sryquin (2016) notes, a number of authors have argued that if GDP does not equal welfare, ‘how can anyone argue that we can solve this by constructing an index of GDP and two other variables highly correlated with GDP itself ... and then just add up the three indicators with fixed weights’.

⁴ <http://hdr.undp.org/en/composite/HDI>

⁵ <http://hdr.undp.org/en/humandev>

Human Development Index flow chart



The sustainable economic development index

The sustainable economic development (SED) index is an alternative measure to GDP developed by Hay and Payne (2015), designed to ultimately replace GDP. The SED would, like GDP, be a compound index but based upon ‘a more balanced and sustainable array of genuinely global (indeed, planetary) collective public goods’. Although the SED remains broad and as-yet quite under-theorised, Hay and Payne (2015) suggest that it would encompass things like:

- changes in the Gini coefficient
- changes in per capita energy use
- changes in per capita carbon emissions and other planetary boundary statistics (rewarding the greening of residual growth)
- a range of more basic development indices (changes in literacy rates and so forth)

In looking to track objective changes in these areas, SED would essentially form a green and sustainable GDP alternative. Hay and Payne (2015) argue that in the process of adopting a new measure like SED, ‘structural adjustment would be decisively recast – no longer the mantra of neoliberal labour-market reform and privatization but, instead, the reorientation of economies to promote sustainability’. One of the SED index’s qualities is its promotion of a composite index figure, which would perhaps allow it to more easily come to replace GDP. This is an issue we return to in the section below where we look at challenges of implementing alternatives.

Stiglitz-Sen-Fitoussi Commission

Unlike the previous alternative measurements, Stiglitz et al. (2009) propose not a composite index but a ‘dashboard’ approach to measuring economic progress. In February 2008, the French President, Nicholas Sarkozy, called for report into how to better measure economic performance. A commission led by Joseph Stiglitz, Amartya Sen and Jean-Paul Fitoussi, subsequently called “The Commission on the Measurement of Economic Performance and Social Progress”, produced an influential report which called for a large expansion of the standard metrics used to measure economic growth (see Stiglitz et al. 2009). Although called before the onset of the economic crisis, the crisis added to the urgency of the report and shaped its recommendations. The report distinguishes between an assessment of current wellbeing and an assessment of sustainability. Current wellbeing involves both economic resources and non-economic aspects of peoples’ lives, whilst sustainability is concerned with ‘whether stocks of capital that matter for our lives (natural, physical, human, social) are passed on to future generations’ (Stiglitz et al. 2009). The report presented a definition of wellbeing constituted by eight domains:

- Material living standards (income, consumption and wealth)
- Personal activities including work
- Health
- Social connections and relationships
- Education
- Political voice and governance
- Environment
- Insecurity (economic and physical)

In order to assess wellbeing, moreover, the report recommended utilising both objective measurements, such as income or level of education, and measures of ‘subjective wellbeing’ (SWB) (Stiglitz et al. 2009). The concept of SWB is about utilising self-reported data on how individuals see their lives, which is seen by some as a critical component of measuring true ‘wellbeing’. This is a subject we shall return to in the following sections. Moreover, the report has been welcomed by those who have been concerned to see unpaid work brought into national accounts. The report recommends utilising household satellite account data to account for unpaid domestic work, because it ‘directly feeds in to household living standards’. Furthermore, the report calls for more prominence to be given to the distribution of income, consumption and wealth, recognising the limitation of GDP and measures of average national income to understand the position of all households (Stiglitz et al. 2009).

Canadian Index of Wellbeing

The Canadian Index of Wellbeing (CIW) (see CIW 2012) was created in 2003 ‘to try and refocus the political discourse in Canada, and help reshape the direction of public policy so it would more concretely improve the quality of life of Canadians’ (Bache et al. 2016). The CIW draws on existing data from Statistics Canada, a government statistics agency, to track 64 headline indicators within eight interconnected quality of life categories central to the lives of Canadians. Like the Stiglitz report, the CIW relies upon both objective measures and SWB to understand the wellbeing of Canadians. These categories and some of the key indicators used to understand them are discussed below.

- Community Vitality – this is based upon survey data of how safe people feel in their communities, whether they are engaged citizens, levels of isolation etc.
- Democratic Engagement – based upon survey data revealing how connected citizens feels to the democratic process, whether they vote and so on.
- Education – based upon high school graduation rates, higher education rates, PISA scores, student-teacher ratios and others.
- Environment – based upon statistics such as Canada’s greenhouse emissions.
- Healthy Populations - based upon medical statistics including average life expectancy and prevalence of illnesses.
- Leisure and Culture – based upon survey data to understand how regularly Canadians are exercising and how much time they are devoting to leisure and cultural activities.

- Living Standards – based upon standard labour market statistics, including income inequalities, purchasing power, employment levels, quality of employment and so on.
- Time Use – based upon time use surveys to understand the changing way time is spent, including working hours, commuting hours, access to free time and so on.

Unlike the Stiglitz report, however, the CIW combines measures on these domains into a single composite index that goes up and down. Using this methodology, the 2012 CIW report finds that, ‘when the economy improves, Canadians reap comparatively little benefit, but when the economy stumbles, Canadians take the fall’. For example, the report finds that when using 1994 as a baseline (score of 100), pulling together all eight domains sees the composite index increase to just 105.7, translating as just a 5.7% growth in 17 years. Moreover, between 2008 and 2010, when the crisis struck, GDP fell by 8.3% whilst the recession caused a massive 24% decline in Canadians’ wellbeing according to the CIW score (CIW 2012).

Happiness and ‘subjective wellbeing’

As has already been touched upon, some of these indicators rely to at least some extent upon the concept of SWB to better understand the wellbeing of society. Alongside SWB is, moreover, the concept of ‘happiness’ – which some advocate on the basis of a utilitarian perspective that the greatest happiness should be a key aim for policymakers (see Veenhoven 2004). Veenhoven (2004), for instance, argues that the ‘happiness of a great number can be assessed using surveys... charted empirically’ and that the ‘happiness of the great number can be raised, just like public health can be promoted’. This type of perspective has been criticised by a number of authors. Duncan (2010) argues, for instance, finds that it may be ‘wrong to conclude that happiness research findings can be translated directly into authoritative actions by governments, in the interests of the well-being of all members of society, other than to provide feedback on the social programmes that governments already deliver’. Duncan (2010), moreover, flips the happiness question on its head, and argues that happiness researchers do not ask about ‘the potential ‘unhappiness’ that might result from letting economies stagnate’. This latter point is picked up from a more critical perspective by Will Davies (2011; 2015). In his 2015 book, *The happiness industry: how the government and big business sold us well-being*, Davies suggests that the happiness agenda is being pushed to mask the inequities and misery that capitalism has created for many (one can, of course, see how this type of critique relates to David Cameron’s happiness agenda). Furthermore, Davies argue that with the rise of ‘immaterial’ labour, poor mental health becomes a critical form of worker incapacity, leading employers and governments to focus improving the ‘happiness’ of their employees to maintain their productive potential. The capitalist system now requires that ‘minds must be measured, valued and invested in, even if this means opening up economics to the possibility that people are ‘irrational’, social and moral creatures’ (Davies 2011).

Davies’ perspective has been criticised by Bache (2015) for highlighting the dangers of the happiness agenda, without fully appreciating the progressive potential of the wider wellbeing approach – and that at times, Davies conflates the terms happiness and wellbeing, using them interchangeably when in fact there are broader analyses which seek to locate the individual within the wider political economy and ‘treat individual happiness as only one indicator among many of “what matters”’ (Bache 2015). Arguably, more complex measurements, such as the dashboard approach of the Stiglitz et al. report and the CIW, which rely upon interaction between both objective indicators and subjective measurements of wellbeing, are more realistic accounts of where the ‘happiness/wellbeing’ debate currently is than a strict utilitarian focus on happiness. Kroll and Delhey (2013) promote the

use of SWB and suggest that it provides many opportunities for better policymaking. They suggest that SWB can advance policy making through:

- better monitoring of progress – i.e. being able to trace over time more directly whether people feel things are improving for them
- informing policy design and appraisal – by giving direct information on what matters to people
- examining divergence with economic growth
- informing development strategies and allocating resources

The use of SWB measurements is not, however, without debate. Kroll and Delhey (2013) do, nevertheless, recognise some of the limitations around SWB, including the issue of ‘aspirations’ – that is, as people become richer their aspirations grow and happiness either stabilises or decreases – and the confusion with measures of ‘happiness’ and ‘life contentment’. The authors argue it is necessary to be more precise in the implementation of SWB metrics, and too often the literature speaks of ‘happiness’ as interchangeable with a SWB framework of analysis (Kroll and Delhey 2013). Austin (2016), on the other hand, rallies against what she calls ‘the new science of happiness’. She argues that there is a ‘strong position’ within the literature which argues that ‘SWB can (and should) provide the sole basis on which to design and evaluate public policy’, citing the Legatum Institute’s Commission on Wellbeing and Policy report as an example. Austin outlines several critiques of SWB, including:

- Instrumentalism – SWB holds an ‘instrumental valuation of the concrete aspects of life that matter to people (good health, material security, fulfilling social relationships and so on) as merely causal contributors to the ultimate goal of a pleasurable subjective state’.
- Individualism – SWB is based on highly normative ideas around individualism: ‘rather than an individual phenomenon, well-being can be conceptualised as a process embedded within a social context, with the content of well-being generated through relationships with others’.
- Framing and methodological issues – Austin notes that evidence suggests asking political questions before life satisfaction questions causes downward bias in SWB responses.
- The Problem of Adaptive Preferences – Austin argues that ‘some objective benchmark of well-being is necessary because human beings adapt to external circumstances’. For example, a very poor or disadvantaged person may suggest they have a high SWB, but could not be said to be flourishing under Sen’s ‘capabilities approach’.

Conclusion: the challenge of promoting alternative measures

Composite index or dashboard approach?

One of the key challenges facing any alternative measure to GDP is how the measure is presented. In practical terms, this often boils down to a decision over whether a composite index is suitable, or if there is greater knowledge be gained from a dashboard of several indicators. Adopting an alternative composite index has the understandable attraction of being simple to understand (Bleys and Whitby 2015) and is usually comparable to GDP in some form, enabling a direct comparison with current measurements and potentially enabling an easier shift from GDP toward the new measure. As we have seen with the CIW, it is seemingly possible to GDP growth to CIW growth and demonstrate the inability of GDP to capture the true wellbeing of society. On the other hand, has been noted already, the Stiglitz et al. (2009) report does not seek to provide a formula for a new composite index, instead arguing that ‘aggregation is less important than having a broad statistical system’. The report authors argue that ‘a single metric is easier to understand, and yet one cannot expect to summarize all the relevant information concerning the performance of something as complex as our society within a single indicator’. As such they call for a simple dashboard of aggregate measures, which would work like an ‘extended or adjusted GDP-like measure’ (Stiglitz et al. 2009), as do Coyle and Mitra-Kahn (2017) in their plans to replace GDP. Indeed, in their analysis of the implementation of alternative measures, Bleys and Whitby (2015) note that whilst political actors were drawn to singular composite indexes, ‘it reduces the potential policy value of these measures compared to working out a set of individual indicators’.

Whilst this may be viewed as a potentially positive step towards a more sophisticated approach to measuring and understanding the economy, Fioramonti (2013) criticises what he sees as a largely technocratic approach to measurements which ‘either out of naivety or political correctness’ does not recognize the ‘world of power struggles and conflicts of interest’ that lie behind the profound political nature of GDP. Indeed, Coyle (2014) similarly argue that whilst Stiglitz et al. make the claim that ‘GDP mainly measures market production... this gets it backward: GDP defines market production, which is then measured by the official statisticians’. From this type of critical perspective, GDP retains its dominant position not simply because alternatives are lacking, but because it promotes a particular kind of economic system. Drawing up a dashboard of other indicators will, from this perspective, change little. Moreover, as Bleys and Whitby (2015) also argue, in the case of alternative measures of economic welfare it is often not as simple as a black and white distinction between ‘composite index’ and ‘dashboard’. For example, they note that whilst the total value of the ISEW can be used to study trends in the level of economic welfare in a country or region over time, ‘a more detailed analysis is possible by looking at the different item categories or individual components’ (Bleys and Whitby 2015).

Other barriers for alternative measures

Whatever approach is taken to the calculation and presentation of a new metric, as Fioramonti (2013) and others argue, behind GDP lies a politics which encapsulates particular worldviews and interests which are not easily surmounted. However, there is often debate within the literature regarding the merits and drawbacks of particular measurements, yet there is much less discussion on their ability to be actually implemented as a dominant measure of the economy. Bleys and Whitby (2015) seek explicitly to understand the barriers and opportunities for alternative measures of economic welfare and thus take on a more politically-focused analysis. To understand these barriers and opportunities

they conducted semi-structured in-depth interviews with (potential) users of ISEW in Belgium and Germany. The authors categorise the barriers to the adoption of alternative measures into three areas:

- Context factors
- Indicator factors
- User factors

To begin with the latter, they note from the users' perspective it was clear that 'for some actors there are 'taboo' methodologies or valuation techniques, which, if used in the production of an alternative indicator, can act as a barrier to its acceptance and diffusion'. This related in particular to the aggregation involved in measuring economic welfare when using a composite index, and the monetary valuation methods used in ISEW methodology. Moreover, in a very practical sense, the authors point out that 'the holistic nature of the alternative measures of economic welfare ... might provide an additional barrier in that it requires the expertise of a broad spectrum of disciplines and competences both in its construction process and effective use'. Alongside these issues, there were a number of indicator factors, including time lag effects of welfare changes, a lack of standardised methodology and the fact that many potential users feel welfare and ecological sustainability measures are simply not compatible. In the background of these pressures was the contextual factor of the economic crisis. Despite some thinking the crisis would be a motivator for change, in fact there was a resurgence of the traditional growth agenda as governments sought to get the show back on the road (Bleys and Whitby 2015).

Clearly implementing an alternative method of measurement is no easy task. Bleys and Whitby (2015) suggest a range of potential solutions, including the greater harmonisation of methodologies, better communication of alternative measure and even media training for statisticians in order to more effectively penetrate public debate. In their development of the SED index, Hay and Payne offer a novel and compelling way in which SED could be implemented. They suggest that SED should be, 'recorded and published alongside GDP' initially, allowing for the production of a new hybrid GDP-SED index. Following this, over a globally agreed timescale, 'the proportion of SED relative to GDP in the hybrid index would rise – from zero (now) to close to 100 per cent (at some agreed point in the future). And, of course, we would gauge whether our economies were 'growing', 'flatlining' or 'in recession' according to the new hybrid index as, in effect, we moved from measuring economic performance in terms of GDP to measuring it in terms of SED' (Hay and Payne 2015). Alongside Coyle and Mitra-Kahn's (2017) two-stage plan to first extend and then replace GDP, this type of implementation plan simultaneously recognises the difficulty of dislodging GDP as the world's dominant measurement, whilst offering a practical solution for its ultimate dismantling.

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