

New Statistics for Old? - Measuring the Wellbeing of the UK

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Summary

Attempts to create measures of national wellbeing and progress have a long history. In the UK, they go back at least as far as the 1790s, with Sir John Sinclair's *Statistical Account of Scotland*. More recently, worldwide interest has led to the creation of a number of indices seeking to go beyond familiar economic measures like GDP. We review the *Measuring National Well-being* development programme of the UK's Office for National Statistics, and explore some of the challenges which need to be faced to bring wider measures into use. These include: the importance of getting the measures adopted as policy drivers; how to challenge the continuing dominance of economic measures; sustainability and environmental issues; international comparability; and methodological statistical questions.

Keywords: wellbeing; progress; beyond GDP; quantum of happiness; public policy; sustainable development.

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1. Introduction

The Measuring National Well-being Programme (MNW) of the UK Office for National Statistics (ONS), launched in 2010, is about reporting how the country is doing, not just in terms of economic performance and material wellbeing, but also in terms of individual wellbeing, social progress, quality of life, the state of the environment and the sustainability of all of this. There is increasing interest in measuring wider dimensions of progress, including now as part of the United Nation's '2030 Agenda for Sustainable Development' (UN, 2015, para 48). Looking at the MNW programme will enable us to explore some more general aspects.

In this paper we review the MNW programme and how it came about, note a number of innovative aspects, explore the requirements that statistics released under the programme are designed to meet, and consider a number of issues. We discuss the role of statistics in facilitating a change in the way we view wellbeing and progress, rather than merely reflecting an established socio-political model. We draw not only on contemporary developments but

also reflect on Sir John Sinclair's work in measuring the 'quantum of happiness' enjoyed by the citizens of Scotland some 200 years ago.

The paper is structured simply: we touch on earlier developments of wellbeing measurement, summarise the MNW programme, and focus on some outstanding issues. It is early days in the current round of development of such measures. Our primary purpose in writing this paper is to support and extend discussion and debate about how new measures might (indeed should) be used. The quality of statistics depends on their fitness for purpose, so we need to build understanding, from the outset, of how they will be used.

We frequently refer to wellbeing in this paper, aware that there are many different definitions of wellbeing, often trying to capture different aspects of it. We will in particular attempt to distinguish between national wellbeing, as used by the ONS to assess the broad progress of the country, and individual (personal or subjective) wellbeing, which is when any of us assesses how our life is going.

2. Measuring social progress in the UK

Towards the end of the eighteenth century, Sir John Sinclair, a founding member of the Royal Statistical Society, compiled a twenty volume 'statistical account of Scotland'. Sinclair wrote (1791-99, vol 20, p13) that he was conducting 'an inquiry into the state of a country for the purposes of ascertaining the quantum of happiness enjoyed by its inhabitants and the means of its future improvement'. However, there is no definition of the 'quantum of happiness' in the account, and no prescription for applying the findings of the account in way that would increase this quantum.

Sinclair was steeped in the Age of Enlightenment concept of happiness and especially in the work of utilitarianists such as Jeremy Bentham (eg 1781/2000), who held that the proper aim of actions should be to maximise 'utility', defined in terms of positive happiness and negative suffering. Sinclair (1791-99, vol 2, p5) clearly understood the principle of utility (we counted over 100 references to 'happiness') and that it should be promoted and acted on. He also realised that it was rarely measured, observing that there was 'No extant work which throws light on the advanced state of human society or furnishes so many useful hints of the most likely means of promoting its happiness and improvement'.

Sinclair's work meant that, a century later, in 1879, Herbert Spencer (2012, p224) could use the notion of 'a quantum of happiness', without specifying what that meant (or how it was measured), before going on to discuss how people might act together and how benefits from action may, or may not, be shared out.

Moving nearer to the present, in the 1960s, in the United States, President Johnson (1964) set out his vision for a great society, including ‘a place where men are more concerned with the quality of their goals than the quantity of their goods’.

Robert Kennedy echoed Johnson in a speech in which he linked an emphasis on economic statistics with the priority wrongly given to economic conditions in politics and in everyday life. Kennedy (1968) called for statistics that measure everything that ‘makes life worthwhile’ because headline economic figures ‘can tell us everything about America except why we are proud that we are Americans’. This presented a challenge for statisticians. The examples he gave were (and still are) at least difficult to measure (e.g., quality of education) if not nigh impossible (e.g., intelligence of public debate).

In the UK, in 1970 the Central Statistical Office launched *Social Trends*, with data from many sources, seeking to provide an annual picture of social, economic and environmental conditions and how these were changing. One aim was to develop social statistics which ‘had long tended to drag behind economic statistics in priority and quality’ (Moser, 2000), to complement extensive national economic accounts and well-known headline measures such as gross domestic product (GDP). *Social Trends* was an exemplar of the social indicators movement, which Bache and Reardon (2013, p901) have described as the first wave of concern with wellbeing, as distinct from economic growth, since the system of national economic accounts was established in the mid-twentieth century.

Moser (2000) explained that *Social Trends* was designed to be ‘exciting, non-technical and accessible to the general public well beyond Westminster and Whitehall. It had to be authoritative with the statistical material beyond criticism. But above all it was to be written and produced by us statisticians without political interference’. The *Social Trends* reports continued to be published over a period of forty years. They were undoubtedly well liked, although often seen as a collection of facts: interesting to browse but not necessarily providing a tractable assessment of the state of the nation – see, for example, Verwayen (1984, p2) who asked ‘what does it all add up to in terms of use?’. The observation behind his question, which we endorse, is that social indicators are used more to enlighten public discussion and government decision-making, for example to commission further research, than to develop specific policy.

Bache and Reardon (2013, p901) concluded that, while new statistics were developed, the social indicator movement ‘failed’ and ‘Moreover, as economic recession took hold of the leading capitalist economies in the 1970s, the social dimension fell down the political agenda’. Despite this, there was no diminution in the production of social indicator reports,

especially those taking into account the appearance of sustainable development indicators. Indeed, there has been a proliferation (see Allin and Hand, 2014, for a review). Nevertheless, it seems beyond dispute that none of these statistical measures managed to challenge the neoclassical economic dominance and the attention given to GDP in politics, public policy and debate.

3. What led to the Measuring National Well-being Programme (MNW)?

If the social indicators movement formed a first wave of interest in going beyond GDP then we have, since around 2000, been in a second wave. For example, the Organisation for Economic Cooperation and Development (OECD), of which the UK is a member, embarked on a global project to measure the wellbeing and progress of societies in ways that were not just about economic performance. We do not explore here how this OECD work came about, though we acknowledge the considerable personal input and drive of Enrico Giovannini, OECD chief statistician at the time.

The OECD's mission is 'to promote policies that will improve the economic *and social* well-being of people around the world' (taken from OECD website, see Annex, emphasis added). The global project (now the *Better Life* initiative) led to developments in wellbeing policy and measurement in many countries, with the close involvement of other international organisations such as Eurostat and the United Nations. OECD was closely involved in setting up and supporting the Commission on the Measurement of Economic Performance and Social Progress, which through its reports, and an on-going research programme, continues to be a major stimulus and source for developments in these areas.

Commission on the Measurement of Economic Performance and Social Progress (CMEPSP)

The CMEPSP was convened in 2008 and led by Joseph E. Stiglitz, Amartya Sen and Jean-Paul Fitoussi. A book version of their report is called 'Mismeasuring our lives: why GDP doesn't add up' (Stiglitz *et al*, 2010). Their full report, available on-line (Stiglitz *et al*, 2010a), contains a further two hundred pages of 'substantial arguments'.

CMEPSP was established by the then President of France, Nicholas Sarkozy, with the brief (Stiglitz *et al*, 2010, p1) to 'identify the limits of GDP as an indicator of economic performance and social progress, including the problems with its measurement; to consider what additional information might be required for the production of more relevant indicators of social progress; to assess the feasibility of alternative measurement tools, and to discuss how to present the statistical information in an appropriate way'. The report was nominally a

set of proposals on how to develop measures for France, but the background and reach of the commission suggest that it was always intended for a wider audience. The French Government has taken the report's conclusions to relevant international gatherings and encourages international statistical organisations to modify their statistical systems in light of the CMEPSP's recommendations (Stiglitz *et al*, 2010, p x).

For President Sarkozy (Stiglitz *et al*, 2010, p vii) the point was to avoid our future being 'riddled with financial, economic, social, and environmental disasters' by changing the way we live, consume and produce. Sarkozy saw measurement as the initial area to tackle, suggesting that changing the way economic performance was measured was a necessary precursor to changing behaviour.

Wellbeing measurement in the UK

By 2007, the ONS was not only aware of OECD work and the proposed CMEPSP, but that there was much leading-edge work and expertise on wellbeing measurement in academic centres and in non-governmental organisations on which to draw. Building a close working relationship with the Centre for Wellbeing at the New Economics Foundation was especially beneficial. Since the early 2000s the Centre has consistently sought to understand, measure and influence well-being, including by involvement in policy-making.

ONS signalled its intentions to elevate analysis of 'societal wellbeing', partly as a response to the 2007 Istanbul Declaration (OECD, 2007). ONS emphasised the need to gain a better understanding of how new measures would be used, hinting that much of the discussion had been aspirational, with little detail of what would be done differently with wider measures (Allin, 2007, p46).

National statistical offices are invariably under resource constraints. They may need to reduce or discontinue statistics for which consultation suggests there is no longer a perceived need. However, such decisions are taken rarely and the maintenance of continuous time-series of data is a strong ethos. It was axiomatic that exploring societal wellbeing should be without any reduction in ONS's commitment to publishing full and timely national accounts. The stress was on 'GDP and beyond', to defuse any connotation that 'beyond GDP' might have of abandoning GDP. Indeed there was a need to further develop national accounts in line with international developments and evolving user requirements, for example on the output of public services. CMEPSP was also of this mind, for its recommendations included a number grouped as tackling 'classical GDP issues'.

The UK already had a regularly published set of sustainable development indicators (SDIs), which helped shed light on GDP and beyond. SDIs were linked with government policy, though they have a wider use (e.g. Defra, 2013). They were produced and published by the Department for Environment, Food and Rural Affairs (Defra) until they became the responsibility of ONS in 2014 (the ONS's concept of national wellbeing includes sustainability as well as current wellbeing).

ONS considers government as well as public requirements. With a general election due in 2010, ONS saw that all political parties were discussing wellbeing and, in varying degrees, recognising that quality of life is a purpose for government (see Allin and Hand, 2014, Chapter 7). This was not a view universally held, though. The Institute of Economic Affairs (Johns and Ormerod, 2007, p14), for example, was not convinced of the role of 'happiness' in economics and public policy. Nevertheless, ONS decided that there was a need to take forward the measurement of national wellbeing.

Following that general election and the formation of a coalition UK government, the Budget Statement of June 2010 (HM Treasury, 2010, p10) recorded that 'The Government is committed to developing broader indicators of wellbeing and sustainability, with work currently underway to review how the Stiglitz, Sen and Fitoussi report should affect the sustainability and well-being indicators collected by Defra, and with the ONS and the Cabinet Office leading work on taking forward the report's agenda across the UK'.

Statistics which have a statutory requirement are put at the top of the priority listing in ONS planning and budgeting, but as yet there is no sign of UK or European legislation specifying required statistics on national wellbeing and progress. However, the idea of looking more broadly than the economic case when public sector organisations are procuring goods and services is now captured in the *Public Services (Social Value) Act*, which requires public authorities 'to have regard to economic, social and environmental well-being in connection with public services contracts' (UK Parliament, 2012). The legislation does not define 'well-being' but official guidance (Local Government Lawyer, 2013) encourages commissioners of public service contracts to meet the wider social, economic and environmental needs of the community, as well as the best price. National statistics should help identify these wider needs and, ideally, allow more local data (for the 'community' in scope) to be captured. One might regard this as a quasi-statutory requirement for national wellbeing statistics. But perhaps an even more clear-cut requirement is the *Well-being of Future Generations (Wales) Act* (National Assembly for Wales, 2015), which states that the aim of public bodies is 'to improve the economic, social and environmental well-being of

Wales in accordance with the sustainable development principle'. The Act includes a set of 'well-being goals' for public bodies.

4. Key features of the Measuring National Well-being Programme (MNW)

In October 2010, the UK Prime Minister (Cameron, 2010a) made a speech in which he set out a strategy for growth and jobs. He also spoke about the wider role of government, touching on the issue of wellbeing, saying 'In the weeks ahead, we will be setting out how we will bring a new emphasis on well-being in our national life, and how we will work with business to spread social and environmental responsibility across our society'. He had promoted the idea of 'general wellbeing' while leader of the opposition (e.g., Cameron, 2010).

Within a month, the Prime Minister (Cameron, 2010b) gave a speech entirely on wellbeing, saying that he had tasked the ONS with finding new ways of measuring wellbeing in Britain, and setting the objective of measuring the country's progress in terms of quality of life, not merely economic growth. This was the launch of the ONS Measuring National Well-being Programme.

MNW has frequently been mis-reported as 'Mr. Cameron's Happiness Index'. This is wrong on all three counts: it is not just for the Prime Minister and was not commissioned by him; it is not just about happiness, even broadly defined to sum up psychological wellbeing, but about national wellbeing, a wider concept; and it is designed to produce a number of measures, not a single index.

The aim of the MNW programme is to provide broadly accepted and trusted measures of wellbeing to supplement existing economic, social, and environmental measures (see MNW website, listed in the Annex). As earlier with the 'quantum of happiness', the wellbeing of the nation is not defined, but, as Allin and Hand (2014, p222) observe, is explained: 'The concept of national wellbeing is meant to embrace everything needed to be able to answer the question [of how the UK is doing] in a meaningful, accepted and trusted manner, and so that action and decisions at all level[s], from the individual to the government, can be taken. In these terms, national wellbeing, or how the nation is doing, should then address the present state of the nation, whether progress is being made, and if current progress is sustainable in the longer term: all of these dimensions (and more) are wrapped up in the idea of national wellbeing'.

The MNW programme was greatly influenced, both in timing and content, by the CMEPSP report. Indeed, MNW can be seen as ONS's implementation of the CMEPSP's

recommendations and its associated engagement with international initiatives looking at ‘GDP and beyond’. The CMEPSP report (Stiglitz *et al*, 2010, p10) concluded that ‘the time is ripe for our measurement system to shift emphasis from measuring economic production to measuring people’s well-being’. ONS staff examined the CMEPSP recommendations directed to national statistical offices, which cover ‘classical GDP issues’, quality of life, sustainable development and the environment, and found that they provided a firm basis on which to proceed. The recommendations could be linked to existing statistical outputs (albeit some with work in progress) that contribute to a fuller picture of national wellbeing.

This is not to say that MNW slavishly follows approaches elsewhere. For example, in one major respect the ONS approach to *national* wellbeing means that it would diverge from the approach adopted by the OECD, which more directly followed the steer from the CMEPSP. The OECD’s direction is clear from the *How’s Life?* reports, which reflect a conceptual framework that distinguishes between current individual wellbeing and future wellbeing. Drawing on the capabilities approach, the OECD (2013, p21) measures *current* wellbeing by looking at people’s material living conditions and their quality of life, and assesses *future* wellbeing by looking at the state of ‘some of the key resources that drive well-being over time and that are persistently affected by today’s actions’. For the UK programme, assessing national wellbeing means looking both at current and at future wellbeing concurrently.

Innovation

We draw attention to four innovative aspects of MNW, which also help contrast it with earlier initiatives. First, MNW kicked off with a period of considerable public engagement and debate around the question ‘what matters?’, a phrase later adopted in the UN’s extensive consultation on replacing the Millennium Development Goals. The CMEPSP report had encouraged ‘round-tables’ to be held in each country. The ONS approach went considerably further in taking discussion out through social media, workshops and other events. All of this was covered in national and local news media. The second major development was that, for the first time, ONS included subjective measures of personal wellbeing in its regular household surveys. The questions resulted from an intensive period of investigation, made possible by building on long-established academic research and survey work on subjective wellbeing. The questions were not just for ONS surveys - the intention is to include them in other government surveys, to create a widespread picture of wellbeing in

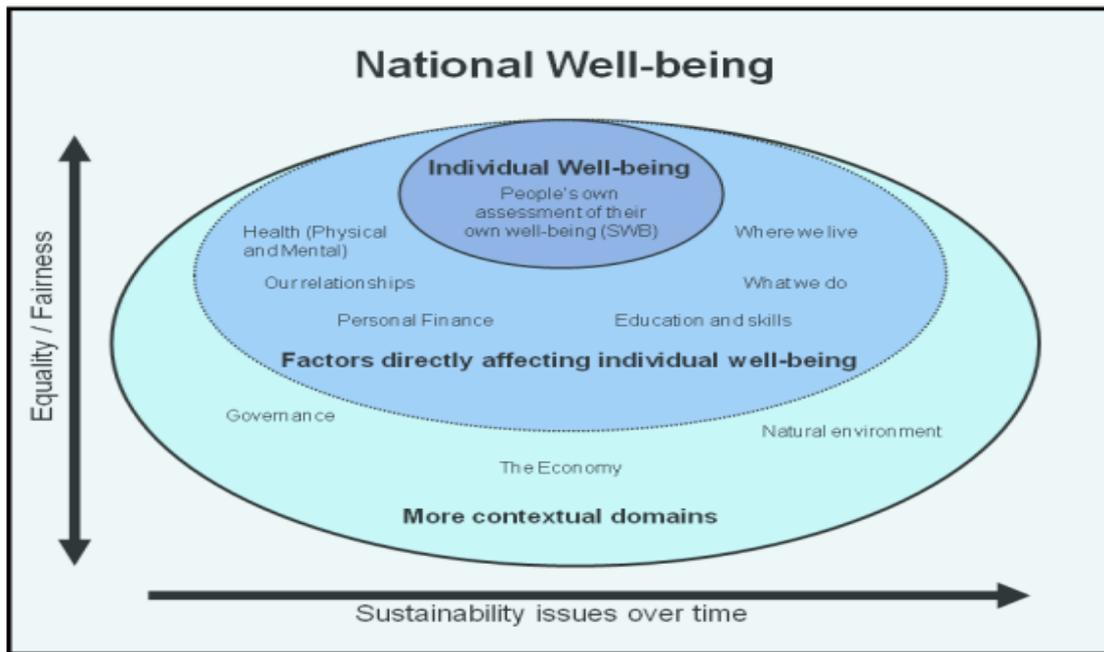
different policy areas. This reflects the third eye-catching aspect of MNW, that of close working with policy makers prompted by government wanting to give greater attention to wellbeing in policy. Finally, new ways of presenting wellbeing data which the public can interact with are being developed.

Frameworks for measuring national well-being

Working through the responses to the national debate enabled the ONS to identify the key areas that matter most to people (ONS, 2011) and to make initial proposals for domains and specific measures of these components of national wellbeing. The initial proposals were then subject to further, but more targeted, public consultation, which showed that there was broad support for the proposed framework, that is the domains and the measures that ONS selected within each domain (ONS 2012).

There is as yet no agreed framework for measuring national wellbeing but it is clear that the ONS needed something to underpin its measurement. The challenge was to start structuring the measurement of national wellbeing with an eye to international developments while providing some common ground on which to engage nationally, including with academics across a number of disciplines. Armed with a strong feel for ‘what matters’ in the UK, ONS (Spence *et al*, 2011) drew from a number of frameworks presented in the wellbeing literature, including an OECD working paper (Hall *et al*, 2010). There is much in common across these frameworks, perhaps not surprising as they all tend to draw on similar, broad understandings of the things that affect and matter to people in their everyday lives. On the other hand, there are undoubtedly aspects of national wellbeing that are important to some people (such as culture or technological innovation) that tend not to feature widely in societal discourse, and hence are not prominent in the frameworks.

Figure 1: The Framework for Measuring National Well-being in the UK



Source: Beaumont (2011, Figure 1). © Crown copyright 2011 – used under the terms of the Open Government Licence, <http://www.nationalarchives.gov.uk/doc/open-government-licence/version/2/>

The framework for measuring national wellbeing published by the MNW programme in October 2011 is shown in Figure 1. It places individual wellbeing at the heart of national wellbeing. It adds into national wellbeing six broad factors (such as education and skills) directly affecting individual wellbeing, and three more contextual domains (the natural environment, governance and the economy). It also shows that a full picture of national wellbeing can only be seen by reporting on how each domain is distributed. This is presented in the diagram by the axes of equity/fairness and sustainability over time. Using this framework, and given a wide spectrum of statistical sources, ONS has selected a set of indicators to summarise the state of the nation in the areas that matter to people. (See the MNW website, details in Annex below, for the current 41 indicators).

Measuring subjective wellbeing

One CMEPSP recommendation (Stiglitz *et al*, 2010, p18) is that ‘Statistical offices should incorporate questions to capture people’s life-evaluations, hedonic experiences and priorities in their own survey’ because such measures of subjective wellbeing ‘provide key information about people’s quality of life’. John Hall, in a personal communication, has

reminded us that ONS published subjective wellbeing research and results from other sources in *Social Trends* in the 1970s. However, until the launch of the MNW programme, and like most other national statistical offices, ONS had not undertaken regular or extensive subjective wellbeing surveys. Now there was clearly an appetite for new measures of personal wellbeing, including as part of the wider picture of national wellbeing, along with other, objective measures. This combination had been emphasised by CMEPSP and was later echoed by Diener *at al* (2013, p521), who reviewed the theory and validity of life satisfaction measures and concluded that they ‘have clear limits, and provide only one type of information to policy makers. Thus, additional types of objective and subjective indicators are needed’.

By April 2011, the date announced by the Prime Minister as the start of a new way of measuring progress, four experimental subjective wellbeing questions had been tested and introduced in the ONS’s continuous Annual Population Survey (APS) of UK households. This survey allows the subjective wellbeing questions to be analysed by some key determinants of wellbeing and by demographic and geographic attributes. ONS continues to use a smaller survey to carry out testing and development of subjective wellbeing questions, and to cover aspects of subjective wellbeing in more detail. ONS took the decision to use only a few questions within a large, existing survey (165,000 adults are questioned over the course of a year in the APS). This contrasts with in-depth studies of subjective wellbeing, which tend to have many questions exploring wellbeing. Funding and resource constraints then tend to mean relatively small samples. A new survey can also take longer to get off the ground than adding questions to an established survey.

There are other pros and cons. One reason for using only a short set of questions is that it is easier for the managers of other government social surveys to include them, to build a richer evidence base and to extend subjective wellbeing measurement into specific areas of government. However, we stress that these subjective wellbeing data are not intended solely for analysing personal wellbeing, but to contribute to the fuller picture of national wellbeing and progress in the UK.

The four questions asked by the ONS in the APS are shown in Table 1, which also indicates the perspective from which each question is drawn. The questions are very similar to (but not precisely the same as) the core measures described in the OECD’s *Guidelines on Measuring Subjective Well-Being* (OECD, 2013a).

Table 1: The four questions about subjective wellbeing asked by the ONS in its Annual

Population Surveys <i>(All asked using a 0 to 10 scale where 0 is 'not at all' and 10 is 'completely')</i>	
'Overall, how satisfied are you with your life nowadays?'	<i>This comes from the evaluative approach to measuring subjective wellbeing (ie a cognitive assessment of how life is going).</i>
'Overall, to what extent do you feel the things you do in your life are worthwhile?'	<i>From the eudemonic approach (a more philosophic reflection).</i>
'Overall, how happy did you feel yesterday?'	<i>This is about experience of positive feelings or emotions (called positive affect in psychology).</i>
'Overall, how anxious did you feel yesterday?'	<i>Experience of negative feelings or emotions (negative affect).</i>

Source: Based on Hicks (2011)

Tinkler and Hicks (2011) noted that the ONS decided to use a limited number of questions while still trying to capture different aspects of subjective wellbeing which had been identified in the literature. Dolan *et al* (2011) had recommended to the ONS that this was the best way of providing a broad overview of subjective wellbeing. Life evaluation, and positive and negative affect are recommended by the CMEPSP report, and the ONS also includes the eudemonic perspective, concerned with positive functioning, flourishing and having a sense of meaning and purpose in life (e.g. nef, 2011; and Hubbert and So, 2013). Hicks *et al* (2013, p79) summarise ONS's testing and development of subjective wellbeing questions for use in large-scale social surveys. (Behind this there is a large research literature, especially in psychology, concerned with the measurement of subjective wellbeing including in individual clinical circumstances).

The full breadth of the MNW programme

Much of the CMEPSP report was about 'known problems' and potential solutions. Timing and the authority with which it was delivered helped the ONS draw together and build on many of existing developments. Allin and Hand (2014, Table 7.1, p228) give a flavour of how the MNW programme reaches all parts of the agenda set by the CMEPSP recommendations with, for example various measures and distributions of national and household income and wealth, household satellite accounts, social capital, natural capital and human capital accounts. This is not to say that everything is finalised: even within the UK's well developed and funded national statistical system, it will still take time for some developments to come to fruition.

Progress and further work

At a conference marking the first two years of MNW, programme director Glenn Everett (Allin and Hand, 2014, p230) summarised the progress that had been made, through many outputs including a new annual report on life in the UK. There was more to do on domains and measures of national wellbeing and on subjective wellbeing questions, and all were subject to further testing, user feedback and possible development. There was also the issue of how to assess the progress of the UK when using these measures: was it always clear whether, say, an increase in the value of a measure meant that the UK was making positive progress in that area? ONS promised to continue cooperation with international partners as well as further consultation and engagement within the UK. We encourage everyone with an interest in this programme to keep an eye on the MNW website and to participate in consultation and discussion about the programme (for example through the on-line National Well-being Community, see Annex).

5. Using MNW data: making a difference?

The APS subjective wellbeing data are being analysed by the ONS and others (e.g. Abdallah and Shah, 2012, ONS 2013). The sample is large enough to be able to compare sub-groups of the population and parts of the country. Over a number of years the accumulated sample can be used as a large dataset for more detailed analysis.

The appearance of ONS subjective wellbeing data prompted the Treasury to update its 'Green Book' to include reference to using subjective wellbeing data in cost-benefit analyses. The Green Book (HM Treasury, 2011, page v and p58) requires officials assessing proposals for policies, programmes and projects to ensure that 'public funds are spent on activities that provide the greatest benefits to society, and that they are spent in the most efficient way'. The ONS is working with government researchers to develop tools to evaluate the impact on subjective wellbeing that specific policies and publicly funded projects have made. However, the general ethos of the ONS is that it can only go so far in terms of linking measurements to specific policies and programmes. The ONS data provide more of an overall picture and a backdrop against which policy officials are encouraged to build their evidence base. This is why departments are encouraged to include the ONS subjective wellbeing questions along with more detailed questions in their own research surveys, and to draw on further, policy-relevant indicators.

Although subjective wellbeing questions were the new element of MNW from April 2011, we stress again that, in assessing national wellbeing and progress, MNW is about more than subjective wellbeing. Likewise, as we have noted, the ONS programme is not about stopping using GDP. Rather, it aims for a pluralistic approach, providing measures for people with different interests and encouraging the use of a set of wider measures of national wellbeing and progress. Those interested in economic growth and those focussing on subjective wellbeing will find each of these measures within the ONS set, while the intention is to shift attention to the full set of wider measures of national wellbeing.

6. Statistical aspects of measuring wellbeing

Bache (2013) has drawn attention to the fact that not all the methodological statistical questions involved in measuring wellbeing issues have been resolved. In this section we illustrate just some of the outstanding issues, but it is beyond the scope of this paper to discuss all of them or to discuss in detail how the issues might be addressed. The development of appropriate national wellbeing measures should also be driven by discussion between producers and users of new measures, so that measures are not only technically sound but fit for identified purposes.

Measuring wellbeing presents challenges at various levels. At one level there is the issue of how to construct measures which have desirable measurement characteristics. Such characteristics include that they should capture the concept of interest, that they should be sensitive to differences which matter while not being wildly erratic, and that their components can be readily measured with accuracy. At a higher level, once data have been collected, statistical issues to contend with include selection bias, identifying the sources of uncertainty and measuring the impact of these sources. There is also the issue of whether one should try to produce a single overall measure or recognise that different aspects of national wellbeing are measured on different scales, so that a profile of different measures might better be presented. We suggest that, although a single index will fail to reflect the subtleties and complexities of national wellbeing, such an index is important if it is to stand alongside GDP as headline measures of national wellbeing and progress. The OECD's *Better Life Index* (see Annex) is an example of where different measures are combined, using weights that users can adjust to reflect their own values. This suggests that publishing a national index based on national average weights would be one viable option.

Measurement properties and how scales are constructed

In a real sense, the fact that national wellbeing has multiple, quite distinct aspects is one of its most challenging aspects - but wellbeing is not unique in this. Medicine, in particular, has also had to contend with this difficulty, especially in areas conceptually related to wellbeing. For example, the Apgar scale is a measure of the clinical condition of a newborn baby. It is constructed by summing five scores, for appearance/complexion, pulse, reflex irritability, activity, and respiratory effort. Clearly these are very different aspects.

The legitimacy of combining such aspects into a single measure can be justified from a pragmatic measurement perspective (Hand, 2004). Rather than seeking to construct a mapping from objects and relationships in some external system to the representing numerical system ('representational measurement'), the pragmatic approach explicitly creates an indicator, with desirable measurement properties, of a key attribute of the system. The definition of the attribute is implicit in the construction of the measurement indicator. This means, of course, that other researchers, with slightly different attributes in mind, may adopt other measures. Choice between them will be based on the objectives of the study, and on the measurement characteristics of the constructs (e.g. validity, reliability, effectiveness in detecting change and predicting or being predicted by other features, etc.). It follows from this that developing such measures is no easy task - which at least partly explains the proliferation of wellbeing measures as researchers have tackled these problems. (Unfortunately, we suspect that another explanation of the proliferation is that not all researchers understand the need for good measurement characteristics, and so readily and rapidly construct a variety of measures of limited value). Allin and Hand (2014) review multiple measures and discuss the different features they use, the different ways the features can be combined, and so on. While obviously there are differences, what is perhaps most striking is the commonality between different approaches.

In some cases, quite elaborate statistical modelling approaches have been adopted to construct measures, including such tools as factor analysis and causal network models. In general, when the aim is to combine distinct characteristics (as illustrated by the Apgar scale), models such as factor analysis are inappropriate – they are useful when the aim is to extract the (one or more) common aspects of the characteristics. In any case, it can be important to distinguish between (i) components of the measure, (ii) potential causes which influence the value it takes, (iii) consequences which change as it takes different values, and (iv) other indicators which are merely correlated with it. Of course, deciding into which category a variable fits may not be straightforward - not least because they are not necessarily mutually exclusive. Nonetheless, such relationships can be used to enhance the accuracy of a measure,

through techniques such as regression estimation or more elaborate linear structural relational models – see, for example, Section 9 of Fayers and Hand (2002) for an illustration of combining causes and consequents to estimate an intermediate quality of life variable.

As we discussed above, for use as one component of national wellbeing, ONS developed four questions aimed at measuring individual subjective wellbeing. But, at least for individual wellbeing, there is an alternative pragmatic approach to measuring and combining different aspects. This is simply to ask a single general question, such as ‘Taken all together, how would you say things are these days - would you say that you are very happy, pretty happy, or not too happy?’ (Easterlin, 2003) or similar. In essence, this gets the respondent to do the work of combining the different aspects. However, while this may possibly be adequate for measuring aggregate personal wellbeing, it is clearly not sufficient to produce a measure of *national* wellbeing, where such things as sustainability and even the overall degree of skewness in the income distribution must also play a role, in addition to personal wellbeing.

Even in situations where a single measure can be easily defined - as in the example of personal wellbeing above - deep measurement issues arise. Bond and Lang (2014) point out that, if purely ordinal categorical responses are hypothesised to arise by grouping underlying continuous distributions, then the order of the mean response of the different groups can be reversed by assuming different distributional shapes. To resolve this, one can regard the categorical scale as a pragmatic scale: there is as much justification for adopting such a scale as for assuming any particular distribution on an underlying interval scale. The ordinal categorical measurement then becomes ‘what one means by happiness’ in this context. Or one can regard the underlying scale as purely ordinal, in which case measures which use only ordinality should be used to compare groups - such as stochastic dominance. Measures summarising any underlying interval scale distribution, whatever the distribution, are then irrelevant.

Some instruments (e.g. the four questions used by ONS mentioned above) have many categories (0 to 10 in this case) and moreover have explicit smallest and largest possible responses (e.g. ‘not at all’ and ‘completely’ in the ONS questions). Such a finer gradation probably makes the pragmatic interpretation more acceptable.

There are many deep aspects to constructing an effective national wellbeing measure - too many to discuss in detail here, though we have attempted a broad brush review in Allin and Hand (2014). To illustrate for the individual wellbeing component alone, these other aspects include:

- precise question wording in the individual wellbeing components, since it is known that even slight changes can have a dramatic impact on the results (this is why the four questions used in the UK APS underwent extensive testing, and why the summaries from them were labelled ‘experimental’ statistics, (ONS, 2012b));
- the format of presentation of the possible responses (e.g., visual analogue, semantic differential, etc);
- whether questions should relate to a particular point in time or should be an attempt to aggregate over a time period. This is complicated by subtle psychological phenomena, such as the fact that an intense experience can dilute away memories of feelings prior to that experience.

If it looks difficult to devise sound measures of wellbeing, this is because it *is* difficult. But that very difficulty has stimulated a huge amount of research, and difficulty should not be taken to imply impossibility. What is to be avoided are facile attempts to devise measures, failing to take into account sound measurement theory and painfully acquired knowledge about how effective measurements of subjective phenomena and complex social constructs can be created.

Issues of analysis

The aim of measuring wellbeing is ultimately to be able to assess social progress - to compare and evaluate policy impact, and to measure change. These aims present a number of statistical challenges. In particular, they can be susceptible to potential distortions arising from properties of the way the data are collected. Researchers need to be aware of these risks, and to take measures to tackle them.

A striking example is given in Figure 3 of ONS Statistical Bulletin *Personal well-being in the UK 2012-13* (ONS, 2013). This shows the average life satisfaction scores of European countries in 2007 and 2011, showing that the change in scores for most of them was significant at the 5% level. However, what is very apparent from the figure is that countries with high 2007 scores tended to decrease by 2011, while those with low scores tended to increase. This relationship suggests that the observed changes may be a statistical artefact arising from regression to the mean. Moreover, since the 2007/2011 differences are statistically significant (the averages are based on large samples) the regression to the mean phenomenon would then imply that important sources of random background variation are being missed (the significance tests are based on sampling variability alone).

And this does indeed appear to be the case. Allin and Hand (2014, p140) refer to ONS (2012a): ‘The ONS study also reported small but statistically significant changes corresponding to things like heat waves, a royal wedding, demonstrations, strikes, the death of Osama Bin Laden, the eruption of the Icelandic volcano Eyjafjallajökull and announcements of growth in the economy. They also found significant differences between different days of the week for “worthwhile” and “happy yesterday” ratings.’

Regression to the mean is a statistical artefact, but similar effects can arise from other causes. In particular, subjective wellbeing appears to be influenced by a *homeostatic* effect, in which individuals subconsciously maintain a normal positive level of sense of wellbeing (except in situations of severe stress) (Cummins, 2009). Characteristics of this level are described by Cummins:

- i) It is normally very stable;
- ii) Each person has a level that is set genetically;
- iii) ‘For whole populations within Western nations, the average set-point is 75 points.’

This last characteristic appears to be illustrated for the UK in many places - see, for example, many of the figures and tables in ONS (2012b). The effect is also apparent in other related areas: the immediate sense of enhanced wellbeing consequent on a large lottery win tends to be followed (on average) by a decline in the euphoria back towards the pre-win days. The homeostatic phenomenon has obvious implications for the statistical analysis of wellbeing data for directing policy choice.

It also has implications for how one actually *measures* subjective wellbeing: there is evidence that measures of change, rather than the absolute levels themselves, are less susceptible to such effects, and likewise that the components of wellbeing (e.g., the four questions asked in the UK Annual Population Survey) are less affected than single overall questions.

Implicit in all of the above is the importance - and difficulty - of measuring and communicating uncertainty. A single point estimate of wellbeing - be it for a region or a country, or at a particular point in time - is of very limited value without some indication of uncertainty. However, as the European countries example illustrated, simply reporting the classical sampling error is insufficient to capture all aspects of uncertainty. Classical confidence intervals, and related measures such as Bayesian credibility intervals and likelihood intervals, have straightforward interpretations, but finding suitable ways to communicate the extent and meaning of other sources of uncertainty is more difficult (and an important current research problem in some contexts). Sensitivity analysis has a role to play.

Moreover, in comparisons between multiple countries (or regions or points in time, etc) care needs to be taken when interpreting significance test results, even when considering only sampling variability. Adjusted p-values, taking account of the number of tests conducted, would better be used.

Selection bias is always a potential risk when summarising population characteristics. Put simply, those with lower (or higher) levels may be less inclined to respond to (for example) a survey. Similar issues arise in psychological medicine, and, of course with more general non-response in surveys. This means that care is needed in the statistical analysis to adjust for the selection. Unfortunately this sometimes requires making intrinsically untestable assumptions, though in other cases relevant information can be gleaned from other sources which help to tackle the problem.

The ecological fallacy is another potential cause of mistaken conclusions in analysing wellbeing data. While a change in some characteristic may produce an increase in wellbeing for *every individual*, it is entirely possible that the change in the characteristic may *lower* the wellbeing of the population as a whole. More generally, there are implications as the UK population changes over time, through migration, for example. The MNW programme is aimed squarely at measuring overall change in the wellbeing of the population, not the average change of individuals within the population.

However, also by analogy with economic analysis, it may be helpful also to look at change over time in the national wellbeing of a baseline population of individuals, businesses and activities. Even changes in the population distribution of single characteristics can lead to a change in relationships with wellbeing. For example, while we might find a marked positive correlation between wellbeing and some characteristic x , if the distribution of x now becomes much more markedly skewed, with no corresponding changes in the wellbeing measurements, the correlation between the two variables will decrease. This, of course, is one possible explanation for the Easterlin paradox. If the personal wellbeing scale is defined on a finite interval (e.g. with scores from 0 to 10, with 0 being the smallest possible, and 10 the largest possible, as in the APS), then the floor and ceiling effects this induces mean that any positive relationship to income will be attenuated as larger and larger values of income are included.

It is clear from this that the development and use of national wellbeing measures will need to include debate of how we describe and understand the progress of a nation beyond just change in GDP. Some aspects of national wellbeing, health and life expectancy for example, may change relatively slowly. More generally, different dimensions of national

wellbeing may work in different ways. Suppose, for example, that we agree that society should benefit from increased levels of education in the population. But then what if higher levels of education are associated negatively with subjective wellbeing in some ways (see Powdthavee et al, 2015, for one study finding negative direct effects of education on life-satisfaction and positive indirect effects, through income and health)? We conclude that developing wider measures of national wellbeing is necessary but not sufficient, because these measures will require us to confront and debate what we mean by national wellbeing, progress, and how to achieve it.

7. Discussion

In the preceding sections we have raised a number of design, measurement and analytical issues which merit discussion to aid the development of national wellbeing measures, so we could conclude our paper here. However, we want also to raise some broader areas, especially about the use of new measures, where we see challenges every bit as important as the issues covered above.

Great idea, but what's the use?

We have seen that new measures are being produced to supplement the national accounts, and the headline measure GDP in particular, as the way in which wellbeing and progress can be assessed. But constructing wellbeing measures is pointless unless governments – and businesses, institutions and individuals – actually take things on board and use them in making decisions.

The Prime Minister's words at the launch of the MNW programme, quoted in Section 5, were no doubt carefully chosen, but we note that he was announcing a UK government policy to *measure* wellbeing and progress. While the 'we' who will start measuring progress in this way is the government (and specifically ONS), what is being measured is 'our' progress, economy, lives, standard of living and quality of life – referring to all people, businesses and institutions in the UK – and the question is, while we may be interested (or not) in seeing new measures, has anyone signed up to doing anything differently in light of them?

We are not devaluing having a statement of government policy that wellbeing and progress will be measured differently. We read the statement as a broad intention, so that it does not usurp the role of the independent producer of official statistics to decide on how to measure national wellbeing. Moreover, government policy lives on after governments

change, unless an incoming government decides to discontinue or modify it. In this case, the current UK Government has committed to ‘developing broader measures of progress to complement GDP’, as part of the UN’s 2030 agenda for sustainable development (UN, 2015, para 48). However, an obvious downside is that the policy appears not to commit anyone to doing anything based on what new measures might show.

MNW aims to provide a framework for evaluating progress that everyone can use. However, although MNW has reached out extensively to the public at times, we would like to ask if those times are enough. The national debate and specific consultations organised by the ONS might prompt people into thinking about their lives and choices at that time, but the level of outreach and media coverage of the initial national debate on ‘What matters to you?’ cannot be maintained. Does that matter? How long is inspiration needed from political leaders? How else can ONS, the RSS and others raise awareness and influence ideas and debate about economic performance, social progress, the state of the environment, and how all these interact? What will be the effect of taking the development of broader measures into the worldwide agenda for meeting the new global Sustainable Development Goals?

Some kinds of potential use

ONS’s statistics are used in many different ways. As Levy (2013, p1) notes, ‘ONS is acutely aware that official statistics must be designed to meet the needs of users if they are to be relevant and effective tools for policy makers, industry bodies, civil society and the general public’.

The UK Statistics Authority (2014, p5, 7), awarding National Statistics status to the MNW outputs on personal wellbeing, recorded that these statistics ‘are used in the policy making process by Government and for the monitoring, evaluation and measurement of policy. In addition ONS has identified that the statistics are used for international comparison purposes and to provide evidence which enables a broader understanding of the nation’s progress and inform decision making by individuals and groups ... the statistics are primarily used as an evidence base for local and national policy making, and that the team engages with the Social Impacts Task Force and with colleagues across government and the other UK administrations to improve its understanding about how these statistics are used’.

The full set of MNW measures have not yet been assessed together (although many are already National Statistics) but we can glean something about their potential usage from a recent assessment report on a suite of quarterly statistics including the preliminary GDP estimate. The report (UK Statistics Authority, 2014a, p1) notes that these statistics ‘are

among the most important, high profile statistics produced by the Office for National Statistics (ONS), providing some of the earliest signals about the health and momentum of the UK economy, including consumer and business confidence. They inform decisions that affect the daily lives of everyone in the UK, such as interest rates. They are used by a wide range of organisations and people for making and monitoring economic policy, and for informing day-to-day and strategic decisions ... More than most sets of statistics, this package of outputs speaks to a very wide range of audiences for a wide range of uses, from guiding business decisions to acting as a general barometer of the economy’.

It seems obvious to us, at least, that this description of usage should apply as much to measures of wellbeing and progress that are wider than GDP as it does to GDP and economic statistics. Put bluntly, we envisage MNW measures being used to define and evaluate policy options to increase national wellbeing, such as tackling inequality, or promoting ‘green growth’, and to provide a broader re-assessment of how we live. This latter might well lead to behaviour change, through personal, corporate, and government decisions. Indeed, it is entirely possible that shifting to a broader set of measures might for example lead to questions about the validity of economic growth at rates that we have been used to.

Challenging GDP

It is legitimate to ask if the role of the ONS, the producer of national wellbeing measures, should include encouraging their greater use. One reason for asking this question is that it appears that more attention is being given to understanding the drivers of personal wellbeing than to other aspects of national wellbeing. (It is not a coincidence that much of our discussion of statistical issues of measuring wellbeing related to personal wellbeing, for this is where much of the technical attention has been focused.) Allin (2014, p438) drew on informal discussions to form a view of the kinds of areas in which officials were looking at policy through a ‘[personal] wellbeing lens’, such as childhood obesity or reducing re-offending. ONS’s task in respect of personal wellbeing data is therefore a familiar one, of identifying and meeting user requirements within public policy areas.

However, while analysis of personal wellbeing data is important, as the MNW programme makes clear, it is not the sole aspect of *national* wellbeing. We are unsure that as many opportunities are being taken as could be taken for policy areas to develop a national wellbeing focus using aspects beyond the personal - though we can see that these could be encouraged by intermediaries such as the Legatum Institute Commission on Wellbeing Policy (O’Donnell *et al*, 2014). It would certainly seem worthwhile for ONS to raise awareness of

broader national wellbeing measures, to generate demand rather than waiting for user requirements to emerge.

For example, will major infrastructure projects, such as airports and high-speed rail networks, be considered against the ‘triple bottom line’ of economic, social and environmental costs and benefits? Or will the dominant political narrative in the UK continue to be the need for economic growth and deficit reduction, with concomitant concerns like security of supply of food and energy? After all, the UK government set a number of priorities for economic growth in the wake of the global financial crisis and structural deficits in public finances. So, for example, in a recent government report (HM Treasury, 2013, p9), the Treasury’s objectives were phrased in terms of strategic priorities that include reference to ‘a growing economy that is more resilient’ and to reducing the structural deficit ‘in a fair and responsible way’, but no longer explicitly to delivering wellbeing for all.

We noted above that guidance for the appraisal of proposals for significant public spending within the UK government recognises the need for assessing benefits to society, as well as spending funds efficiently. Non-market and environmental impacts should be taken into account. However, this ‘Green Book’ guidance also notes that ‘At the moment, subjective well-being measurement remains an evolving methodology and existing valuations are not sufficiently accepted as robust enough for direct use in Social Cost Benefit Analysis’ (page 58) and that ‘The valuation of environmental costs and benefits is constantly evolving, with new research continually being funded by the UK government and its agencies’ (page 63). We suspect that, until these wellbeing and environmental impact measures are developed and promoted, then they will remain at the margins of policy decision-making.

Elsewhere we see the language of government tending to refer more to sustainable (or perhaps sustained) economic growth and development, along with a fair and equal nation, than to wellbeing. It is in this political environment that the ONS must remain strongly committed to producing wider measures of national wellbeing and progress, so that these are available to use alongside the regular data on economic growth and public finances.

And what about the environment?

A related question is whether earlier, ‘green’ aspirations will survive. One might also ask if they will continue as separate initiatives, focussing on specific employment and environmental policies, rather than supporting the ‘big picture’ of national wellbeing, progress and sustainability. Questions like these abound, not only in the wake of the recession but more generally, as there has often been a tendency to treat environmental

concerns separately from economic growth and social progress. However, we take the view that they are inter-related, which is why we support the ONS framework for national wellbeing in bringing these dimensions together. If we have any hesitation, it is that national wellbeing so defined is such a large concept that it could be in danger of being overloaded. Given this, it therefore seems to us that the way forward is to concentrate on core measures that are common across the spectrum of more specific areas of public policy and concern, each of which would then have further measures associated with them.

National measures of national wellbeing

We have been looking at the ONS's UK-wide programme but within the UK there are three countries to which many governmental functions impacting on wellbeing, such as health and education, are devolved. In particular, in Scotland and Wales the main policy focus is on sustainable economic growth, and there appears to be more of a flavour of wellbeing in the aims of these devolved governments than currently appears in UK government thinking. For example, the purpose of the Scottish Government is: 'To focus government and public services on creating a more successful country, with opportunities for all of Scotland to flourish, through increasing sustainable economic growth' (Scottish Government website, see Annex).

There are developments to measure national wellbeing and progress in both Scotland ('Scotland Performs' – see Annex) and Wales. Both use outcome indicators (eg 'how is Wales doing?') and tracking indicators ('how is the Welsh Government doing?' – see Annex). In Northern Ireland the initiative seems mainly with the Carnegie UK Trust's roundtable on measuring what matters (see Annex). This builds on work in Scotland and in partnership with other non-governmental organisations, a powerful reminder that it is not only governments which are involved in moving beyond GDP.

The initiatives listed across the UK are essentially separate, although with some liaison. There is a broader issue here: international comparability of national wellbeing measures. UN fundamental principles for official statistics (see Annex) call for statistical agencies in each country to use international concepts, classifications and methods in order to promote consistency and efficiency of statistical systems at all official levels. However, this does need to be followed thoughtfully if a requirement for international comparability of national wellbeing is not to overwrite national requirements. The 2007 Istanbul Declaration treads this line carefully, but there still needs to be care in co-operatively developing

international standards and guidance on this topic, so that national approaches can evolve to meet national needs, as well as support international comparisons and aggregation.

Trewin and Hall (2010, p10) point out that any specific country is likely to want to measure some aspects of wellbeing which are not included in standard international measures. This means we could end up with several views of the wellbeing of a nation – the nationally derived measure, assessments made by other nations according to their own criteria of what matters, and what international organisations come up with, using criteria that are common across nations. It feels like quite a complex process is needed to reach an accepted set of dimensions for international comparability, and this process needs to recognise that national needs may well require different measures. One parallel is with multiple UK price indices, each serving a different purpose and including one designed to provide a consistent measure of inflation across Europe (Evans and Restieaux, 2013, p17).

8. Concluding remarks

Happiness and wellbeing have long featured in politics and in public policy (see for example Allin and Hand, 2014, Chapter 2 for ‘a short history’). Measurement programmes such as the ONS MNW programme can only be understood by exploring the motivation for measuring wellbeing and particularly the role of wellbeing in formulating and analysing public policy.

The announcement by the Prime Minister in November 2010 signalled a policy shift, to measuring wellbeing in UK national official statistics, and the wider implications of this shift are taking time to appear. Some government policies were of course already engaged with wellbeing, particularly to link health with individual wellbeing, but in other areas progress is not so easy to spot. However, although national wellbeing is less in the headlines than it was at the start, there are several building blocks now in place to support wellbeing in policy, such as the Green Book update, legislation on public value in procurement and the Legatum Institute Commission’s report.

Bache and Reardon (2013, p14) reviewed the emergence of wellbeing as a political concept in the UK Government, concluding that a paradigm shift may be taking place, especially through the ONS MNW programme, and that wellbeing ‘remains on the government agenda’. However, they also conclude that more action is required by those who support and sponsor policy inside government. Elsewhere, Bache (2013, p35) has noted the point we made above, that it is wellbeing *measurement* that is developing more than wellbeing *policy* internationally: ‘At the statistical level, there is evidence that a paradigm

shift may be taking place within the EU and beyond, in which GDP sits less dominantly alongside other indicators in measuring societal progress ... However, while developments to date are significant, there are statistical issues to be finessed and important political advances to be made if a paradigm shift is to be witnessed at the policy level’.

We called this paper ‘new statistics for old’ for several reasons. There is an element of newness about measures of national wellbeing. The ONS is taking forward the MNW programme to develop new measures, although many of them are drawn from existing statistics. But this is not the first time that attention has been paid to wider measures of progress and wellbeing. If we are to go beyond the ‘old’, or at least well established, national accounts measures then we must understand how new measures will be used in addition to GDP. As we have said, this is not about replacing GDP but recognising what it measures, and what is not covered by it, so that it can be supplemented by other measures.

This brings us back to one of our unresolved issues. The ONS programme is about a set of measures, not a single number. For all the complexity and detail in the national accounts, it is currently the single headline number GDP that is almost invariably taken as the summary measure. One way forward might be to have a single national wellbeing headline number, derived from all the dimensions of the national wellbeing framework *including* the economy. Would this support the reporting and discussion of how the country is doing in a way different from only following the economic path? We suspect that, without a single national wellbeing number, the hegemony of GDP will never successfully be challenged.

The ONS continues to publish GDP and other economic measures as well as now developing wider measures of national wellbeing and progress. We may be starting to acquire better measures, but are we still thinking mainly in terms of economic conditions and benefits, whether in politics, policy or everyday life? What more is needed to change how we understand how the country is doing, beyond our economic performance? What real progress are we making and what sort of world are we handing on to future generations?

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References

- Abdallah S. and Shah S. (2012) *Well-being patterns uncovered: An analysis of UK data*. new economics foundation, London.
- Allin P. (2007) Measuring societal wellbeing. *Economic & Labour Market Review*. Office for National Statistics. Vol 1(10), 46-52.
- Allin P. (2014) Measuring Wellbeing in Modern Societies. In P.Y.Chen and C.L. Cooper (eds.) *Work and Wellbeing: Wellbeing: A Complete Reference Guide, Volume III*. John Wiley & Sons, New York, 409-465.
- Allin P. and Hand D.J. (2014) *The Wellbeing of Nations: Meaning, motive and measurement*. John Wiley & Sons, New York.
- Bache I. (2013) Measuring quality of life for public policy: an idea whose time has come? Agenda-setting dynamics in the European Union, *Journal of European Public Policy*, 20:1, 21-38.
- Bache I. and Reardon L. (2013) An idea whose time has come? Explaining the rise of well-being in British politics, *Political Studies* . <http://onlinelibrary.wiley.com/doi/10.1111/1467-9248.12001/abstract;jsessionid=80F08AF389E4380B8EB4429346B756B5.d03t02> downloaded 29 September 2014.
- Beaumont J. (2011) *Measuring National Well-being, Discussion paper on domains and measures*, UK Office for National Statistics, <http://www.ons.gov.uk/ons/rel/wellbeing/measuring-national-well-being/discussion-paper-on-domains-and-measures/measuring-national-well-being---discussion-paper-on-domains-and-measures.html> downloaded 24 July 2013.
- Bentham J. (1781/2000) *An Introduction to the Principles of Morals and Legislation*. Batoche Books, Kitchener.
- Bond T.N. and Lang K. (2014) The sad truth about happiness scales. NBER Working Paper No. 19950, <http://www.nber.org/papers/w19950>, downloaded 31 October 2015.

- Cameron D. (2010) The next age of government.
http://www.ted.com/talks/david_cameron.html downloaded 17 October 2013.
- Cameron D. (2010a) PM's speech on creating a 'new economic dynamism' at
<https://www.gov.uk/government/speeches/pms-speech-on-creating-a-new-economic-dynamism> downloaded 17 October 2013.
- Cameron D. (2010b) PM's speech on wellbeing at
<https://www.gov.uk/government/speeches/pm-speech-on-wellbeing> downloaded 17 October 2013.
- Cummins R.A. (2009) Measuring population happiness to inform public policy. The 3rd OECD World Forum on 'Statistics, Knowledge and Policy', *Charting Progress, Building Visions, Improving Life*, Busan, Korea, 27-30 October.
- Defra (2013) *Sustainable Development Indicators July 2013*.
<https://www.gov.uk/government/publications/sustainable-development-indicators-sdis> downloaded 8 January 2014.
- Diener E., Inglehart R. and Tay L. (2013) Theory and Validity of Life Satisfaction Scales. *Soc. Indic. Res.*, 112, 497–527, DOI 10.1007/s11205-012-0076-y
- Dolan P., Layard R. and Metcalfe R. (2011) *Measuring subjective wellbeing for public policy: recommendations on measures*. Special Paper No. 23, March 2011, Centre for Economic Performance, London School of Economics.
- Evans B. and Restieaux A. (2013) *Users and uses of consumer price inflation statistics*. Office for National Statistics, at <http://www.ons.gov.uk/ons/guide-method/user-guidance/prices/cpi-and-rpi/index.html> downloaded 9 April 2014.
- Fayers P.M. and Hand D.J. (2002) Causal variables, indicator variables, and measurement scales, with discussion. *Journal of the Royal Statistical Society, Series A*, **165**, 233-261.
- Hall J., Giovannini E., Morrone A. and Ranuzzi G. (2010) *A Framework to Measure the Progress of Societies*, Statistics Directorate Working Paper No. 34, STD/DOC(2010)5, OECD, Paris.
[http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=std/doc\(2010\)5&docLanguage=En](http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=std/doc(2010)5&docLanguage=En) downloaded 29 September 2014.
- Hand D.J. (2004) *Measurement Theory and Practice: The World Through Quantification*. Wiley, London.

Hicks S. (2011) *Spotlight on: Subjective Well-being*, Office for National Statistics. Available at <http://www.ons.gov.uk/ons/rel/social-trends-rd/social-trends/spotlight-on-subjective-well-being/index.html> downloaded 29 September 2014.

Hicks S., Tinkler L. and Allin P. (2013) Measuring Subjective Well-Being and its Potential Role in Policy: Perspectives from the UK Office for National Statistics. *Soc. Indic. Res.*, 114, 73-86, DOI 10.1007/s11205-013-0384-x

HM Treasury (2010) *Budget 2010 (HC61)*, The Stationery Office, London.

HM Treasury (2011) *The Green Book: Appraisal and Evaluation in Central Government*. Available at <https://www.gov.uk/government/publications/the-green-book-appraisal-and-evaluation-in-central-government> downloaded 5 October 2015.

HM Treasury (2013) *Annual Report and Accounts 2012-13*. The Stationery Office, London. Available at https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/212752/hmtreasury_annual_report_and_accounts_201213.pdf downloaded 24 October 2013.

Huppert F.A. and So T.T.C. (2013) Flourishing Across Europe: Application of a New Conceptual Framework for Defining Well-Being. *Social Indicators Research*, 110, 837–861.

Johns H. and Ormerod P. (2007) *Happiness, Economics and Public Policy*. The Institute of Economic Affairs, London.

Johnson L.B. (1964) The Great Society Speech, 22 May 1964, available at http://www.emersonkent.com/speeches/the_great_society.htm downloaded 30 March 2015.

Kennedy R.F. (1968) University of Kansas Address, 18 March 1968, available at http://www.youtube.com/watch?v=z7-G3PC_868 (quote starts at 16.22 minutes) downloaded 26 July 2013.

Levy S. (2013) *How ONS pension statistics are used*. Office for National Statistics. Available at <http://www.ons.gov.uk/ons/guide-method/method-quality/guide-to-pension-statistics/users-of-ONS-pension-statistics/index.html> downloaded 28 August 2014.

Local Government Lawyer (2013) Cabinet Office issues advice on Public Services (Social Value) Act 2012. http://www.localgovernmentlawyer.co.uk/index.php?option=com_content&view=article&id=12764%3Acabinet-office-issues-advice-on-public-services-social-value-act-2012&catid=53&Itemid=21 downloaded 31 July 2013.

Morris R.J., Smout T.C. and Withers C.W.J (no date) *Scotland, Statistics and Happiness: A short introduction to the Statistical Accounts of Scotland*. Available at <http://stat-acc-scot.edina.ac.uk/sas/sas.asp?action=public> downloaded 28 August 2014.

Moser C. (2000) *Foreword* in Social Trends 30, Office for National Statistics, London.

nef (2011) *Measuring Our Progress: The Power of Well-Being*. New Economics Foundation. http://dnwssx4l7gl7s.cloudfront.net/nefoundation/default/page/-/files/Measuring_our_Progress.pdf downloaded 2 August 2013.

National Assembly for Wales (2015) *Well-being of Future Generations (Wales) Act 2015*. <http://www.legislation.gov.uk/anaw/2015/2/contents/enacted> downloaded 13 May 2015.

O'Donnell G., Deaton A., Durand M., Halpern D. and Layard R. (2014) *Wellbeing and Policy*. Legatum Institute. <http://www.li.com/programmes/commission-on-wellbeing-policy>

OECD (2007) *The Istanbul Declaration*, published at <http://www.oecd.org/newsroom/38883774.pdf> downloaded 23 September 2014.

OECD Statistics Directorate (2013) *Measuring well-being and progress*. Organisation for Economic Cooperation and Development, Paris. <http://www.oecd.org/statistics/measuringwell-beingandprogress.htm> downloaded 8 January 2014.

OECD (2013a) *Guidelines on Measuring Subjective Well-Being*. Organisation for Economic Cooperation and Development, Paris.

ONS (2011) *Measuring what matters: National Statistician's reflections on the National Debate on Measuring National Well-being*. Office for National Statistics, UK. <http://www.ons.gov.uk/ons/guide-method/user-guidance/well-being/publications/previous-publications/index.html> downloaded 29 September 2014.

ONS (2012) *Initial Findings from the Consultation on Proposed Domains and measures of national well-being*, Office for National Statistics, UK. <http://www.ons.gov.uk/ons/guide-method/user-guidance/well-being/publications/previous-publications/index.html> downloaded 20 September 2014.

ONS (2012a) *Summary of results from testing of experimental Subjective Well-being questions - December 2012*. Office for National Statistics, UK. <http://www.ons.gov.uk/ons/guide-method/user-guidance/well-being/about-the->

[programme/advisory-groups/well-being-technical-advisory-group/testing-of-experimental-subjective-well-being-questions---3-december-2012.pdf](#) downloaded 5 July 2014.

ONS (2012b) *First annual ONS experimental subjective well-being results*. Office for National Statistics, UK. http://www.ons.gov.uk/ons/dcp171766_272294.pdf downloaded 6 July 2014.

ONS (2013) *Personal Well-being in the UK, 2012/13*. Office for National Statistics, UK. http://www.ons.gov.uk/ons/dcp171778_319478.pdf, downloaded 7 May 2015.

Sinclair J (1791-99) *Statistical Account of Scotland*. <http://stat-acc-scot.edina.ac.uk/sas/sas.asp?action=public> downloaded 27 August 2014.

Spence A, Powell M. and Self A. (2011) *Developing a Framework for Understanding and Measuring National Well-being*, Office for National Statistics, UK. <http://www.ons.gov.uk/ons/guide-method/user-guidance/well-being/publications/previous-publications/index.html> downloaded 17 October 2013.

Powdthavee N., Lekfuangfub W.N., and Wooden M. (2015) What's the good of education on our overall quality of life? A simultaneous equation model of education and life satisfaction for Australia. *Journal of Behavioral and Experimental Economics*, **54**, 10-21.

Spencer H. (2012), *The Principles of Ethics*, Cambridge University Press, Cambridge.

Stiglitz J.E., Sen S., and Fitoussi J-P. (2010) *Mismeasuring our lives: why GDP doesn't add up*. The New Press, New York.

Stiglitz J.E., Sen S., and Fitoussi J-P. (2010a) *Report of the Commission on the Measurement of Economic Performance and Social Progress* at http://www.stiglitz-sen-fitoussi.fr/documents/rapport_anglais.pdf downloaded 23 September 2014.

Tinkler L. and Hicks S. (2011) *Measuring Subjective Well-being*. Supplementary paper to the National Statistician's Reflections on the National Debate on Measuring National Well-being. Office for National Statistics, UK. <http://www.ons.gov.uk/ons/guide-method/user-guidance/well-being/publications/previous-publications/index.html> downloaded 13 September 2013.

UK Parliament (2012) *Public Services (Social Value) Act*. <http://www.legislation.gov.uk/ukpga/2012/3/introduction/enacted> downloaded 10 December 2013.

UK Statistics Authority (2014) *Assessment of compliance with the Code of Practice for Official Statistics: Statistics on Personal Well-being (produced by the Office for National Statistics)*. Assessment Report 277 at <http://www.statisticsauthority.gov.uk/assessment/assessment/assessment-reports/index.html> downloaded 19 October 2014.

UK Statistics Authority (2014a) *Assessment of compliance with the Code of Practice for Official Statistics: Short-Term Economic Output Indicators: Preliminary Estimate of GDP, and Indices of Production and Services (produced by the Office for National Statistics)*. Assessment Report 278 at <http://www.statisticsauthority.gov.uk/assessment/assessment/assessment-reports/index.html> downloaded 28 August 2014.

UN (2015) *Transforming our world: the 2030 Agenda for Sustainable Development*, at <https://sustainabledevelopment.un.org/post2015/transformingourworld> downloaded 7 October 2015.

Verwayen H. (1984) Social indicators: actual and potential uses. *Social Indicators Research*, 1984, vol,14, p1-17.

Annex: Other websites consulted (all accessed 23 September 2014)

Carnegie UK Trust's roundtable on measuring what matters
<http://www.carnegieuktrust.org.uk/changing-minds/enterprise-and-society/measuring-progress,-measuring-wellbeing>

Measuring National Well-being Programme <http://www.ons.gov.uk/ons/guide-method/user-guidance/well-being/index.html>)

Organisation for Economic Cooperation and Development <http://www.oecd.org/about/>

OECD's Better Life Index <http://www.oecdbetterlifeindex.org>

Scottish Government <http://www.scotland.gov.uk/About> and indicators
<http://www.scotland.gov.uk/About/Performance/scotPerforms>

Statistics User Net, National Well-being Community

<http://www.statsusernet.org.uk/StatsUserNet/Communities/ViewDiscussions/DigestViewer/?GroupId=121&UserKey=9eab297f-5e96-4075-abde-47cd083354fd>

UN fundamental principles for official statistics

<http://unstats.un.org/unsd/dnss/gp/fundprinciples.aspx>

Welsh Government <http://wales.gov.uk/about/programmeforgov/environment/?lang=en> and tracking indicators

<http://wales.gov.uk/about/programmeforgov/environment/performance?lang=en>