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Paper 5

**Social Impacts and Wellbeing:
multi-criteria analysis
techniques for integrating non-
monetary evidence in valuation
and appraisal**

**A discussion of current
approaches and opportunities**

**A paper for the Social Impacts
Taskforce**

Summary

**Simon Maxwell
Davina Henderson
Rachel McCloy
Gemma Harper**

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Department for Environment, Food and Rural Affairs
Nobel House
17 Smith Square
LONDON SW1P 3JR
Telephone 020 7238 6000
Website: <http://www.defra.gov.uk>

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Social Impacts and Wellbeing: multi-criteria analysis techniques for integrating non-monetary evidence in valuation and appraisal

Simon Maxwell, Davina Henderson, Rachel McCloy and Gemma Harper¹

Summary

Background

Social impacts and the consequences of policies for wellbeing have been acknowledged by the Prime Minister as essential to measuring how lives are improving, in addition to the established indicators of economic progress. This emphasis on quality of life - and its relation to how the economy grows - is central to the new independent measures of national wellbeing, that are being developed by the Office of National Statistics (ONS), and commensurate work, led by the Cabinet Office, to understand how government policies contribute to wellbeing. Assessing the social, as well as the economic and environmental, impacts of policies at the appraisal stage is therefore critical, and it is the Prime Minister's view that taken together initiatives such as these 'may be the most quietly radical things this government is doing'². This approach requires a systematic way of taking into account all of the impacts that policies are likely to have on individuals, communities or societies. Measuring subjective wellbeing at a national level will give some indication of how satisfied people feel overall. Government needs a balanced framework of subjective and objective measures of wellbeing if policy is going to deliver positive social

¹ Simon Maxwell is a social researcher in Natural Environment Economics, Davina Henderson is a social researcher in Strategic Evidence, Rachel McCloy is a research fellow in Strategic Evidence, and Gemma Harper is Chief Social Researcher at the UK Department for Environment, Food and Rural Affairs (Defra). The authors are grateful to Michele Pittini and Helen Dunn, Natural Environment Economics, Defra, and to members of the Social Impacts Taskforce for their constructive comments, insight and support.

² Prime Minister's speech on 'Building a bigger, stronger society', 23rd May 2011 - http://www.conservatives.com/News/Speeches/2011/05/David_Cameron_Building_a_bigger_stronger_society.aspx

impacts. Indicators and measures that are directly linked to departmental policies are, therefore, essential to understanding how social impacts, arising from government action, affect people's lives, and, in turn, how that evidence can be integrated into the way government designs policy.

Sustainability, social impacts and wellbeing

This paper addresses how to assess and integrate evidence of social impacts and wellbeing into valuation and appraisal using multi-criteria analysis (MCA). It draws on the HMT Green Book guidance on appraisal and evaluation, which describes MCA as '[T]he most common technique used to compare both unvalued costs and benefits' (HMT, 2003; 35), the HMT Magenta Book guidance on evaluation, the Social Impact Taskforce's work, as well as Defra's, and wider work, on environmental valuation.

The environmental policy area is an example where considerable effort has been invested over a few decades to expand the boundaries of policy assessments beyond market impacts. Recent landmark studies such as The Economics of Ecosystems and Biodiversity (TEEB)³ and the UK National Ecosystem Assessment (NEA)⁴ have demonstrated that reflecting the full value of the natural environment in policy decisions is essential for prosperity and wellbeing, now and in the future. This is also UK Government policy as set out in the 2011 Natural Environment White Paper⁵. In order to accomplish this we are using, and developing, a range of tools and techniques that can add value in different circumstances. Economic valuation techniques are now well established, and have an essential role to play for incorporating the value of marginal changes in environmental quality or ecosystem services in social cost-benefit analysis. However, too often, when valuation is not applied to them the implicit value attributed to social or environmental impacts is zero. In some cases, monetary valuation alone cannot provide a meaningful or complete picture of the costs or benefits of a given policy change and the use of non-monetary evidence may be more appropriate. For example, there are limits in our understanding of the links between biodiversity and the ecosystem service it

³ <http://www.teebweb.org>

⁴ <http://uknea.unep-wcmc.org>

⁵ HM Government (2011). The Natural Choice: securing the value of nature. London, Stationery Office. <http://www.defra.gov.uk/environment/natural/whitepaper>

provides, as well as limits to our capacity to value biodiversity as a service in itself.

Defra has been developing plural approaches to environmental valuation, at least since publication of our introductory guide for valuing ecosystem services, which argued that '[T]he choice is not a case of either economic or non-economic valuation methods but of using a combination of both, as required by the context of the decision' (Defra, 2007; 35⁶). We have taken this forward more recently through our review of participatory and deliberative approaches to valuation⁷, the NEA, and our work on a natural capital asset check, one of the commitments in the recent Natural Environment White Paper (HM Government, 2011; 36).

Methods for taking better account of the social impacts and the wellbeing implications of a broader range of policies have many similarities with techniques needed for environmental valuation. Many aspects of social impacts and wellbeing do not have ready market values and are difficult to measure, and policy actions taken now may play out over long periods of time. As part of their work on measuring national wellbeing, ONS is developing multi-dimensional measures of wellbeing, fairness and sustainability^{8,9}. Other key wellbeing literature, such as the Stiglitz report (2009)¹⁰, also views sustainability as central to wellbeing. Techniques developed for environmental valuation are, therefore, directly relevant to assessing social impacts and the consequences of policies for wellbeing.

A key issue for policy appraisal is that policy makers need robust evidence linking social impacts and wellbeing with particular policy interventions, and to

⁶ Defra (2007). An introductory guide to valuing ecosystem services. Defra, London.

<http://www.defra.gov.uk/environment/natural/ecosystems-services/valuing-ecosystem-services>

⁷ Fish *et al.* (2011). Participatory and deliberative techniques to support the monetary and non-monetary valuation of ecosystem services: an introductory guide. Defra Project Code NR0124.

Defra, London. <http://randd.defra.gov.uk/Document.aspx?Document=NR0124.pdf>

⁸ ONS (2011). Measuring national well-being: measuring what matters. National Statistician's reflections on the National Debate on Measuring National Well-being. ONS, Newport.

<http://www.statistics.gov.uk/articles/nojournal/ns-report-eng.pdf>

⁹ ONS (2011). Measuring national well-being - discussion paper on domains and measures. ONS, Newport. http://www.ons.gov.uk/ons/dcp171766_240726.pdf

¹⁰ http://www.stiglitz-sen-fitoussi.fr/documents/rapport_anglais.pdf

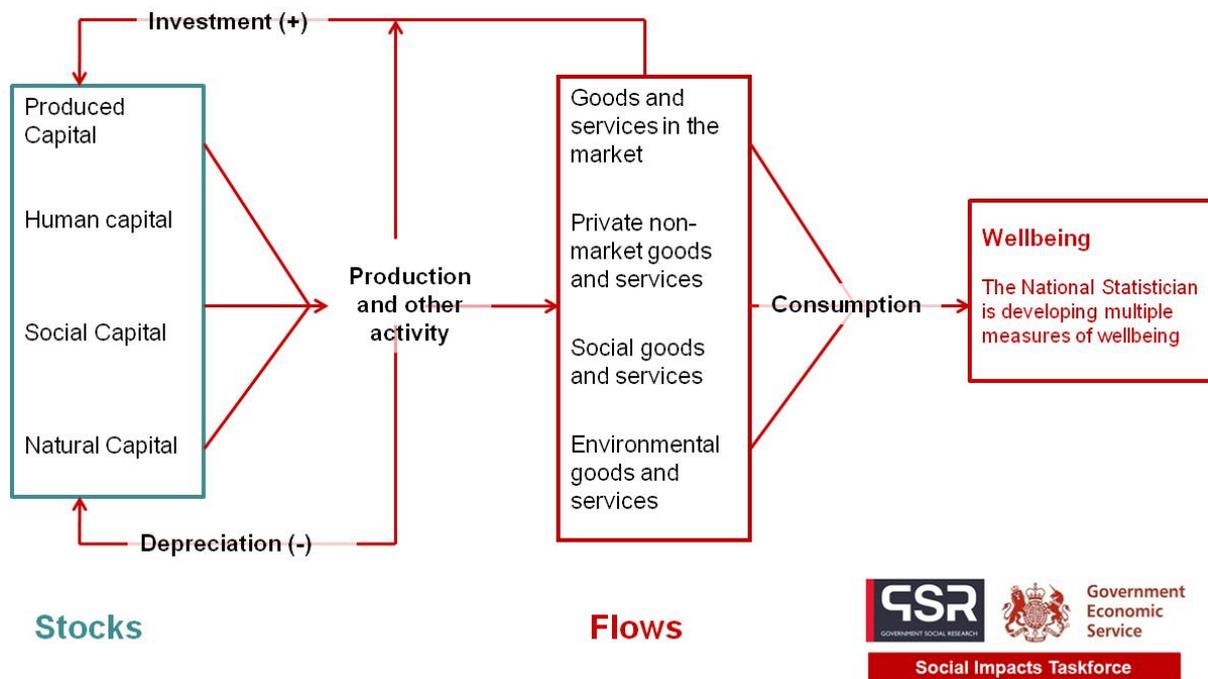
be able to demonstrate causal links and attribution. This is a particular challenge that is likely to need both quantitative and qualitative approaches. New evidence can be collected at the appraisal stage, but will also need to draw on evaluations of previous interventions. The required body of evidence linking social impacts and wellbeing to policy interventions is likely to take a significant period of time to establish, although quick wins should be identified and maximum use made of existing evidence. The principles and methods set out in the HMT Magenta Book¹¹ will be useful in the design of data collection tools in policy appraisal as well as in policy evaluation.

A framework for understanding social impacts

The Social Impacts Taskforce was set up by Government Social Research (GSR) and Government Economic Service (GES) to improve consistency in how departments in UK Government treat social impacts of policies in decision-making. A framework for understanding the social impacts and their effects on wellbeing (Harper and Price, 2011) was developed by the Taskforce. It drew on Price *et al.*'s (2010) review of the economics of sustainable development and argued for a 'capitals approach', which focuses on ensuring 'that the stocks of capital (produced, human, social, natural) are maintained so that the potential for wellbeing is non-declining over time' (Harper and Price, 2011; 4). For these purposes, social impacts were defined as 'encompassing marketed and non-marketed goods and services, but focus on impacts on society which are not traded explicitly and are essential for capturing the true costs and benefits of policies, including their effects on wellbeing' (Harper and Price, 2011; 5). The framework illustrates that the balance of asset depletion and investment determines the extent to which the stocks of produced, human social and natural capital are maintained (see Figure 1).

¹¹ http://www.hm-treasury.gov.uk/data_magentabook_index.htm

Figure 1 A framework for the social impacts of policy and their effects on wellbeing



The paper stated the importance of including both qualitative and quantitative evidence in analysis of social impacts. Indeed, the National Audit Office report, *Option appraisal: making informed decisions in government*¹² concluded that unstructured qualitative analysis is one of the main weaknesses in current appraisal. While qualitative arguments were influential in a large proportion of cases examined, few followed guidance on ways to structure that analysis, or applied a qualitative structure consistently to all options considered. Making more systematic use of qualitative and quantitative non-monetary evidence in the assessment of social impacts can be particularly useful where there are very diverse views across different segments of the population.

Non-market social impacts

Harper and Price (2011) highlighted that for those impacts for which market prices are available, the Green Book recommends that these prices are used to

¹² NAO (2011). *Option appraisal: making informed decisions in government*. NAO, London. http://www.nao.org.uk/publications/1012/option_appraisal.aspx

represent the opportunity cost of the resources involved. While monetisation of impacts of policies is the focus of the Green Book, it is also clear that 'wider social and environmental costs and benefits for which there are no market prices also need to be brought into any assessment' (HMT, 2003; 19). The updated version of the Green Book (HMT, 2011; 57) describes the role of the valuation of non-market impacts as 'challenging but essential' and provides an overview of techniques for valuing non-market impacts, drawing on Fujiwara and Campbell's (2011)¹³ discussion paper. Both the market based approaches – stated preference and revealed preference – and the other approaches, including life satisfaction – are techniques that help estimate monetary values. They allow comparison of the impact of non-market goods or services across policy areas. Fujiwara and Campbell (2011) provide a comprehensive assessment of these economic techniques, their applicability and limitations. They describe the preference-based approaches as being 'based on the premise that people have well-defined pre-existing preferences and values for all goods and services' (p.10), and contrast this with the non-preference approach – Life Satisfaction – which 'estimates the value of non-market goods by looking at how they impact on people's reported well-being' (p.10). The Green Book suggests that, as it is an evolving method, subjective wellbeing measurement used in the life satisfaction approach, is not yet robust enough for using in social cost-benefit analysis. However, it does state that it will be important in 'ensuring that the full range of impacts of proposed policies are considered' (p.58) and 'give us a better idea of the relative value of non-market goods' (Fujiwara and Campbell, 2011; 5). Work across government on non-market social impacts and wellbeing aims to strengthen measurement to improve social cost-benefit analysis and decision-making.

Even when monetisation of non-market goods is possible, significant uncertainty may remain. Uncertainty may be inevitable due to the nature of the impacts (e.g., climate change impacts), or may result from difficulty in designing research methods and instruments that enable impacts to be identified and monetised with confidence. Large ranges for monetised impacts limits their usefulness in policy appraisal and/or development. In these cases,

¹³ Fujiwara and Campbell (2011). Valuation techniques for social cost-benefit analysis: stated preference, revealed preference and subjective well-being approaches. A discussion of the current issues. HM Treasury and DWP, London. http://www.hm-treasury.gov.uk/d/green_book_valuationtechniques_250711.pdf

non-monetary evidence can complement monetary approaches, to give a broader, more comprehensive, assessment.

It is worth noting that non-monetised impacts have been incorporated into recent Regulatory Policy Committee guidance (RPC, 2011; 21¹⁴) which states 'We will Green flag an IA if the non-monetised impacts are assessed using established techniques and frameworks' The guidance describes such techniques as including, for example, 'Appraisal Summary Tables, Scoring and Weighting, or Multi-Criteria Analysis'.

Individual versus social value

There is considerable evidence from the NEA that, when considering goods where the benefits accrue to society or to the community, people consider these in very different ways depending on whether they are in a group or individual situation. This implies that assessing values for goods of this type purely from individual responses (e.g. willingness to pay surveys) may not capture the full or true value of the good. The review undertaken by Fish *et al.* (2011)¹⁵ describes how deliberative monetary valuation (DMV) aims to integrate stated preference (SP) with deliberation, although the precise methods vary with context and the objectives of the study. Fish *et al.* (2011; 10) highlight that 'A fundamental distinction within DMV is whether the process is designed to elicit the same values as the conventional SP technique (i.e. individual WTP/A estimates) or those based on an aggregate social value for change (i.e. social WTP/A estimates)'. In the shared values chapter of the NEA, Fish *et al.* (2011; 1184)¹⁶ argue that both individual and group-based values are valid, and conclude that 'hybrid valuation techniques, such as deliberative monetary valuation and participatory multi-criteria analysis, hold much promise for systematic and integrated treatment of utilitarian, ethical and aesthetic considerations'.

¹⁴ RPC (2011). Rating Regulation: An independent report on the analysis supporting regulatory proposals, January-June 2011. RPC, London.

<http://regulatorypolicycommittee.independent.gov.uk/wp-content/uploads/2011/09/Rating-Regulation-July-2011-FINAL-A.pdf>

¹⁵ Fish *et al.* (2011). See 7

¹⁶ Fish *et al.* (2011). Shared values for the contributions ecosystem services make to human well-being. In: UK National Ecosystem Assessment. The UK National Ecosystem Assessment: Technical Report. UNEP-WCMC, Cambridge. <http://uknea.unep-wcmc.org/Resources/tabid/82/Default.aspx>

However, it should be noted that while these techniques offer potential, they are exploratory. Some of the concepts and approaches need to be refined further, and additional work is required to test their application in different contexts.

Stakeholder participation and deliberation

The Green Book emphasises the importance of stakeholders and that appraisal should be carried out collaboratively wherever possible (HMT, 2003; 7). In relation to MCA, the Green Book states that the weighting of factors that are thought to be important cannot be decided by 'experts', and should incorporate the judgments of stakeholders and decision-makers (HMT, 2003; 35). While the emphasis on stakeholders is relevant to the approach advocated in this paper, it is important to consider all these groups in the decision-making process, in order to mitigate the risk of un-evidenced opinions or particular interest groups carrying undue weight in the decision-making process. This is particularly important for social impacts and wellbeing analysis, since different groups in society may attribute different weights and scores to different criteria and options. However, the Green Book gives little guidance on methods for involving stakeholders in appraisal.

There are a range of reasons for involving stakeholders in policy and decision-making. First, advocates argue that by including a wide range of perspectives and views, decisions will be more informed and therefore better. Fish *et al.* (2011) argue that participation ensures that a problem or issue is opened up to a variety of opinions, views and perspectives, and brings broader and deeper expertise to decision-making. Secondly, participatory decision-making processes can help stimulate wider civil engagement, offer participants a voice in the political process and help improve trust. Furthermore, civic engagement, political voice, trust in institutions and governance are themselves important constituents of wellbeing (for example, Dolan and White, 2006; Defra; 2007; Stiglitz, *et al.*, 2009, etc.).

Stakeholder participation and deliberation also offers the potential for learning in the appraisal process, by providing an opportunity for policy and decision-makers, stakeholders and other experts to come together to share views and information and assess the merits of different options. They may be

appropriate at the consultation stage of the Impact Assessment process as well as the final stage. Owens *et al.* (2004)¹⁷ suggest that an important role for appraisal may be that of providing these kinds of spaces for dialogue and learning in policy and decision-making. Participatory methods can be used to elicit monetary or non-monetary values and can be expert- or layperson-led, depending on the circumstances.

Integrating non-monetary evidence

The Green Book concludes its discussion of valuing non-market impacts by stating that ‘there may always remain significant impacts that cannot sensibly be monetised’ and that they ‘should clearly be taken into account in the presentation of any appraisal or evaluation’ (HMT, 2003; 58). Indeed, Church *et al.* (2011) argue that it is not appropriate to value everything in monetary terms, for example, ethical and aesthetic principles¹⁸.

This paper complements the Green Book, Fujiwara and Campbell’s discussion paper and the CLG manual on multi-criteria analysis¹⁹, by discussing the different forms of MCA that can be used alongside monetary valuation to give a fuller picture of the range of policy impacts. The paper is also consistent with Kerry Turner’s ‘balance sheets approach’ to policy appraisal, developed as part of the natural capital asset check, which aims to provide a framework within which highly contested policy issues can be appraised²⁰. It can also be considered in light of the Magenta Book, which provides guidance on how evaluation should be designed and undertaken. The new guidance highlights that the ability to obtain good evaluation evidence depends on the design and implementation of the policy as it does on the design of the evaluation. The evaluation guidance signals an important connection between the treatment of

¹⁷ Owens *et al.* (2004). New agendas for appraisal: reflections on theory, practice, and research. *Environment and Planning A* 36, 11, 1943-1959

¹⁸ Church *et al.* (2011). Cultural Services. In: UK National Ecosystem Assessment. The UK National Ecosystem Assessment: Technical Report. UNEP-WCMC, Cambridge. <http://uknea.unep-wcmc.org/Resources/tabid/82/Default.aspx>

¹⁹ CLG (2009). Multi-criteria analysis: a manual. CLG, London. <http://www.communities.gov.uk/publications/corporate/multicriteriaanalysismanual>

²⁰ Turner R (2011). A pluralistic approach to ecosystem assessment and evaluation. Defra, London. <http://www.defra.gov.uk/naturalcapitalcommittee/files/ncc-assetcheck-03.pdf>

social impacts and wellbeing at both the appraisal and evaluation stages of the policy cycle, in that they should be taken into consideration in the design and appraisal of policy options, and empirical evidence from evaluation of social impacts and the consequences of policy for wellbeing, rather than assumptions, should be the standard input to cost-benefit analysis that informs impact assessments and policy decisions.

The paper sets out a five step approach for integrating non-monetary social impacts and wellbeing evidence in valuation and appraisal (see Figure 2). It is primarily intended for use by policy makers and analysts in Government and others undertaking valuation and appraisal to assess social impacts and the consequences of policy for wellbeing. It provides guidance where there is:

- Insufficient data available to monetise all impacts
- Uncertainty in the monetary values
- Costs or benefits that include diverse impacts on different social groups

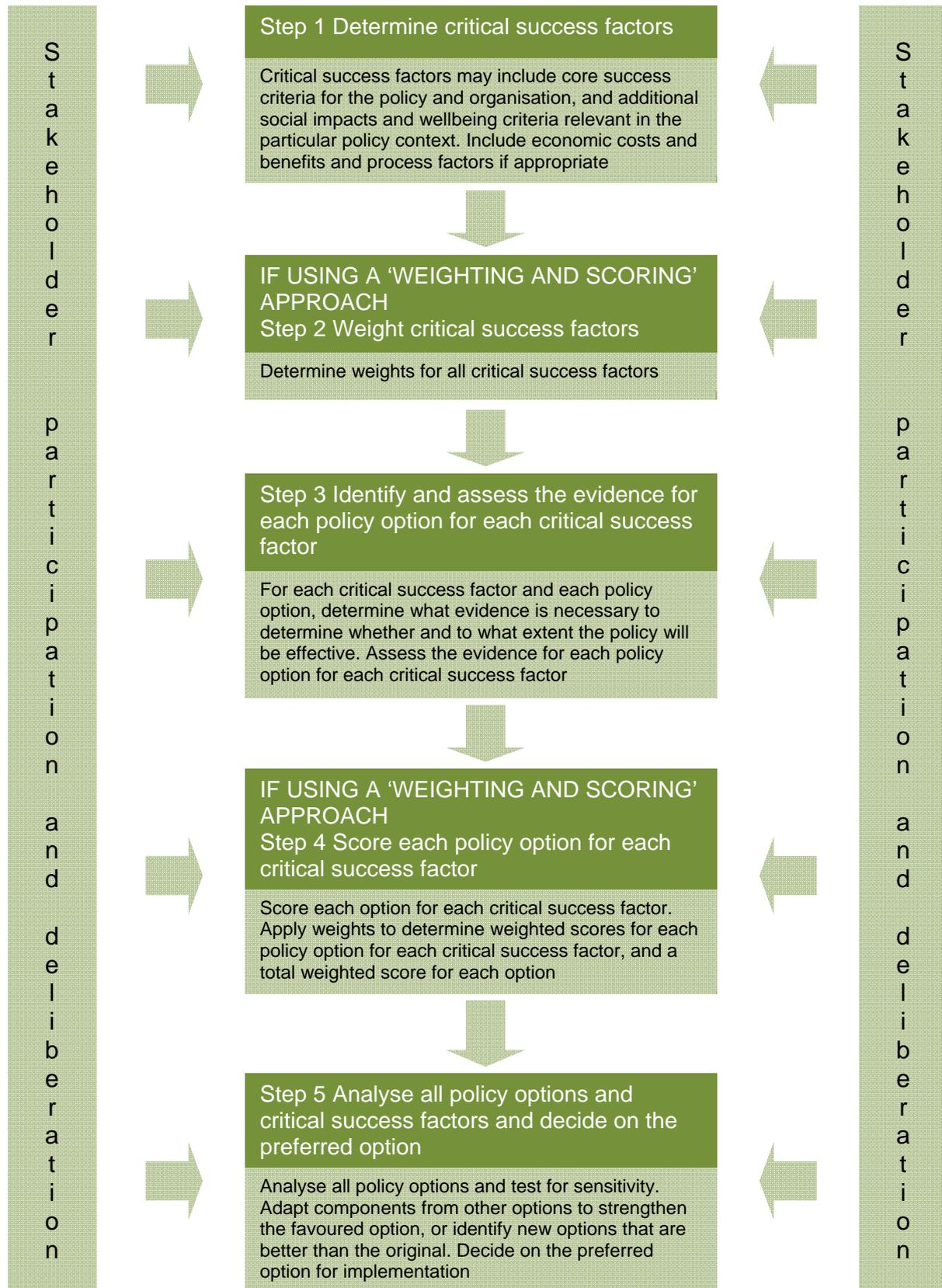
The five step approach has the following key characteristics:

- **A multi-criteria analysis framework**, involving structured identification and assessment of the ways in which policy options are intended to, and are likely to, achieve specific social impacts and what the consequences of policies may be for wellbeing. Some of the relevant impacts may be assessed as part of existing valuation and appraisal processes, but some may not be fully taken into account at present. The MCA framework allows integration of monetary, quantitative and qualitative data.
- **More systematic and integrated use of quantitative and qualitative evidence.** This is important in a social impacts and wellbeing context, with increasing volumes of quantitative subjective wellbeing data becoming available. Qualitative evidence is also particularly important in understanding the detailed social impacts of particular policies, and their implications for wellbeing, for different groups of people and in different places.
- **Enhanced stakeholder participation and deliberation.** Stakeholder engagement can help to bring a wider range of views to appraisal, and help ensure objectives and criteria are included that may be left out by a narrowly defined appraisal group. Social impacts and the consequences of policies for

wellbeing are complex and cut across policy areas. Deliberation can help participants improve their understanding of the issues and evidence before assessing the performance of different options. In both cases, stakeholder participation and deliberation can therefore help produce a more complete and accurate valuation. In addition, there is growing acknowledgement that there are dimensions of collective social impacts and societal wellbeing that are not adequately reflected in the sum of individual impacts. As a result, collective and shared values need to be assessed. Methods that involve participation and deliberation are more likely to enable shared values to be identified, articulated and assessed. Stakeholder participation and deliberation is also important because civic engagement, political voice, trust in institutions and governance are in themselves important constituents of wellbeing.

This approach is flexible and scalable. The full MCA process, including extensive use of external evidence and enhanced stakeholder participation and deliberation, will not be appropriate in every context. In certain circumstances, it is likely to be appropriate and proportionate for the framework to be applied as a light touch exercise with a relatively small group of decision-makers and analysts. In other circumstances, this can be combined with more systematic and integrated use of quantitative and qualitative evidence. For high risk or high profile, long term or large, complex policy issues, the full MCA approach set out here with rigorous and systematic use of evidence and enhanced stakeholder participation and deliberation may be appropriate.

Figure 2 Social impacts and wellbeing - five step approach for integrating non-monetary evidence in valuation and appraisal



Conclusions

It is challenging to identify the key social impacts and consequences for wellbeing associated with a range of policy options, over typical appraisal timescales and with robust causal links, and assess and incorporate the full individual and collective value of these impacts when making decisions. The concepts of social impacts and wellbeing are broad, causal links are difficult to establish, and some aspects of social impacts and wellbeing do not lend themselves easily to quantification as part of the appraisal process.

Where social impacts and wellbeing are likely to be significant, and where key aspects cannot easily or reliably be monetised, the paper suggests an overall approach based on MCA, as this is the most robust method identified in the Green Book for assessing non-monetary evidence. It advocates more systematic and integrated use of quantitative and qualitative evidence within the multi-criteria framework and, enhanced stakeholder participation and deliberation. There is also increasing recognition that many social impacts and the consequences of policies for wellbeing have collective dimensions, and methods which involve participation and deliberation may be more appropriate to assess associated shared and collective values. In addition, stakeholder participation and deliberation are important in social impacts and wellbeing appraisal because political voice, civic engagement and governance are themselves important constituents of wellbeing.

Overall, the techniques discussed in the paper aim to improve identification of appropriate criteria, weighting and option assessment in social impacts and wellbeing valuation and appraisal. The methods presented represent a broadening of the range of techniques typically used for valuing and appraising social impacts and wellbeing. They are intended to help integrate a greater range of quantitative and qualitative non-monetary evidence with monetised values to develop our understanding of social impacts and wellbeing, and enhance our ability to take them into account more fully in the design and evaluation of government policy.