# Accounting against the Economy: The Beyond GDP Agenda and the Limits of the "Market Mentality"

**David Yarrow**

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**Supervised by Professor Matthew Watson (Warwick), Professor Ben Clift (Warwick) and Dr Christopher Holmes (KCL)**

University of Warwick
Department of Politics and International Studies
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## Declaration

I declare that this thesis is my own work and that it has not been submitted for a degree at another university. It does not contain work published elsewhere.

## Abstract

This thesis develops a novel account of the emerging tension between economic theory and accounting practice brought about by the 'beyond GDP' agenda. Following the report of the Stiglitz Commission in 2009, the global statistical community has sought to reform accounting systems to correct for the flaws of GDP as a metric of welfare and progress. These measurement initiatives present an apparently radical challenge to the foundational assumptions of neoclassical synthesis economics. Yet the interaction between this accounting agenda and the theoretical vision of the economy which underpins the national accounts has yet to be extensively explored. After locating this deficiency in the critical assumption of an identity between accounting practice and economic rationality, the thesis draws upon the work of Karl Polanyi to ground a novel account of the politics of this agenda. Polanyi's work provides a sophisticated account of how the idea of economic growth itself was predicated on the emergence of a mode of economic thinking that equated the economy with an autonomous and self-regulating system of markets: the 'market mentality'. Drawing on official methodological sources, reports and expert interviews (at the OECD, Eurostat and the ONS), the thesis traces the numerous practical and conceptual difficulties which statisticians and accountants face in reconciling beyond GDP reforms with this market-centric vision of the economy and human nature. Analysing four prominent strands of the beyond GDP agenda – inequality measurement; the valuation of unpaid work; human and natural capital accounting; and the pricing of non-market goods – it illustrates how the practical demands of implementing these reforms are leading to an increasingly complicated and fraught relationship between national accounting practice and the theoretical vision of the economy inherited from industrial society. As accountants and statisticians are discovering, moving beyond GDP involves more than overcoming the priority placed upon economic growth in policy-making; rather, it involves problematising this broader mode of political reasoning about 'the economy' and a more fundamental re-constitution of its borders with society, nature and politics. These findings contribute to wider debates about the changing role of economic expertise in the governance of post-industrial societies, and the role of statistical representation in mediating this.

## List of Acronyms

ABM: Agent-Based Modelling

CBA: Cost-Benefit Analysis

CV: Contingent Valuation

DCLG: Department for Communities and Local Government (UK)

DCMS: Department of Culture, Media and Sport (UK)

DECC: Department for Energy and Climate Change (UK)

DEFRA: Department for Environment, Food and Rural Affairs (UK)

DGINS: Directors General of the National Statistical Institutes (EU)

DiNA: Distributional National Accounts

DMCS: Department for Media, Culture and Sport (UK)

DSGE: Dynamic Stochastic General Equilibrium

DWP: Department of Work and Pensions (UK)

ECB: European Central Bank (EU)

EEA: European Environment Agency (EU)

EG DNA: Expert Group on Disparities in National Accounting (OECD)

ESA: European System of Accounts (EU)

ESS: European Statistical System (EU)

ESSC: European Statistical System Committee (EU)

EU: European Union

GDP: Gross Domestic Product

GPI: Genuine Progress Indicator

HANK: Heterogeneous Agent New Keynesian

HDI: Human Development Index

HHSA: Household Satellite Accounts

HMT: Her Majesty's Treasury (UK)

ICATUS: International Classification of Activities for Time-Use Statistics (UN)

IMF: International Monetary Fund

INSEE: National Institute of Statistics and Economic Studies (France)

ISEW: Index of Sustainable Economic Welfare

KIP-INCA: Knowledge Implementation Project on the Integrated System for Natural Capital Accounting (EU)

MAES: Mapping and Assessment of Ecosystems and their Services (EU)

MCA: Multi-Criteria Analysis

NCC: Natural Capital Committee (UK)

NDP: Net Domestic Product

NEF: New Economics Foundation

NGO: Non-Governmental Organisation

NNI: Net National Income

NOAA: National Oceanic and Atmospheric Administration (US)

NSIs: National Statistical Institutes

OECD: Organisation for Economic Cooperation and Development

ONS: Office for National Statistics (UK)

RANK: Representative Agent New Keynesian

SCC: Social Cost of Carbon

SDIs: Sustainable Development Indicators

SEEA EEA: System of Environmental-Economic Accounting - Experimental Ecosystem Accounts (UN)

SEEA: System of Environmental-Economic Accounting (UN)

SEM: Structural Economic Model

SIT: Social Impacts Taskforce (UK)

SNA: System of National Accounts (UN)

SWB: Subjective Well-Being

TUS: Time Use Survey

UBI: Universal Basic Income

UN: United Nations

UNECE: United Nations Economic Commission for Europe

UNGA: United Nations General Assembly

UNSC: United Nations Statistical Commission

WAVES: Wealth Accounting and the Valuation of Ecosystem Services (WB)

WB: World Bank

WPFS: Working Party on Financial Statistics (OECD)

WPNA: Working Party on National Accounts (OECD)

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# 1. Introduction

> *We find ourselves stultified by the legacy of a market-economy which bequeathed us oversimplified views of the function and role of the economic system in society. If the crisis is to be overcome, we must recapture a more realistic vision of the human world.* **– Karl Polanyi, 1947**

> *Our statistics and accounts reflect our aspirations, the values that we assign things. They are inseparable from our vision of the world and the economy, of society, and our conception of human beings… behind all our statistical and accounting representations, there lies the cult of the market…but a project for society or civilisation cannot be based solely on the market.* **– Commission on the Measurement of Economic Performance and Social Progress, 2009**

There is an intimate connection between statistical practice and economic reasoning (Mitchell 1998; Hirschmann 2016). The figures produced by national accounting systems underpin everyday political discourse on the economy: 'GDP grew by 2.5% this year'; 'real wages are rising'; 'the financial services sector comprises 7.2% of the UK economy'. These facts appear natural, but the ability to talk about the economic system as a unified whole is surprisingly recent, made possible largely by the development of centralised statistical agencies and national income accounting in the mid-20th century (Karabell 2014; Hirschmann 2016). This statistical creation, in turn, was made possible by a theoretical vision of the economy as a system of interlocking, which had emerged over the late 19th and early 20th century (Breslau 2003; Philipsen 2015). As Timothy Mitchell has argued:

> Only towards the end of the 1930s was the new idea of "the economy" realized …as the sphere of rational and numerical calculation, it was the one most easily represented in statistical and algebraic forms. For this reason, the most abstract and mathematical of the social sciences, economics, claimed the task of representing what seemed the most real aspect of the social world (Mitchell 1998, 82).

This thesis offers an account of the challenge to this vision of 'the economy' inherited from the industrial age that is posed by contemporary global reforms to national accounting systems aimed at addressing the problems of post-industrial society.

The conception of an autonomous economic system constructed by centralised national accounting systems emerged alongside historical changes in industrial societies and economic theory over the course of the nineteenth and early twentieth century (Backhouse 2002; Philipsen 2015). The enclosure of common land, the creation of national labour markets and the emergence of complex financial infrastructure meant that more and more aspects of economic relations came under the influence of market forces and the price mechanism (Polanyi 2001 [1944]). The rise of market society (ibid, 60), in turn, gave rise to the appearance of a distinct field of social life – 'the economy' – that seemed to contain its own laws and regularities. These became the subject of a new field of knowledge: political economy. Over the course of the nineteenth century, economics (now purified of the 'political') was increasingly remodelled in deductive, naturalistic terms as the science of the rational allocation of scarce resources between alternative market goods (Heilbroner 2011). In the mid-twentieth century, this was supplemented by the development of macroeconomics and econometrics, which conceived of the national economy as an aggregate system of interlocking market flows (Clarke 1990).

After the war, the development of the UN System of National Accounting (SNA), which underpins the global system of national accounts, naturalised this emerging theoretical understanding of the economy as a closed, law-bound system (UN 1953). This statistical apparatus underpinned a distinct set of political priorities: it allowed certain problems to be grasped and acted on, and others silenced. For instance, it promoted a focus on aggregate market growth rather than distributional questions, the invisibility of economic phenomena which lie outside the market system – including social reproduction (Laslett and Brenner 1989; Katz 2001) and ecological systems (Daly 1997) – and the conflation of the growth of commodified transactions with gains in substantive welfare (Philipsen 2015). These political priorities have been referred to as the 'growth paradigm', shaping post-war conceptions of development and progress (Dale 2012; Schmelzer 2015).

But the SNA, and GDP in particular, have faced an increasing array of critiques in recent decades (Coyle 2014; Fioramonti 2017). Even Simon Kuznets, founder of national income accounting, warned that: 'a national total facilitates the ascription of independent significance to that vague entity called the national economy' (Kuznets 1941, xxvi).

Subsequent decades have witnessed growing concerns over problems characteristic of post-industrial societies: rising inequality; financial instability; ecological crisis and climate change; employment insecurity; deteriorating work-life balance and an increase in mental illness; demographic change and a crisis of social reproduction. A shared characteristic of these problems is that they cannot be solved solely through increasing aggregate market growth. These issues thus pose serious questions about the adequacy of national accounting and measurement systems established in the post-war period to help policymakers respond meaningfully to the key challenges of our age.

In 2009, such questions were addressed by a prominent and influential international commission, comprised of some of the world's leading economists, statisticians and national accounting experts (Stiglitz et al. 2010). Synthesising decades of academic criticism of GDP and the SNA, the Commission recommended a series of wide-ranging reforms to national accounting and statistical systems to emphasise better measures of the distribution of economic resources, the sustainability of economic growth, the quality of life and the non-market aspects of welfare and progress into accounting frameworks. The implementation of this reform agenda is now well underway, with the Commission's central recommendations now being operationalised by the global statistical agencies. It is set to shape the way in which governments and international organisations represent, understand and talk about some of the most pressing issues of the twenty-first century, and the metrics used to assess the performance of states and societies.

The aim of this thesis is to assess the challenge that implementing this global agenda is posing to the market-centric vision of the economy inherited from the industrial era. Given that the creation of the national accounts half a century ago was crucial to cementing this underlying vision of the economy, how seriously do statistical reforms aimed at questioning the primacy of market growth undermine it? In other words, can we move beyond GDP without moving beyond existing notions of 'the economy' itself? To answer these questions, the thesis conducts four case studies, each of which traces the implementation of different aspects of these accounting reforms:

1. The measurement of income and wealth inequality (chapter 4);
2. The valuation of non-market activities (chapter 5);

3. The measurement of the sustainability of growth over time (chapter 6), and;
4. The monetisation of non-market goods in national accounting and cost-benefit analysis (chapter 7).

Drawing upon accounting methodological sources, statistical reports and expert interviews at the OECD, Eurostat and the UK's Office for National Statistics (ONS), it analyses how officials have responded to the task of reconciling the radical implications of this measurement agenda with the economic concepts and theory which underpin the national accounts framework.

The central argument developed is two-fold. Firstly, I trace how accountants have creatively drawn upon various concepts from economic theory to frame beyond GDP measurement reforms in ways compatible with the terms and categories of economic analysis. Secondly, I demonstrate how the practical demands of implementation of these reforms has increasingly *in practice* diverged from these theoretical constructs. A set of detailed empirical case studies is developed to illustrate how national accounting practice in fact shares an increasingly conflictual and complicated relationship with many of the central ontological and epistemic tenets of the market-based theoretical conception of the economy inherited from the industrial era. These reforms constantly threaten the borders between the economy and what is outside of it (society or the household or nature or politics, for example), thus threatening to compromise its ontological unity and coherence. They also bring into doubt the conflation of value with price, and the utilitarian psychology upon which the naturalistic vision of the economy is constructed.

As I show, what is emerging from these accounting reforms is consequently a more plural, heterogeneous and fragmented accounting representation of 'the economy', which is increasingly incompatible with both the unitary ontology of macroeconomic theory and the utilitarian and choice-theoretic underpinnings of neoclassical microeconomics. The practical implementation of these reforms is creating growing tensions between economic theory and national accounting and statistical practice, which have been insufficiently explored in existing literature. These findings therefore contribute to wider debates about the changing role of economics in the politics of affluent, post-industrial societies, and the role of accounting and measurement systems in mediating this.

In the rest of this introductory chapter specifies in greater detail the central problem and research questions which the thesis answers. It outlines the theoretical framework used to ground this investigation, developed through a reading of Karl Polanyi's historicist critique of market ideology, discusses the methodology and empirical sources drawn upon to develop the central arguments, and outlines the contribution the thesis makes to existing scholarship. Finally, it gives an overview of the structure of the thesis and a summary of the different chapters.

## 1.1 Research Question and Theoretical Approach

This thesis sets out to empirically understand a basic tension between a set of received theoretical ideas about the economy and modern developments in official statistical and accounting systems. The founders of economic sociology such as Weber and Sombart argued that the development of accounting and double-entry book-keeping was central to historical development of economic rationality and even capitalism itself (Weber 2004 [1905]; Chiapello 2007). Moreover, developments in economic theory underpinned the more recent development of national accounting in the mid-20th century. Thus, accounting practice and economic reasoning have generally been viewed as mutually reinforcing (Carruthers and Espeland 1991; Chiapello 2007; Miller 2008). Yet through asking national accountants to measure and value phenomena outside the market system, the reforms being implemented globally in the wake of the Stiglitz report appear to threaten the representation of the economy as an autonomous object subject to its own laws and regularities, assumptions which underpin the discipline of economics and its political authority. This problematic informs the central research question that the thesis answers.

*Central Research Question*

- *How significant is the challenge posed by the beyond GDP agenda to market-centric understandings of the economy?*

This question is accompanied by a series of sub-questions, which help to specify the dynamics that must be understood to provide a convincing answer to this question.

1. What concepts from economic theory are being used to integrate beyond GDP concerns into national accounting systems; how successful are these theoretical concepts in enabling accountants to implement these measurement reforms?
2. How have accountants and statisticians resolved the tensions between the technical and practical demands of this measurement agenda and the analytical demands of economists?
3. What representations of non-market economic phenomena are emerging as part of these reforms; and how are these reconciled with the core framework of the UN SNA and its market-bound vision of the economic system?
4. In what ways, and to what extent, is the theoretical conflation of the economy with market exchange challenged by the implementation of contemporary reforms to economic statistics?

Answering such questions is vital to assessing the long-term political significance of this global agenda, and the influence it can have as a resource for political projects which aim to shift the terms of the debate on economic policymaking away from the intellectual orthodoxies that have characterised the last few decades of global economic management. It is also crucial to assessing its ability to solve the significant challenges facing global society, from aging populations and the crisis of social reproduction, to rising inequality, climate change and the quality of life. If solving these challenges involves escaping from an economic discourse centred around the reification of the market (as I argue below), then the success of this agenda must involve a challenge to the equation of the human economy with exchange relations; establishing the extent to which the global beyond GDP agenda is promoting this is the core concern of the thesis.

*Empirical Scope*

This broad central research question requires some clarification before it can form a secure basis for empirical investigation. Firstly, we must clarify the terms being used and the empirical scope of the study: what exactly do we mean by the 'beyond GDP agenda'?

As outlined in chapter 2, a vast amount of intellectual work has gone into critiquing GDP over the last few decades which informs the contemporary beyond GDP agenda

(Cassiers 2007). Dozens, perhaps hundreds, of alternative indicators of progress, welfare or sustainability have been disseminated by researchers, NGOs, think tanks and other actors, at an accelerating rate since the 1990s (see Kroll 2011; Bleys 2012). To establish a practical scope, the bounds of the inquiry were set by the 2009 publication of the report by the Commission on the Measurement of Economic Performance and Social Progress, commissioned by then French President Nicholas Sarkozy and chaired by Joseph Stiglitz, Amaryta Sen and Jean-Paul Fitoussi (Stiglitz et al. 2010). It traces the national and international work streams that have emerged in the wake of its recommendations. This is not an arbitrary decision, but rather emerged inductively from the data collection process. The Stiglitz-Sen-Fitoussi report forms the central reference point orienting the contemporary beyond GDP agenda, and is cited consistently by interview participants and reports as the key catalyst for these initiatives.

This also provides a clear temporal scope: this thesis studies measurement reforms and statistical initiatives which have emerged since the 2009 publication of the Commission's report. While it has drawn upon material which pre-dates its publication, this is predominantly where existing work in a certain field has been a crucial point of reference for later work. Likewise, the end of the study is marked by the publication of the review report on the beyond GDP programme in 2017, by the OECD's 'High Level Expert Group'. This represents the first major global review of this statistical agenda, and in this sense bookends the first major implementation phase of beyond GDP reforms. Many of the central figures involved in the original Commission were involved, including Stiglitz and Fitoussi.

Furthermore, the thesis will therefore only deal with the responses to the recommendations of the Commission by official statistical agencies and national accountants. This means firstly that the work of NGOs and think tanks (such as the New Economics Foundation (NEF) or the Genuine Progress Initiative (GPI)), while they have been important to promoting this agenda, will not be treated in any detail; nor is the thesis concerned with the use of this measurement agenda by charities or the third sector. The focus is primarily on how post-GDP concerns have been integrated into national accounting methodologies and data infrastructure. The first three substantive chapters address national accounting reforms on inequality, non-market work and sustainability. The last chapter concerns the valuation of non-market goods, exploring

this through a focus on cost-benefit analysis. While not strictly part of the national accounts, this discussion has implications for the national accounting treatment of many other issues such as unpaid work and the natural capital valuation. Furthermore, the national accounts are embedded in the wider activities of statistical agencies and borrow from these methodological discussions. However, I do not cover in detail the production indicators and statistics which have no bearing on national accounting methodology.

*Theoretical Approach: Karl Polanyi's Critique of the "Market Mentality"*

Before proceeding, we must also specify both what is meant by 'market-centric conceptions of the economy' and justify the significance this concept is given in the following analysis. To answer these questions, the thesis draws theoretically upon the work of the mid-20th century political economist Karl Polanyi. I mobilise Polanyi's work both as a theoretical justification of the importance and significance of understanding the challenge to market-based thinking in light of the global critique of GDP, and as a way of bringing clarity to the terms under discussion.

My reading of Polanyi – unpacked in greater depth in chapter 3 – emphasises his ideational critique of what he called the 'market mentality' (Polanyi 1968, 59-77). This reflects interventions in contemporary Polanyian scholarship that have emphasised how his work is concerned with the constraining effects of the market view of the economy on political agency and the social imagination (See e.g. Watson 2005, 143-160; Dale 2010, 19-44; Block and Somers 2014). This work has highlighted his critique of market-bound views of the economic process as a species of wider critique of the universalising, foundationalist claims that characterise modernist thinking more generally (Holmes 2012, 2013). In the reading I mobilise here, I understand the value of Polanyi's work to lie primarily in his critique of the whole vision of humanity and the social world that grew up in economic theory in response to the emergence of market societies. His primary value as a social theorist is to highlight how the contingent historical institutions, behaviour and norms of modern Western societies were universalised, how 'strictly time-bound phenomena came to be regarded as timeless, as transcending the age of the market' (Polanyi 1968, 61).

For Polanyi, this reification of the market view of economy and society had a number of pathological consequences for society, politics and personal ethical action. This naturalised vision of economy and society – the 'market mentality' (Polanyi 1968, 59) – serves to constrain how society can understand and reason about political economic problems, narrowing the political space for 'adjustment' (ibid) available to societies in dealing with the pressing social, ecological and economic problems they confront. This gives us a distinctive lens through which to analyse the politics of economic ideas that shape contemporary debates generally and, in particular, to explore how economic ideas come to frame post-industrial and post-growth politics projects.

Analytically, for instance, the market mentality encourages an understanding of economic and political phenomena as separate, and an elision of the various psychological and sociological links between these spheres (Block and Somers 2014). In the contemporary world, for instance, populist mobilisation can be posited as a 'political' or 'cultural' phenomenon external to the economic process (Yarrow 2017). The links between the existential and psychological insecurity associated with the commodity treatment of human beings, on the one hand, and social illiberalism and political intolerance on the other (Polanyi 2001 [1944], 218-28; see also Fromm 2001 [1942]), cannot be grasped as an 'economic' problem; and the effects of populism on markets themselves can only be understood as a regrettable *external* interference with the market system. Through isolating the economy in analytical terms as a self-adjusting system of markets, the political and ethical content of market relations are insulated from political discussion, and a naturalistic economics installed as the sole discipline qualified to understand the laws which govern this system (Peck 2005). More instrumentally, the market mentality precludes various solutions to social and ecological problems which rely upon de-commodified relationships or commons-based institutions, even where these might be effective or useful to society (Ostrom 2015).

Thus, Polanyi's theory gives us pressing reasons to investigate the significance of the challenge beyond GDP reforms present to market-based assumptions about the economy and the ontological vision they are associated with. Without this, we are unlikely to be able to overturn many of the theoretical and analytical pathologies which are crucial to solving the problems this agenda sets out to address. Indeed, the Stiglitz

report itself pointed at the need for this shift in thinking about what constituted the economy. The preface to the report argued that:

> Our statistics and accounts reflect our aspirations, the values that we assign things. They are inseparable from our vision of the world and the economy, of society, and our conception of human beings… [B]ehind all our statistical and accounting representations, there lies the cult of the market…but a project for society or civilisation cannot be based solely on the market (Stiglitz et al. 2010, vi; xvi).

A shift in thinking about the market and its place in the human economy is thus an explicit objective of the official beyond GDP statistical agenda, and so assessing it from this perspective is justified as it allows us to establish how far this objective is being been achieved in practice.

Reading Polanyi in this way also allows us to identify what we mean by 'market-centric understandings of the economy', and develop precise criteria for assessing the extent to which beyond GDP accounting and statistical reforms challenge and disrupt this vision. In particular, to orientate the empirical content of the thesis I draw upon Karl Polanyi's distinction between 'formalist' and 'substantive' understandings of the economy (Polanyi 1977, 19-25). Formalist reasoning, for Polanyi, was a tradition of thought that conflated the human economy with an instrumental, economising rationality, narrowing the conception of what constituted economic theory down to choices between the alternative uses of goods in conditions of scarcity (Holton 1992, 7-22; Dale 2010, 89-136). This was exemplified by Robbins' famous inter-war definition of economics, as 'the science which studies human behaviour as a relationship between ends and scarce means which have alternative uses' (Robbins 2008 [1934]). In this way, an analytical division was upheld by which 'the economy' could be constructed as a free-standing object encompassing the co-ordination of production and the allocation of resources through the price mechanism, and 'politics' could be understood as an equally distinct process through which ethical considerations and the need for social protection and justice were debated (Polanyi 2001 [1944]). Polanyi argued that escaping this simplistic vision of the economy was as important as simply ameliorating the effects of commodification on people, nature and institutions.

This view of the economy was, in turn, dependent upon an 'economistic fallacy' (Polanyi 1977, 5-15), a mode of reasoning through which the economic process in general was

conflated with market institutions. As I argue in greater detail in chapter 3, Polanyi's work allows us to identify central aspects of this fallacy, on which this 'formalist' reasoning was predicated: the concept of the economy as a cohesive and self-regulating system, centred on interlocking price-forming markets; the separation of the economic calculation from the private sphere of social reproduction and the household; the elision of the various distinct functions of money into a narrow focus on its use in market exchange; and the construal of a distinctively economic 'motive' and rationality, separate from political or social behaviour. Mainstream economic analysis is predicated on these assumptions (Polanyi 1968). Furthermore, they were inscribed into official statistical representations of the economy through the SNA system as it developed in the 1940s and 1950s.

This perspective provides us with a novel lens to assess the implementation of post-GDP reforms to national accounting systems, in terms of the precise challenge they pose to the key assumptions on which the formalist mode of reasoning is based. This also gives us a set of broad criteria to evaluate what 'significance' means in relation to the central research question. Broadly, this encapsulates how far, and in what ways, these different aspects of the economistic fallacy are upheld or problematised through the implementation of post-GDP measures. As we will see in the empirical chapters of the thesis, this agenda has been characterised by efforts to align and translate these concepts into market-based categories and concepts, so that the disruption to formalist analysis is contained. Nevertheless, the practical demands of implementing this measurement agenda have simultaneously revealed the problematic or arbitrary nature of many of these assumptions, which is providing important resources in which a more substantive economic imaginary could draw.

Thus specified, we are now able to establish the objectives of this inquiry and specify what a satisfactory answer to the central research question involves. Firstly, to what extent has the implementation of recommendations contained in the 2009 report by the global *Commission on the Measurement of Economic Performance and Social Progress* challenged the central assumptions which Polanyi saw as crucial to 'formalist' economic reasoning? Secondly, how have these challenges been framed and managed by the experts working to implement the central planks of this agenda, and with what results?

## 1.2 Argument and Contribution

In developing an answer to this question, the thesis provides an original contribution to the beyond GDP literature, focused on an empirically rich and historically situated assessment of the changing relationship between economic reasoning and statistical practice. Primarily, its originality stems from two sources: firstly, its empirical and historical depth, which allows for a detailed tracing of the genealogies of the ideas used to implement this agenda and the way in which accounting and statistical methodologies draw upon these creatively to operationalise beyond GDP concepts; secondly, its demonstration of how the implementation of this agenda is exposing the practical and epistemic limitations of exchange-based assumptions about the economy. This argument is original in that is identifies emergent tensions between statistical and accounting practice and economic reasoning, which in much critical and de-growth scholarship have been assumed to be complementary.

More practically, it allows us to better understand the political and theoretical assumptions that are embedded in the changing national accounting representations of the economy, and the differential way in which they escape market-based assumptions about the economy; this can help social movements, journalists, citizens and other political actors in using the wealth of data being produced by the beyond GDP agenda in a reflexive and politically aware manner.

*Existing Literature*

In chapter two, I group the existing literature on the politics of the beyond GDP agenda into two main categories with relation to how they understand the challenge moving beyond GDP represents to the market-based view of economy. In the first, the beyond GDP agenda should focus on re-embedding the market economy in social and environmental systems, and a re-thinking of economy in substantive terms is not thought to be essential to achieving these goals; in the second perspective, a more fundamental challenge to mainstream economic reasoning is advocated, but accounting systems and centralised statistics are thought to offer no resources in this political project, and may indeed serve to co-opt its transformative potential.

The first category of literature, which I characterise as '**managerialist**', represents the mainstream position on the beyond GDP agenda, which we find in much of the policy literature and beyond GDP advocacy by think tanks (Kubiszewski et al. 2013; Chancel et al. 2014; Seaford 2014). This position tends to assume that the problem that beyond GDP reforms should address is that the economy has come to dominate the political debate, and other fields of life are given insufficient attention and visibility. This means that the negative externalities of economic growth are not measured, and so do not enter the metrics and calculations of decision-makers, including governments and corporations.

By this account, beyond GDP reforms will address this by better quantifying social, environmental and psychological dimensions of wellbeing, which can then be weighed against the benefits of market goods. In this view, what we need is a more complete picture of progress in which the 'economic' dimension, still centred on the market system, is placed alongside a greater emphasis on the social, environmental or political dimensions of progress. Consequently, this literature sees no need for a more fundamental change in our conception of the economy or the analytical tools and language used to theorise it; we simply need *less* economy and GDP growth vis-à-vis the 'social' and 'environmental' externalities that the market economy produces.

The second strand of literature emerges from '**de-growth**' political theory and critical accounting literature. Unlike the managerialist mainstream, this literature frequently *does* have at its core a fundamental critique of market-centric thinking, the understanding of economy and society it naturalises and the constraints this exercises on democratic politics. Takis Fotopoulos, for instance, that de-growth politics 'implies going beyond the economy by challenging its domination of present life, in theory and in practice, and above all in our mind' (Fotopoulos 2007, 2).

However, de-growth literature in general argues that the locus for this transformation must be local, and the change must be effected through a re-localisation of economic decision-making and citizenship (e.g. Latouche 2009; Rees 2015, 43-52). The spatial and political imaginary of de-growth politics is the local and the communal, contrasted with a liberal globalist imaginary that is incapable of delivering this transformation in the terms of economic discourse (Fioramonti 2013; Quilley 2013, 119-144). Therefore,

national accounting and centralised statistical systems are rarely explored as potential resources which may promote the shift away from the market-centric vision of the economy which dominates political discourse. As we will explore more fully in chapter 2, this reflects a broader critical and hostility to quantification and accounting rationality as well as reifying a spatial metaphor which contrasts the complex and global with the simple and local (see Brassett and Higgott 2003; Law 2004).

Common to both of these perspectives is a basic assumption that accounting systems share an identity with market-based economic theory: in managerialist accounts, this manifests itself in the assumption that accounting systems should remain focussed on the 'economic' components of progress while other social and environmental data can be used to tell us about the social and environmental consequences of economic growth and the political trade-offs these imply; in de-growth accounts, this is used to critique the beyond GDP agenda as a technocratic project which reproduces the globalist, reformist assumptions about the economy that national accounting systems reflect. Neither provide a starting point to assess the increasingly complicated and conflictual relationship between economic theory and national accounting systems, and how these articulate at various scales and through methodological and technical considerations. The first sees no reason to look for this, and the second assumes it away.

*Argument and Contribution*

The first central empirical contribution is to investigate how far a more fundamental rethinking of the categories used to analyse economic life is advanced by the implementation of the beyond GDP statistical agenda.

Through developing a series of in-depth case studies on the implementation of key aspects of these reforms, I show how these measurement agendas are creating spaces in which unitary views of the economy (centred on abstracted models of human behaviour and market exchange) are rendered contestable in new ways. Secondly, however, the case studies also illustrate how the impact of beyond GDP statistical reform processes on market-based understandings of the economic is ambiguous and differentiated. We can understand this well if we grasp that the market view of economy rests upon a

number of interlocking assumptions – the economistic fallacies outlined above – which can be challenged in various ways and to varying degrees.

This also contests a prevalent critique (Fioramonti 2013, 114) that such reforms are being done primarily as window-dressing or a PR exercise. In many ways, it is the exact opposite. Accountants would often be more comfortable adhering to the smooth vision of the economy reflected in the SNA; but the realities of implementing beyond GDP reforms are making this increasingly difficult to sustain, which is fragmenting this system. Rather than actively setting out to challenge market assumptions about development, I argue the partial and incomplete attempts to extend these modes of reasoning to the problems of post-industrial society are revealing the practical limitations of market-based theoretical constructs in understanding and representing these phenomena. Through these attempts, the economic significance of non-market values is more salient than ever, but so is the impossibility of adequately integrating them into national accounting methods using market-centric theoretical resources. Accountants indeed often appear reluctant about the need to depart from the smooth image of the economy which the SNA represents. Interviews and documentary sources reveal the *ad hoc* nature of the methodological and technical solutions adopted, and how it is often practical expediency is forcing them to diverge from a theoretical ideal.

Consequently, the case studies I explore also illustrate how these emerging tensions are not simply leading to a substantive vision of the economy displacing the formalist one developed by the SNA in the mid-twentieth century. Often, what is emerging in response to the failure of integrating these reforms into the central SNA framework is a multitude of methodological approaches, offering more or less radical challenges to market-based forms of reasoning. Understanding the apparently technical or practical details of these methodological debates is central to grasping their wider political significance. Teasing out the different ideational lineages at play in these reforms reveals how political movements might reflexively draw on and mobilise this agenda, and the implicit theoretical assumptions are reproduced or contested by different beyond GDP accounting methodologies.

Finally, this analysis help shed light on the changing nature of the relationship between statistical systems and democratic politics. The conventional model of 'evidence-based

policy making', which statistical agencies generally adhere to, is that a neutral and apolitical body of facts can be produced about the economic and social world. These can mediate the ideological positions advanced in party-political debates. In this model, statistical facts about the economy are developed outside and above democratic politics. But the analysis presented in this thesis highlights how accountants are discovering in newly explicit ways the intrinsically normative and value-laden nature of the representations of economic value they produce. In many instances this also implies that new deliberative valuation processes may be needed as *inputs* into post-GDP accounting valuations. This points to one of the most fruitful lines of enquiry in this field going forward: how novel forms of accounting and statistical representation could be brought into conversation with debates around new forms of economic citizenship and deliberative democracy.

As such, the core contribution of the thesis is to develop and apply a Polanyian perspective to advance existing theoretical understandings of the post-2009 global statistical reform agenda. It provides a novel assessment of the significance of integrating beyond GDP reforms into national accounting systems for the foundational assumptions of market-based economic theory. This has wider implications for understanding the evolving and contested role of economic ideas in political reasoning.

## 1.3 Methodology and Source Material

The research design and methodology of the study was informed both by the nature of the question and the constructivist and historicist theoretical orientations adopted (Hay 2002, 194-215).[1] These suggested a research strategy that was qualitative, inductive and interpretivist (Clift 2014; Silverman 2016). It was not seeking to generate rigid causal explanations or generalizable laws. A large-N quantitative study involving survey data or similar would not have been appropriate to answering the sorts of questions being investigated (Marsh and Stoker 2010, 255-257). The analysis was thus developed inductively: the categories and concepts used emerged from the process of data collection, and were tested reflexively against further findings.

[1] For a full description of the research methods and sources, see appendix II.

*Selection of Case Studies*

The analysis in the thesis is drawn from three sites: the OECD, the EU and the UK government. The primary focus was on the statistical organs of these institutions – the OECD's statistics directorate; Eurostat; and the Office for National Statistics, and this was where most of the interviews were conducted. These were selected based on preparatory desk research, which identified these institutions as particularly influential in shaping the implementation of the beyond GDP agenda after the Stiglitz report. They also allowed for a degree of comparative analysis between national, regional and international statistical systems.

The OECD has been prominent in co-ordinating these efforts internationally, pursuing a large set of initiatives statistical initiatives through their 'Better Life' Agenda (OECD 2012) and 'New Approaches to Economic Challenges' project (OECD 2015b). The UK's 'Measuring National Wellbeing' programme has been a leader at the national level (Bache and Reardon 2013; Hicks et al. 2013). The European Commission launched a sponsorship group called 'GDP and Beyond' (European Commission 2009), co-chaired by the French statistical office (INSEE) and Eurostat. The report of this taskforce was adopted in 2011 by the European Statistical System Committee (ESSC), the highest organ of statistical governance in the EU, containing 50 specific recommendations (DGINS/ESSC 2010; Eurostat 2011a). The work streams that followed have had a significant afterlife within the ESS and exerted a major influence on national accounting within the EU and on the international debate.

*Data Collection and Source Material*

The sources material on which the substantive arguments are based fall into three main categories: expert interviews with national accountants and statisticians; documentary analysis of methodological literature, reports and working papers; and attendance of national accounting working parties and expert groups. Analysis of documentary sources was conducted prior to interviewing – to help guide the questions asked and identify issues especially relevant to the research question. The documentary sources were identified in the first year of the project, by searching the websites of statistical agencies and following up within-document references until saturation point was reached.

To supplement the documentary source material, 30 expert interviews were conducted.[2] An initial long list of targets was developed using the document authorship and online searches. The interviewees were selected to provide a variety of seniority and job role and even distribution between different internal units and divisions of different statistical agencies. The interviewees were either statisticians or national accountants with experience of implementing aspects of the beyond GDP agenda. The interviews focused on the main methodological, technical and conceptual issues confronted, and various tensions or challenges raised by their implementation, and interviewees' understanding of how these were being confronted or resolved.

Lastly, I was fortunate enough during my fieldwork to be invited to several expert statistical working parties at the OECD – specifically, the Expert Group on Disparities in National Accounting (EG DNA), the Working Party on Financial Statistics (WPFS), and the Working Party on National Accounts (WPNA). This was largely unplanned, and resulted from interviewing staff in the OECD's Statistics Directorate. However, observing these meetings proved to be an invaluable resource for understanding the nature of technical accounting discussions on key issues in the beyond GDP agenda – particularly on inequality, unpaid work and the capitalisation of non-produced assets.

*Data Analysis*

Following data collection, the interview were grouped inductively into themes, which were mapped onto the topics dealt with in the chapters. These were used alongside notes from methodological sources, reports and documents to develop the lines of analysis presented in the thematic chapters. I have opted to instead structure the thesis along thematic lines which cut across the three cases. While the case studies have an equal weighting in the thesis as a whole, individual chapters draw more or less upon each one.

## 1.4 Thesis Structure

Having introduced the problem framing and central contributions of the thesis, the second chapter sets the beyond GDP in its wider historical and intellectual context,

[2] A full list of interviewees can be found in Appendix I.

providing an overview of the history of the critiques of GDP as a welfare metric over the post-war period. After surveying the main contours of these critiques, it shows how this became a distinctive governance agenda in the mid-2000s, culminating in the Stiglitz commission and a major global statistical effort to implement its recommendations. Finally, it critiques the current literature on the politics of beyond GDP reforms, distinguishing a managerial literature – which in general under-problematises the challenge implied by these developments to the basic epistemological and ontological assumptions of mainstream economic theory – from critical accounts which see little emancipatory or political potential in beyond GDP reforms as they form part of the technocratic, reformist apparatus of neoliberal global governance.

The third chapter outlines and justifies the theoretical perspective through which my account of the challenge of beyond GDP reforms to market-based theory is developed. It outlines Polanyi's critique of the political and ethical pathologies of the 'market mentality', and his distinction between 'formalist' and 'substantive' views of the economy. Formalist reasoning is show to rest on four core assumptions, each of these has been historically reflected in national accounting frameworks: firstly, the image of the self-regulating and ontologically unified economy; secondly, the image of unproductive 'society' as an unproductive realm existing outside of formal wage labour; thirdly, the conflation of money with its exchange use; and finally, the *homo economicus* conception of human nature and psychology which underpins neoclassical economics. Finally, it illustrates how the practical demands of implementing the Stiglitz commission recommendations have challenged each of these in different ways. This sets up the central question that the remainder of the thesis sets out to answer at the empirical level.

The fourth chapter assesses the global statistical agenda on inequality measurement. The first section examines ongoing work in the UK and OECD to create harmonised 'distributional national accounts' (DiNA). In practice, this has required bringing two previously distinct statistical pictures of 'the economy' into collision: micro-level surveying data and macro-level national accounting aggregates. However, these statistics give different pictures of the overall size of 'the economy'. This has been framed as a problem about how to reconcile these 'micro-macro gaps' and provide a unified accounting description of the economy. I situate this project within the broader post-war project to 'micro-found' macroeconomic models of the economy, which

increasingly after the crisis has involved the incorporation of inequality into DSGE models. However, I show how through these efforts accountants are discovering that these two representations of the economy are not simply two lenses onto the same unified economic reality. Measuring inequality brings the macroeconomic representation of the economy into contact with the empirical reality of households' economic relationships, revealing how these are entangled in their wider social existence. For this reason, accountants are entertaining the possibility that the ontological assumption of a unified economic sphere itself must be abandoned. This has involved the emergence, for instance, of multiple and hybrid definitions of core accounting concepts such as 'income', 'consumption' and 'wealth', destabilising the prior unity of national accounting categories which is premised on the ontological vision of a unified system of interlocking markets.

This fifth chapter explores the accounting agenda on the measurement of unpaid work since 2009. A key recommendation of the Stiglitz report was to address the invisibility of unpaid activity in conventional national accounting aggregates. This agenda has been implemented through the development of valuation methods based upon comparing population-wide time-use surveys with market wage rates. This, in turn, is grounded on Margaret Reid's 'third-party criterion' (Reid 1934), a definition of productive work that reflects neoclassical concerns to contain the economic sphere within the realm of choice, scarcity and exchange. The chapter illustrates how implementing this agenda in practice has exposed the limitations of this principle, and the difficulty of understanding the economic significance and value of social reproduction through reference to wage labour. This has led to alternative methods which abandon the attempt to ground the value of unpaid work through comparison with units of labour time and instead try to value the overall provisioning needs of society. This, I argue, amounts to a recognition of the impossibility of individualising or isolating the value of social reproduction and the difficulty of drawing a neat boundary between economy and society.

This sixth chapter examines the developments in the field of sustainability measurement since the Stiglitz report. I show how the 'capital stocks' approach has emerged as the dominant conceptual framework through which sustainability measurement is understood globally. In this vision, the measurement of sustainability can be understood in terms of whether the value of extended national wealth stocks – including natural and

human capital – are depreciating. In developing measures of these non-economic wealth stocks, however, statisticians have faced problems related to whether and how to monetise the value of assets with no direct relationship to market transactions, and how exactly to separate out their 'non-economic' from their 'economic' components. This involves drawing unstable and shifting demarcations between the economic, monetised components of these stocks and the non-economic components, measured by physical units. While the implementation of methodological standards to capture these non-market assets have largely focused on attempts to painstakingly isolate the market-relevant components of nature and knowledge, these have not been completely successful and have produced counter-vailing tendencies. Examples include the emergence of politically determined target-driven carbon pricing and the increasing separation of the exchange and accounting uses of money in the field of natural capital measurement. These, I argue, amounts to a growing acceptance of the non-exchange functions of money as a pure unit of account.

The final empirical chapter explores the growing use of subjective wellbeing data for valuing non-market goods in cost-benefit analysis, as encouraged in the Stiglitz commission. It places this in the wider ideational context of the growing influence of behavioural economics and 'positive psychology' in policymaking. Since the 1990s, techniques have emerged for monetising the non-market impacts of government action and incorporating these values into the evaluation of policy options based on these methods. They are presented by their advocates as a radical critique of the revealed preference assumptions of orthodox utility theory. However, I argue that these techniques have not secured widespread approval, partly because of methodological limitations and partly as they are not seen as adhering to the behavioural conditions imposed by markets, and hence valuations produced by these are not seen as robust. One consequence of these developments has been the rise of more participatory and deliberative approaches to non-market valuation, such as multi-criteria analysis. I argue these have emerged partly in response to the limitations of wellbeing-based methods and the hedonic view of human nature they reproduce.

Finally, I draw these case studies together and offer concluding remarks. The case studies show how across four prominent aspects of the global beyond accounting GDP agenda – on inequality, the valuation of unpaid production, sustainability measurement and non-

market valuation –the practical demands of implementing these measurement reforms have led accountants to qualify the market-centric vision of the economy in significant ways. This agenda is therefore leading to an increasingly complicated relationship between accounting practice and the theoretical vision of the economy inherited from industrial society. As accountants and statisticians are discovering, moving beyond GDP involves more than challenging the priority placed upon economic objectives in policy-making; rather, it involves problematising a whole way of thinking about 'the economy' and a re-constitution of its borders with society, nature and politics.

# 2. Debating 'Beyond GDP': Origins and Contemporary Assessments of a Global Accounting Agenda

Critiques of economic growth, and visions of a post-growth future, have been present since the emergence of political economy in the late 18th century. Adam Smith, for instance, worried about the debilitating effects of the advancing division of labour, which accompanied expanding markets, on the mental and spiritual life of the worker (Smith 1993 [1776], 429-432). Ricardian analysis gloomily suggested that rents would gradually erode capitalist profits as growth progressed, leading to an eventual end to capital accumulation, with wages eternally stuck at subsistence level (Ricardo 2004 [1817]). More optimistically, Mill looked forward to a utopian 'stationary state' in which, with basic material necessities met, increasingly educated workers would afford more time to 'moral and social progress': aesthetic pursuits, solitude and the enjoyment of nature (Mill 2008 [1848], 124-130). Keynes similarly suggested that the marginal utility of leisure relative to additional units of consumption would increase with growing affluence, forecasting 15 hour working weeks by the 21st century (Keynes 2015 [1930]). Visions of a post-growth future thus have a long lineage, often containing radical predictions of an eventual limitation of the sphere of market activity in human society.

However, this chapter is concerned more specifically with how these broader post-growth impulses have manifested in recent years as a distinctive global *measurement* agenda, which seeks to overturn the prominence of GDP – the central indicator of growth – in global political economic governance (Kroll 2011; Fioramonti 2017). To contextualise the central argument, this chapter firstly reviews the various critiques of the national accounts and GDP since the formation of the SNA in the 1950s. These are linked to the emergence of ecological, feminist and anti-consumerist thinking, and related to changes in the structure of post-industrial economies. Secondly, it outlines how these critiques were reformulated into a mainstream governance over the 1990s and 2000s, culminating in the Stiglitz Commission's report in 2009 and a concerted set of international reforms to the accounting and statistical frameworks (Stiglitz et al. 2010). This agenda has posed the question of whether these reforms should take place primarily outside the national accounts system, which measures the market economy, or whether

this framework itself must be reformed: in other words, whether the agenda aims at better measuring the 'non-economic' dimensions of progress, or whether statistical representations of 'the economy' itself must also be reformed to meet these challenges.

Finally, the chapter reviews the secondary literature on the political significance and transformative potential of this measurement agenda. It argues that the challenges its implementation has posed to the idea of the economy, and the key theoretical assumptions on which this vision rests, has yet to be studied in depth. A first set of perspectives see statistical indicators as representing a pre-existing and ontologically stable set of dimensions (economic, social, political etc.), and so rarely de-naturalise the category of the economy or its conflation with the market system. The second understand de-growth politics as implying a more fundamental transformation in how the economy is understood and represented, but sees the political locus of this transformation as lying in the re-localisation of economic relationships; thus, national accounting and statistics can never help in the re-politicisation of the economy as they are implicated in forms of technocratic governance and reasoning that reproduce these modes of thinking in the first place.

This signals the distinctive contribution the present thesis makes to the literature. While beyond GDP have posed distinct challenges to the national accounts framework which are posing fundamental questions about the borders of the economy and the theoretical apparatus upon which national accounts concepts are based, this has yet to be explored in empirical depth. Existing accounts tend to neglect the distinctive practical and methodological challenges that implementing these reforms has raised for the very ability to represent the economy as a legible statistical object within national accounting systems. Understanding these dynamics and their political implications, through developing in-depth empirical case studies on the implementation of beyond GDP accounting reforms, constitutes the central objective of the remainder of the thesis.

## 2.1 Critiques of GDP since 1953

Critiques of GDP have originated from many different academic disciplines and reflect many different epistemological and political commitments. Here I group these critical literatures into three main categories. The first group highlights how, even as a narrow

representation of the performance of market economies, GDP reflects industrial, Fordist production regimes and is increasingly flawed as a way of measuring globalised, service-based and post-industrial economies. The second emphasise the ways in which GDP inadequately reflects welfare more generally: firstly, welfare-eroding 'bads' (rising inequality, financial speculation, environmental and ecological destruction, the social and psychological dis-amenities of urbanisation) can accompany healthy GDP growth, and may even directly contribute to it; secondly. many welfare-producing 'goods' are also unrecorded in GDP (unpaid labour, leisure time, happiness). Thirdly, GDP measures only present welfare and therefore tells us nothing about the sustainability of current socio-economic arrangements. The cumulative result of these various critiques has meant that the assumption of a linear relationship between GDP growth and welfare or development more generally has become increasingly untenable.

*GPD as a Flawed Measure of Economic Performance*

The first strand of critiques relates to GDP's ability to represent the complex dynamics of a modern economy characterised by several features: the rise of information technology and data as a key source of value creation; the displacement of manufacturing by services; the rise of immaterial assets like human capital and brand reputation, versus traditional physical assets which dominate manufacturing activities; and the globalisation of production chains (Coyle 2014, 123-145). It has frequently been argued that, while GDP may have been a reasonably appropriate measure of economic activity for the industrial age dominated by Fordist manufacturing (Fioramonti 2013), it has become anachronistic in a globalised world of information-led automation, intangible intellectual property assets and services (Brynjolfsson and McAfee 2014, 107-124; Rifkin 2014, 24-27).

GDP is firstly accused of representing the value of high-tech economic activity less accurately than traditional manufacturing output. This is partly because GDP focusses on aggregating the exchange value of products sold, taking no account of quality increases (Gordon 2017, 8-13). As an example, many modern technological gadgets (such as the iPhone) undergo enhancements in quality between models, even as their market price remains the same or even decreases (Coyle 2017). This means that GDP will register as static in these sectors but, qualitatively, economic output has been

increased in the sense that the quality of the products made has improved. There have been attempts to use 'hedonic price' indexes to deflate GDP measures based on quality changes; but quality is often difficult to assess in complex products (Triplett 2004, 62-64; Fioramonti 2013). This problem is even more acute for services, where the 'quality' is less objective. For instance, in the case of healthcare it is harder to assess aspects such as the friendliness of the care received or how caring the staff who treated you were in one instance or another. Similarly, comparing the ambience of a café and how much 'quality' this adds to the purchase of a coffee is not easy. As economies shift from the production of standardised units of manufactured goods to the rendering of services and experiences (Block 1990; Amin 2011), such issues arguably make real GDP less meaningful even as a narrow indicator of economic output. Furthermore, the shift to information-driven economies has led to apparently 'free' services from networked digital platforms, new forms of peer-to-peer consumption and sharing services (Rifkin 2014, 19-31), many if which go unrecorded in official GDP estimates.

GDP, as a gross measure, also fails to account for the losses suffered on assets due to depreciation. Since GDP fails to account for depreciation, it has been argued that it is badly equipped to measure an economy in which intangible information assets play a large role, as these assets tend to depreciate faster than those in traditional forms of manufacturing (Coyle 2015; Gordon 2017). It is therefore suggested that GDP figures may be systematically under-stating the level of inflation (Stiglitz et al. 2010). Net Domestic Product, which factors in capital consumption and depreciation to correct for this, has been suggested as a more appropriate measure. However, since this is costly and difficult to arrive at – especially for immaterial assets such as intellectual property, brand reputation and goodwill – GDP retains its dominant status and NDP is rarely quoted (Chiripanhura 2010). The difference between net and gross figures has diverged further since the 1980s and the changing composition capital and business investment (Brynjolfsson and McAfee 2014, 119-122). Indeed, this led to R and D spending being re-classified in the 2008 SNA as an investment in capital formation rather than a contributor to GDP.

The globalisation of production and investment chains and the rise of Multi-National Corporations (MNCs) has also led to an increasingly complex pattern of FDI and asset ownership across borders, as well as the internal shifting of resources and profits

between the various subsidiaries of MNCs. GDP, as a measure of *domestic* market production, is badly designed to capture these trends. This is exacerbated by the shift in the composition of the assets held by large corporations from fixed capital and machinery to intellectual property goods. These are much easier to transfer between jurisdictions for tax efficiency and accounting purposes. This problem was dramatically evidenced in 2015, when the Irish statistical agency recorded GDP growth for the Irish economy of 26.3% (Whelan 2017). This was largely due to Apple relocating its intellectual property assets from the USA to Ireland for tax purposes. Thus, the Irish 'economy' became more than a quarter larger almost overnight. When considering that GDP is embedded in political targets such as the EU's Maastricht debt and deficit rules, this has raised serious doubt over the adequacy of GDP in its current form.

*GDP as a Flawed Measure of Welfare*

Aside from these growing questions about the ability of GDP to accurately reflect economic output, more searching critiques of GDP highlight its limitations as a measure of welfare. The debate about whether the aim of national income accounting should in fact be a measurement of social welfare dates to early discussions of national accounting and the measurement of national income (Hicks 1940; Kuznets 1942). Kuznets himself was acutely aware of the normative implications of any definition of national income (Kuznets 1941, 3-5), stressing that the first measures of national income developed by the department of commerce should not be misunderstood as a measure of welfare more broadly (Masood 2016).

Kuznets's concerns to develop national accounting along more welfare-based lines were forgotten as the imperatives of war planning and the subsequent development of Keynesian macroeconomics and demand management took precedent (Coyle 2014, 7-24). These placed the issue of gross levels of production estimated via final sales rather than economic welfare per se at the centre of national accounting systems, as this was the data most relevant to state-driven demand management and the planning of the war economy (Lepenies 2016). This output-based approach continued to be criticised for the myriad ways in which it distorts and misrepresent welfare gains, leading to a myopic understanding of progress. Broadly, we can further divide these groups of critiques into those highlighting the various 'bad things' which may accompany healthy GDP growth,

and those that stress the various 'good things' that GDP takes no account of and that therefore remain undervalued in GDP-based assessments of policy.

Firstly, many 'bad' consequences of market activity for society and the environment are included in GDP growth figures. Large categories of expenditure in modern society do not appear to render any intrinsic utility or welfare but are instead needed to offset undesirable aspects of industrialisation. These are often called 'defensive expenditures' (Leipert 1989a, 1989b). For instance, an environmental catastrophe such as an oil spill will show up favourably in GDP, as it will generate many additional market transactions (the clean-up operation, insurance and legal fees, PR services to manage reputational damage). Many dis-amenities associated with urbanisation and economic development likewise generate market transactions that are arguably not welfare enhancing (Abramovitz 1959, 59-60; Fioramonti 2013). Lengthening commuter times created by urban sprawl – causing widespread tedium and eroding the leisure and family time of millions – stimulate the construction sector and drive up demand for transport services. The pace, stress and anxiety of modern urban life keep many psychiatrists in steady business and support a burgeoning self-help industry (Cederström and Spicer 2015; Davies 2015a). Rises in violent crime will increase demand for locks, burglar alarms and security services.

In the national account these are classified as final consumption expenditure, and generate GDP, but may actively erode the quality of life understood in a more substantive sense. As Van den Berg has argued: 'if a commercial company were to employ the method that is the basis for calculating GDP, its accounts would not be legally approved…[W]hereas firms employ separate accounts for benefits (revenues) and costs (outlays), the GDP adds benefits and costs together' (Van den Bergh 2009, 128). These arguments quickly lead to radical suggestions – for example, that spending on locks and police services should not be counted positively towards GDP figures on the grounds that these types of expenditure represent not additional utility but, in the words of Nordhaus and Tobin, 'the necessary overhead costs of a complex industrial nation state' (Nordhaus and Tobin 1973, 7). Some authors have argued that such defensive expenditures may represent between 10-20% of the entire GDP in advanced economies (Leipert 1989b). This critique was well summarised in a speech given by Robert Kennedy in 1968, in which he argued that GNP (GDP's forerunner):

> Counts air pollution and cigarette advertising, and ambulances to clear our highways of carnage. It counts special locks for our doors and jails for the people who break them. It counts the destruction of the redwood and the loss of our natural wonder in chaotic sprawl…it measures everything, in short, except that which makes life worthwhile (Quoted in Fioramonti 2013, 81).

As we shall see in the next section these critiques have informed the development of many of the more prominent alternatives to GDP suggested over the years.

A related argument highlights the psychological and social costs of GDP growth in affluent societies (Galbraith 1958; James 2007). Avner Offer has suggested economic development confronts the individual with an ever-increasing array of choices over products and lifestyles, which manifests itself – contra the psychological assumptions underpinning orthodox consumer theory – in an increased sense of existential anxiety (Offer 2007). Tibor Scitovsky has similarly analysed the psychological pathologies which accompany highly developed consumer society (Scitovsky 1992), a phenomenon which Oliver James has referred to as 'affluenza' (James 2007). These arguments amount to a critique of the assumptions of 'revealed preference' upon which modern consumer theory is based (see section 2.2 below, and the detailed discussion in chapter 8) and which supports the widespread use of GDP as a metric of progress: that utility can be reduced to the satisfaction of additional desires and so the generation of market growth increases satisfaction and welfare by providing additional choices and satisfying additional desires.

Likewise, as Galbraith observed as long ago as the 1950s, a sizeable (and increasing) proportion of economic activity in affluent societies consists of advertising, marketing and PR services (Galbraith 1958). It is not clear that these contribute to satisfying pre-existing desires but rather synthesising new ones which the market system can then profit from providing (Packard 2007 [1957]; Marcuse 2013). Similarly, modern products are often deliberately designed to ensure predictable future consumption, either through shortening product lifespans ('planned obsolescence') or planning small, incremental changes in functionality and design which mean products go out of fashion rapidly (Packard 2011 [1960]). These practices generate additional GDP growth, as they lead to additional market transactions, but may simply reflect the increasing wastefulness of

modern consumption patterns. Similarly, GDP includes expenditure on a wide array of 'positional goods', which are related not to meeting basic needs but rather to conspicuously displaying wealth and establishing status (Hirsch 1976; Veblen 2007 [1899]). Indeed, these critiques are linked: the proportion of positional goods in overall GDP may increase as basic needs are met, and in highly consumerist societies in which advertising is pervasive people may increasingly compare themselves to others on the basis of external consumption patterns (Schor 1998).

Another 'bad' which GDP cannot account for is the unequal distribution of resources across society.[3] On equity and social welfare grounds, GDP is accused of failing to reflect the various negative social consequences of rising inequality (Wilkinson and Pickett 2010) and of therefore naturalising an implicit normative claim that all types of growth are of equal social value and justness. Van den Berg, for instance, has emphasised how GDP fails to draw any distinction between luxury and basic goods, so the production of a few high-end products is seen as equivalent to the widespread extension of access to cheap necessities (Van den Bergh 2009). Since GDP simply sums all market transactions, it implicitly considers the production of $100 of yachts, Rolex watches or exotic holidays – used only by the wealthiest few percent of the population – as yielding the equivalent welfare of $100 of basic foods or medical services, enjoyed by most of society. An additional dollar spent on cosmetic surgery to improve the waistline of a millionaire is identical (in GDP terms) to a dollar spent on life-saving antimalarial drugs.[4]

Conversely, GDP excludes many 'goods' which are welfare-producing, economically meaningful and/or essential to well-being more broadly conceived. This includes, firstly, the economic contribution of unpaid work and leisure, non-market aspects of the quality of life and levels of subjective happiness produced by increasing affluence. As explored in depth in chapter 5, the SNA production boundary deems everything which does not

[3] The response to these critiques will be explored in depth in chapter 4.

[4] This problem is understood in welfare economics using the notion of consumer surplus: the amount over the actual market price that consumers would be hypothetically willing to spend to obtain a good. Through this lens, basic products, such as water of bread, typically render a much higher consumer surplus than luxury or status goods, as we would all have to buy water and food no matter how expensive these became. However, this difference cannot be reflected in unadjusted GDP, which pays no attention to the distribution of national income. Hence, societies with a higher or lower consumer surplus are depicted as equivalent and identical in welfare terms if GDP is used as the dominant metric of living standards.

have a market price to fall outside of properly economic activity. As feminist authors have long recognised (Reid 1934; Waring 1988; Hoskyns and Rai 2007), this exclusive focus on market exchange effectively excludes all the unpaid labour performed outside the market - unpaid caring and housework, and also activities such as gardening or volunteering - from our understanding of the economy, despite the essential nature of that labour to the successful reproduction of society and the labour force (Katz 2001). Moreover, by some estimates unpaid labour represents 50% of all economic activity (Goldschmidt-Clermont and Pagnossin-Aligisakis 1999).

This leads to several paradoxical results. For instance, if childcare is provided by family members for free, it is excluded from 'the economy'; but if the same person was paid to perform the same service for a stranger on the market, it generates GDP (Beneria 1999). It also creates differences in comparing living standards, both between countries and over time. It has been shown, for instance, that a considerable proportion of the 'growth' generated since the 1970s can be attributed to the greater participation of women in the workforce and a formalisation of labour which was once provided outside of the market, in the home or community (Bridgman et al. 2012). Likewise, the exclusion of unpaid work from the national accounts means that cross-country comparisons of economic welfare are essentially arbitrary, reflecting the degree of formalisation of activity as much as 'growth' in living standards (OECD 2011b). GDP is, in this sense, as much an indicator of the intensity of labour commodification as of the level of economic welfare in any substantive sense. Moreover, this exclusion has potentially very significant political consequences. A government seeking to maximise GDP growth may be encouraged to implement policies which push informal activities into a formal wage-based economy. This promotes a reductionist conflation of progress and the market, meaning commons-based solutions to education, care or other service provision are neglected in political discourse, even where they may be more effective or equitable (see Ostrom 2015).

A similar problem attaches to the value of leisure time. The choice to reduce the production and consumption of commodities to increase the leisure time available to pursue hobbies or creative projects may lead to a better quality of life. But if economic performance is assessed through GDP, choosing to spend more time outside of commodified relationships will show up as a reduction in economic welfare. Since the

1980s we have seen a reversal of the trend towards shorter working hours that began with the early successes of the labour movement in the late 19th century (Schor 1993). Not only have formal working hours increased, but there is evidence that work has intensified and that increasing time is spent outside of formal working hours on work-related tasks, such as commuting (Green 2004). Furthermore, the rise of information technology has caused work to intrude upon formal 'leisure' time in new ways, and blurred the distinction between these realms (Bowring 2002; Berry and Kenny 2008). The exclusion of the value of leisure time from GDP therefore results in insufficient attention being paid to the way in which output may be increasingly simply due to work intensification at the expense of free time.

Looking at the economy through the lens of GDP also encourages certain *types* of leisure over other. Commodity-intensive activities – golf, foreign travel, retail therapy – are highly GDP-generative, whereas walking in nature or playing card games do not contribute significantly to GDP. One critical literature has thus stressed how the nature of leisure itself has had to become more commodity-intensive as society develops in order for it to absorb the surplus of goods and services produced by the market economy (Linder 1970; Lefebvre 2014 [1947], 51-64). People must be urged into ever more costly leisure pursuits so that the ever more productive economy can find a market for the goods it produces. A single-minded focus upon GDP at a societal level can therefore result in the impoverishment of free time, and the erosion of space for simpler pleasures (Skidelsky and Skidelsky 2012).

Another long-standing debate concerns the measurement of public sector output and the value of in-kind services provided by the State. Since much of the value created by public institutions is not accompanied by a market transaction, market values for these services must be imputed in various other ways. These services are included in GDP, through an imputation which measures the labour inputs employed in their production, using public sector employment and wage data (Hicks 1940). But using the input/wage method makes it impossible to capture public sector productivity gains and innovation: labour is assumed to be converted into outputs at a constant level and these outputs are not directly measured (Stiglitz et al. 2010). This is a politically salient issue, as it links directly to the question of the worth of active industrial policies. This critique has implications, for instance, in light of recent neo-Schumpeterian literature which suggests

the role of state-led innovation is systematically under-appreciated and frequently appropriated by (and attributed to) private firms (Mazzucato 2015).

Moreover, which components of government spending represent final consumption, intermediate consumption or investment? Tobin and Nordhaus, for instance, criticised GDP figures for categorising spending on military forces as final consumption, arguing that no one would spend money on it 'for its own sake' (Nordhaus and Tobin 1973, 5) and so it is best treated as an intermediate input into production (see also Fioramonti 2013). They therefore created a revised estimate of GDP in the early 1970s, which introduced the distinction between 'consumption, investment and intermediate' and applied this to items of government expenditure (Nordhaus and Tobin 1973). In the 1980s Robert Eisner also critiqued the inclusion of government spending on policing and security infrastructure as final consumption, arguing it should instead be classed as intermediate consumption (Eisner 1988, 1989).

A final perspective, relating to the divergence between growth and subjective well-being, emerged from the now famous studies conducted by Richard Easterlin in the 1970s (Easterlin 1974; Easterlin et al. 2010). Easterlin set out to test orthodox consumer theory, which suggested people should get happier as their income increases and therefore more of their preferences are satisfied, against empirical data. To do this, he compared the growth of average income with survey data on reported levels of life satisfaction in America over the 1950s and 1960s. The result was that happiness appeared to rise in line with increased income until a certain threshold, after which the relationship broke down (Easterlin 2001). On the back of this, there has emerged a burgeoning field of happiness economics, which tries to integrate psychological evidence of subjective states into economic analysis to demonstrate how markets can produce sub-optimal hedonic outcomes (Frey 2008; Stutzer and Frey 2012). This fed directly into a critique of the use of national income measures such as GDP, as these theories suggested that GDP had become an increasingly bad proxy of social welfare more generally.[5]

[5] The use of subjective well-being data to monetise non-market goods is explored in depth in chapter 8.

*GDP as a Flawed Measure of Sustainability*

Finally, besides its various limitations of a measure of present welfare, GDP has also been criticised for failing to take account of the stocks of accumulated wealth on which this growth may draw from and deplete. GDP growth therefore fails to account for how sustainable current rates of growth are in the longer term.

For example, perhaps the earliest and most influential critique of GDP was based upon its failure to take into account the biophysical, ecological and natural resource limits which market growth encounters in the long run. Such arguments were popularised by the influential 1972 report by the Club of Rome (Meadows et al. 1972) which highlighted how economic growth runs into natural resource limits and so is unsustainable in the long run. Ecological economists such as Daly (Daly 1987, 1997) have updated and fleshed out these insights, criticising GDP for failure to measure or account for the 'ecosystem resources' or 'natural capital' which the reproduction of the human economy and manufactured economy relies upon. Focussing on GDP thus encourages ecologically unsustainable and thermodynamically illiterate (Georgescu-Roegen 1971) short term expansion of the human economy, failing to view this as a subsystem of the wider environment which this growth is necessarily embedded in and dependent upon. Thus, GDP has long been criticised for encouraging ecologically unsustainable models of development (Feigl et al. 2013; Fleurbaey and Blanchet 2013).

Furthermore, GDP masks the type of growth being generated and the structural constraints which this may put on continued growth in the future. For instance, post-Keynesian growth theory highlights how inequality acts to restrain growth in the long run, on the basis that the marginal propensity to consume out of income is higher for those with less income and wealth (Reich 2010; Stockhammer 2018). Hence, a growth model which generates widening inequality results in a fall in investment opportunities and demand as wealth is hoarded by the rich rather than redistributed and spent. GDP, as a metric which takes no account of wealth distribution, provides no means to assess this. Politically, this may incentivise governments to maximise growth rather than analysing the balance between growth and equality. This critique has gained in prominence in recent decades, as neoliberal restructuring has resulted in gains accruing

disproportionately to those at the very top of the income spectrum (Alvaredo et al. 2013; Piketty 2014; Atkinson 2015).

Of note here is also the way in which national income methodologies treat financial sector output and intermediation services: is this activity to be considered 'productive' (Christophers 2011)? If it is, then the expansion of the financial services sector shows up as an economic good equivalent to any other sector. However, a sizeable literature, drawing on endogenous theories of money and finance developed in the early 20th century (Wicksell 1962 [1898]), has argued that larger financial sectors increase the volatility of economies, acting more like a 'pump' encouraging financialisation and debt than a neutral plumbing system passively transmitting savings to investment opportunities (Minsky 2008 [1986]).

The inclusion of financial services in GDP has generated significant controversy (Christophers 2011, 2013; Assa 2015, 2016). It is often unclear that financial intermediation services are a 'product' comparable to other consumption items, or that the increase in the financial services sector represents an expansion of the economy which can be simply compared un-problematically to other sectors (Haldane et al. 2010; Burgess 2011; Philippon 2015).[6] This has informed Marxist critiques of GDP which argue it systematically misrepresents finance as a productive activity when it is, in reality, merely recirculating existing value (Shaikh and Tonak 1997), and constructivist readings which argue GDP calculations participated in stabilising the idea of finance as a productive activity, with powerful political effects (Christophers 2011). Assa has argued we have witnessed an increasing 'financialisation of GDP' (Assa 2016) as a result of the way in which the value added and productivity of financial services output is considered. Many have thus argued that the pre-2008 affluence was partly a statistical mirage which masked the instability and volatility of the growth model underlying it.

GDP is also accused of failing to account for the social sustainability which is needed for the reproduction of growth. Such critiques have a long history, dating back to Hirsch's argument that growth is limited ultimately by the strains it places upon *society*

[6] This touches on the vast debates within the financialisation literature about the (un)productive nature of financial services sector output and its relation to the 'real' economy, which cannot be elaborated upon here (Stockhammer 2004; McNally 2009; Streeck 2014).

rather than merely by environmental or economic constraints (Hirsch 1976). More recently, scholars such have Putnam have analysed the importance of social networks and the norms of interpersonal trust which accompany them on national life (Putnam 2001). Such arguments have crystallised around the concept of 'social capital', a hypothesised stock of non-economic relationships and norms which facilitate both efficient market exchange and good governance (Helliwell 2006). Thus, high levels of short-term GDP expansion may be bought only at the expense of eroding these social structures and norms, if it leads to an erosion of the time and energy needed to sustain them.

To summarise this section, academic critiques of GDP since the formation of the SNA in 1953 have shown convincingly that a healthy GDP growth rate can go hand in hand with a society which is: polarised into extremes of income and wealth; commodifying activities which used to be outside of the market and privatising the provision of social reproduction; depleting its natural and social resources; characterised by increasing stress, anxiety and the erosion of leisure time; prone to financial and ecological crises; and undersupplying public goods (Galbraith 1958). These criticisms underpin the contemporary global agenda to move beyond GDP, which the rest of the thesis examines.

## 2.2 Implementing a Global Statistical Agenda: The Stiglitz Commission and the Challenge to National Accounting

In recent decades, the concerns reviewed in section 1 have been formulated into a practical global agenda aimed at reforming how socio-economic progress is measured. The critique of GDP entered the political mainstream in the late 2000s, with a flurry of international conferences, increasingly prominent political buy-in and the formation of the Stiglitz Commission in 2008 by president Sarkozy (Cassiers 2007; Kroll 2011; Bache 2013), with the explicit mandate to suggest ways of addressing the critiques of GDP outlined in section 1. This section reviews some the central measurement initiatives which have been enacted by national and global statistical agencies in response to the recommendations in the Stiglitz report.

While many of these reforms have taken place outside national accounting systems, and essentially understand the problem of moving beyond GDP as developing supplementary indicators, others raise significant questions about the scope, integrity and borders of the national accounting description of 'the economy'. In introducing the four agendas which will be examined in detail in the substantive chapters of the thesis, I show how each of these reforms raises important questions about the ability of national accounts to constitute the economy as a legible statistical object. They are thus encountering growing tensions with the epistemological and ontological assumptions underpinning market-centric economic theory on which the SNA system itself relies. As I show in the final section, however, the nature of the growing tensions between the beyond GDP accounting agenda and market-based economic theory has yet to be explored fully in existing accounts of the politics of the beyond GDP agenda.

*Embedding Inequality into the National Accounts*

As we've seen, the issue of inequality has been fundamental to the critique of GDP as a measure of welfare; consequently, the better measurement of inequality has received a great deal of attention within the contemporary beyond GDP reform agenda. Measuring how market resources are divided up between citizens does not on the face of it appear to challenge the idea that the economy can be understood by analysing these market flows. But, as will be explored in chapter 4, this agenda raises a key challenge to the national accounting systems: how the statistical picture of household-level inequality can be reconciled with the aggregate representation of the economy studied by macroeconomics.

Since the development of centralised official statistical systems from the mid-20$^{th}$ century, the measurement of inequality between individual households and the measurement of economy-wide macroeconomic performance within the SNA framework has been conducted largely independently (Eurostat 2013; Kavonius and Honkkila 2013). The national accounts, from which GDP and national income figures are calculated, present the economy as several large sectors, with monetary flows between them that perfectly balance across the whole system. This is the 'macro' statistical picture of the economy constructed by neo-Keynesian macroeconomic theory and post-war planning departments. It is used extensively by central banks and financial

ministries for forecasting and the analysis of macroeconomic policy interventions. As a Eurostat manual on the SNA system explains:

> A national economy represents a closed space (a country), the outside is the rest of the world…the economic circuit presents the distribution of income within a national economy, and between a national economy and the rest of the world (Eurostat 2014, 22).7

This picture of the economy relies for its construction on aggregated information given by tax records, administrative data and business registers, based on centralised reporting of accounts from banks, companies and state agencies. These are then 'balanced' against one another within the national accounting divisions in statistical agencies. The market economy is here described as a unitary whole, with each positive showing up a negative somewhere else in the system, providing, in the words of the ONS, a 'single picture of the economy which is consistent, coherent and fully integrated' (ONS 2011: 4).

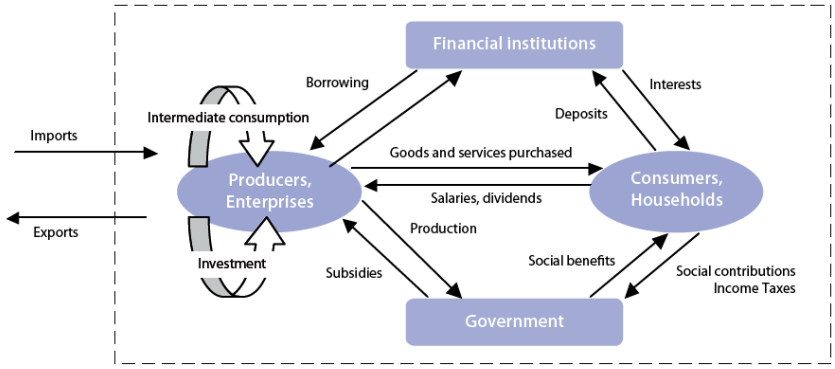


*Figure 1: "The Economy' as Represented by the National Accounts (from: Eurostat 2014).*

Within national accounting frameworks, the 'household sector' is thus represented as one unit of the economy, with an aggregate statistical relationship to the 'business sector', 'financial institutions' and 'government' and an aggregated balance sheet.[8] It has, however, no internal inter-household flows or relationships (these are 'netted out'), and

[7] 'Distribution' here means at the aggregate level – distribution to the factors of production via different income categories (profits, wages etc.).

[8] The national accounts provide 'input-output tables', based on the work of Leontief, which trace flows between business sectors and allow for the value added of these sectors to be summed. These do not extend to the household sector.

is often calculated indirectly as a 'residual' of the other sectors (governments, corporations, banks), rather than being observed directly (Interview RT). It appears as an internally homogenous black box. This is largely because direct data on households is lacking from the centralised data infrastructure which form the backbone of national accounts (ONS 2011; Eurostat 2014): administrative tax records and the business register. The distribution of resources within the household sector therefore cannot be gleaned from national accounting data, such as GDP.

Meanwhile, a different statistical picture of the economy – focused on the internal distribution of resources within the household sector – is generated by 'micro' data (Eurostat 2013). This has historically relied upon surveys sent out by statistical agencies and filled in by households. While micro data *is* used as an input into the national accounts balancing process, this is mainly to check and adjust the overall residual totals for the household sector (Interview JZ). It typically relies upon people self-reporting the income they receive from various sources over a given period (not always the same as the national accounts year), what items they consume and – usually in different surveys – their assets and liabilities owed (real and financial). Historically they have tended to also vary quite dramatically in composition between countries, and before the crisis there was no international standard for micro data equivalent to the SNA framework. These data are associated with social policy and labour economics and have been used historically within government departments to analyse the functioning of welfare and benefits systems. Scaling up the incomes reported in the surveys to the total population gives another estimate of household living standards.

The measurement of inequality remains one of the most active strands of the global statistical project catalysed by the beyond GDP agenda. The UN Statistical Commission had been involved in the production of inequality data as early as 1966; this work stalled for lack of resources and interest in the 1980s (OECD 2013b, 19-20). From the 1990s onwards, neoliberal restructuring led to a renewed interest in the measurement of inequality, a problem brought into sharper focus by the impact of the global financial crisis (Wilkinson and Pickett 2010; Piketty 2014; Atkinson 2015; Saez 2017). A review of the issue by the Conference of European Statisticians (CES), in 2008, led to the formation of the 'Canberra Group' taskforce, which updated international guidelines on income inequality measurement in 2011 (UNECE 2011). This growing interest

influenced the recommendations by Stiglitz Commission in 2009, which emphasised that statistical systems should pay more attention to distributional data and 'the household perspective' should be emphasised in analyses of economic performance (Stiglitz et al. 2010).

Part of this effort has simply focussed on creating harmonised international standards for the collection of basic micro data on inequality, and highlighting the connections between income, consumption, saving and wealth data. Internationally, the OECD has taken the lead on this by compiling an international framework in which such data is to be collected so as to improve cross-country comparability (OECD 2013b). Furthermore, the G20 Data Gaps Initiative, overseen by the IMF and FSB, has prioritised improving the statistical base on inequality internationally.[9] Another thread of this agenda has focussed on improving the visibility and timeliness of indicators such as household disposable income which can be derived from existing national accounts data (Eurostat 2011b; OECD 2015d).

However, one of the most active strands of this agenda has focussed on the question of bringing data on economic inequalities into line with the macroeconomic framework of the national accounts. This goal was reflected from the outset, with the Stiglitz report recommendation that 'distributional measures should be compatible in scope with average measures from the national accounts' (Stiglitz et al., 2009: i43), and it has occupied an increasingly prominent place in recent reforms on inequality measurement.

The main institutions overseeing this work are the OECD, Eurostat and the ECB. The OECD acts as a forum to co-ordinate international efforts to construct such 'distributional national accounts' (Piketty et al. 2016) and have created a dedicated cross-country working party (in collaboration with Eurostat) of senior statisticians and national accountants from across OECD countries to oversee these efforts and share results and best practice (Eurostat 2011b, 2013; OECD 2017).[10] At the European level,

[9] Recommendation #16 of the G20 DGI was that: 'statistical experts (should) seek to compile distributional information (such as ranges and quartile information) alongside aggregate figures, wherever this is relevant…the OECD is encouraged to continue in its efforts to link national accounts data with distributional information' (IMF and FSB 2009, 8).

[10] Known officially as the Expert Group on Disparities in National Accounting (EG DNA).

in 2010 the Directors General of the National Statistical Institutes (DGINS) declared that: 'there is a strong need to reconcile National Accounts aggregates with household survey data' (DGINS/ESSC 2010, 2). This was echoed in the 2011 Eurostat taskforce convened in response to the Commission's communication 'GDP and Beyond', which set out the EU's response to the recommendations of the Stiglitz commission and the wider beyond GDP agenda. Eurostat threw its resources behind the OECD's work, committing European statistical agencies to the medium-term goal of:

> Publishing at least every ten years a satellite account for the household sector where households' accounts as described by national accounts…are disaggregated by several categories of households (Eurostat 2011b, 19).

These priorities were re-affirmed in the Vienna Memorandum, issued after the 2016 DGINS meeting, which was dedicated specifically to the issue of distributional national accounts, and pledged 'to work towards the development of a comprehensive methodology for linking micro and macro data' and the 'reconciliation and integration of information at the macro and micro levels' (DGINS/ESSC 2016, 3).

A work stream has been launched by the ECB (Kavonius and Honkkila 2013; ECB 2016), specifically 'to investigate the comparability and integration of these two data sources in order to provide distributional information on wealth embedded in the household sector accounts' (ECB 2016, 5). This followed the launch of the Household Finance and Consumption Survey (HFCS) and the related research network, specifically to better measure wealth inequality in Europe. Similar initiatives have also been conducted by national agencies, for instance at the UK's Office for National Statistics, often explicitly in support of these international initiatives (ONS 2015a).

These initiatives demonstrate how the specific issue of aligning data on inequality with national accounting frameworks has come to form a major component of the international statistical agenda on measuring inequality, forming a major part of the official statistical work conducted in response to the Stiglitz recommendations. At stake here is whether the micro and macro statistical descriptions of the economy can be held together as a unified whole. The implementation of this agenda, and its interaction with post-crisis developments in macroeconomic theory, will be the subject of chapter 4.

*Valuing Unpaid Work*

Critiques of the exclusion of unpaid work from GDP (see section 1) have led to increased efforts to extend national accounts to include such non-market activities as part of the beyond GDP agenda. Indeed, the fifth key recommendation of the Stiglitz Commission stated that:

> Many services that households produce for themselves are not recognized in official income and production measures, yet they constitute an important part of economic activity…Comprehensive and periodic accounts of household activity as satellites to the core national accounts should complement the picture (Stiglitz et al. 2010, 14).

An example of this being put into practice is the system of 'household satellite accounts' developed by the UK ONS since 2011 (ONS 2016b). These seek to measure the value to the UK economy of various types of non-market activity, including volunteering, unpaid care work for children and adults, and even laundry.

Such a move, however, presents a radical challenge to existing national accounting terms and concepts. The SNA explicitly defines 'economic' activity as that which falls within a clearly defined 'production boundary' (UN 2008, 6-7). This boundary refers to the criteria used to distinguish between economically productive activities, included within the national accounting system and aggregate indicators such as GDP, and activities which fall outside of this boundary and are classed as non-economic. Beyond GDP accounting efforts have thus focused on developing practical tools to impute values for household services, in an attempt to extend this production boundary.

These efforts developed from the 1970s onwards, partly animated by wider changes in social structures and norms – which, as Kuznets himself had argued, should be the basis for national accounting definitions. For instance, the entry of women into the workforce in significant numbers from the 1960s jeopardised the inter-temporal validity of GNP growth rates for the post-war period. Eisner argued:

> The vast increases in conventional GNP associated with the major movement of women into the labour force may signify a much lesser gain in total output, as nonmarket child care gives way to the paid babysitter and nursery school, care of the aged to nursing homes, care of the sick to hospitals, and home cooking to MacDonald's (Eisner 1989, 3).

Methodologies for valuing this work focus on large government time-use surveys (ONS 2013a: 11-15; Goldschmidt-Clermont and Pagnossin-Aligisakis 1999) to obtain figures for the hours people spend in different productive activates outside labour markets– such as caring for children or volunteering with a charity. These are then compared with reference wages for similarly skilled market work (for instance, a paid childminder), to obtain a figure for the amount which would have to have been spent to delegate this work to a third party on the market. Improving these estimates and including them in national accounting representations of the economy has become a key plank of recent beyond GPD reforms in the wake of the Stiglitz commission (Eurostat 2011b; OECD 2011a; ONS 2016b).

Thus, the extension of the national accounts production boundary to include unpaid activity is a second key challenge to constitution of the economy and its boundaries with 'society' that the beyond GDP agenda poses. As chapter 5 will explore, however, integrating these methodologies into the national accounts is not a simple task. The practicalities of *how* these activities might be measured are revealing the complicated entanglements between 'the economy' and 'society' and the difficulties of comparing the incommensurable values of market and non-market forms of economic life.

*Measuring Sustainability: Accounting for 'Comprehensive Wealth'*

A third key series of accounting initiatives has revolved around the extension of the SNA asset boundary to better measure the 'comprehensive wealth' of nations (World Bank 2018). As reviewed in section 1, a major component of the critique of GDP is that it ignores the effect of growth on the natural and social processes that sustain it. The 1953 SNA, for instance, simply stated (without further justification) that: 'charges made for the depletion of exhaustible natural resources are not included in the provisions for the consumption of fixed capital' (UN 1953, 7). Hence at the founding of the national accounts the economic value of the natural environment, as well as knowledge and social institutions, was implicitly placed at zero.

Over the post-war years, the limitations of the asset boundary established by the SNA became increasingly evident. The *Limits to Growth* report in 1972 (Meadows et al. 1972),

as well as the work of economists such as Georgescu-Rogen (Georgescu-Roegen 1971) placed growth of the economic system within biophysical environmental constraints. The framework of capital was increasingly used to theorise these shifts (see Akerman 2003), with 'natural capital' emerging as a term to theorise the various services provided to the economy by the natural environment, and which depended on the maintenance of scarce ecological resources (Pearce 1988; Daly 1997). Around the same time, there was a shift in economics towards focussing on skills, knowledge and innovation. Economists such as Gary Becker began to think about education and skill acquisition as a form of investment in future income and wage generation (Schultz 1961; Becker 1962).[11] Later, exogenous neoclassical models of growth, which had posited technological change as an external variable, were replaced by endogenous models which emphasised the institutional drivers of innovation. This prompted a change to thinking about education spending and skill development as an investment in the human capital base of a society (Caballé and Santos 1993; Benhabib and Spiegel 1994; Romer 1994).[12]

Thus, over the post-war period, economists, ecologists and sociologists began to think of natural capital, human capital and social capital as additional components of national wealth, in addition to produced and financial capital stocks included in the SNA. However, the accounting-based capital approach has become the dominant framework for *measuring* sustainability only in recent decades.

The 1980s saw the concept of 'sustainable development' gain prominence in global governance discourse. The term was popularised by the 1987 report of the World Commission on Environment (WCED) and Development, convened by the UN General Assembly and chaired by Harlem Brundtland (WCED 1987). The Brundtland report defined sustainable development in open-ended and equivocal terms, as that

[11] Indeed, according to critical readings, notably Foucault, these shifts were a distinguishing feature of the development of neoliberal reasoning as a whole, as the individual was reconstituted as a rational entrepreneurial subject (Miller and Rose 1990; Foucault 2010).

[12] The role of institutions, legal structures and social norms in economic development also became the object of increasing research. The work of sociologist Robert Putnam was influential in this regard (Putnam, 2001). Putnam's work highlighted the post-war tendency towards more privatised and individualised forms of leisure and the erosion of 'bridging capital', which underpinned a functioning civil society. These literatures gave rise to the notion of 'social capital', the idea that interpersonal norms and trust can be thought of as a national resource which smooths economic development.

which 'meets the needs of the present without compromising the ability of future generations to meet their own needs' (ibid, 41). In the 1990s, the search was on for ways of operationalising and monitoring the concept of sustainable development and integrating it into mainstream policy-making. The notion of the natural world as an additional capital stock was mentioned in the Brundtland report, which said for example that:

> The process of economic development must be more soundly based upon the realities of the stock of capital that sustains it. This is rarely done in either developed or developing countries…incomplete accounting occurs in the exploitation of other natural resources, especially in the case of resources that are not capitalized in enterprise or national accounts: air, water, and soil (WCED 1987, 48).

However, despite this there were few concerted attempts at formally integrating extended capital stocks into national accounts or valuing extended capital stocks in the 1990s.

Immediately after Brundtland, two main approaches were taken to the measurement of sustainable development: sustainable development indicator dashboards and adjusted national income measures (or green GDP). Both, however, encountered growing resistance during the 2000s.

Firstly, policy-based indicator sets, usually called sustainable development indicators (SDIs), were produced on a mainly national basis from the late 1990s to monitor sustainable development strategies. The UN set up a Commission on sustainable development following Brundtland, with a mandate to explore monitoring approaches. The Agenda 21 of declaration issued by the UN General Assembly at the 1992 Rio Earth Summit stated that:

> Indicators of sustainable development need to be developed to provide solid bases for decision-making at all levels and to contribute to a self-regulating sustainability of integrated environment and development systems (UNGA 1992, 346).

The first set of SDIs were produced by the UK in 1995, followed by many others over the following decade.[13] There was little agreement or standardisation on the content of these, but most reproduced a conceptual separation between the three 'pillars' of sustainable development established by Brundtland: economic, environmental and social. However, SDIs were increasingly discarded as an adequate framework for measuring sustainability during the 2000s. Partly this move was rooted in a critique of the inconsistent theoretical foundations of earlier generations of sustainable development indicators. For instance, the UNECE, OECD and Eurostat report on measuring sustainable development argued that:

> It is relatively rare that such strategies have been based on an explicitly defined conceptual framework…Where a framework for the indicators has been expressed explicitly, it sometimes very simply takes the form of the "three pillars" approach, where the pillars are usually economy, society and the environment….the capital framework can be found explicitly behind only a handful of indicator sets (UNECE/Eurostat/OECD 2008, 3).

SDIs were also seen as being idiosyncratic, bound up with the passing priorities of the government of the day. The same report argued that 'an obvious drawback to indicators that are strongly aligned with a policy framework is that changes in the policy framework can mean the indicators have to follow suit', and that 'only minor consideration has been given to international comparability in the development of national indicator sets' (ibid, 4). Moreover, the Stiglitz report argued that:

> [D]ashboards…suffer because of their heterogeneity…most lack indications about causal links, their relationship to sustainability and/or hierarchies among the indicators used. Further, they lack…the powerful attraction of a single headline figure allowing simple comparisons of socioeconomic performance (Stiglitz et al. 2010, 63).

This illustrates how the SDIs that had proliferated in the 2000s were increasingly seen to be conceptually flawed and in need of more formal integration into accounting and decision-making structures.[14]

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[13] Switzerland, the United Kingdom, Germany, Sweden, and Belgium, to name a few in Europe, were among those to establish SDIs in the late 1990s.

[14] United Nations Conference on Sustainable Development (Rio+20) held also in Rio de Janeiro, in 2012, reiterated that: 'integrated social, economic and environmental data and information ... are important to decision-making processes' (UN 2012, 27).

Secondly, many composite development indicators or adjusted GDP figures were compiled in the 1990s, usually by NGOs or think tanks rather than official statistical agencies. The Genuine Progress Indicator (GPI) was the most prominent example of these (Neumayer 1999; Lawn 2003; A. J. Brennan 2013). This measure takes GDP – a flow measure of national income, not a stock measure of capital – and then re-arranges its components to deduct 'bads' and adds imputations for non-market work. For instance, money spent on pollution abatement is moved from a positive income item to a negative deduction. These composite indicators also faced criticism for being flawed or theoretically inconsistent approaches to sustainability measurement. The Stiglitz report itself, for example, argued that adjusted GDP measures 'fail to distinguish clearly between the measurement of current welfare and the assessment of its sustainability'. It suggested that they are really an adjusted measure of present welfare, which factors into this the negative or welfare-destroying externalities of market activity on the environment and society.[15] Measures like the GPI and Green GDP are thus increasingly criticised as they do not focus on measuring changes to the value of the environment, knowledge or social institutions as a capital stock, visualised as part of an extended national balance sheet, but rather confuse the distinction between a *flow* of present welfare with the *stock* of capital that produces this (see chapter 6).

Consequently, in the late 2000s the global approach to measuring sustainability was increasingly re-oriented around a more formal accounting framework rooted in the concept of capital. The Stiglitz commission recommendations were again influential in effecting this shift. The report deployed the analogy of a car's dashboard – in which both the speed and the amount of petrol are displayed as distinct indicators – to promote the distinction between 'flow' measures of present wellbeing and measures of the 'stock' of capital that this depends on as a way of approaching sustainability measurement. It stated that:

> We firmly believe that sustainability deserves a separate measurement…focusing on what the literature calls a "wealth" or "stock-based" approach to sustainability…Sustainability requires the simultaneous preservation or increase in several "stocks": quantities and qualities not only of natural resources but also of human, social and physical capital (Stiglitz et al. 2010, 61; 77-68)

[15] It was also in this period that the UN's Human Development Index (HDI) was created, along similar lines.

Thus, the Stiglitz approach formalised the conceptual addition of natural, human and social capital to a broader accounting treatment of national wealth and made it the dominant framework in which GDP work has been approached. But the Stiglitz report must be situated within broader developments around the measurement of sustainability that pointed in the same direction while predating the Commission's recommendations.

Influential in this respect (and directly cited by the Stiglitz report) has been the work of the joint UNECE, OECD and Eurostat taskforce on measuring sustainable development set up by the UN in 2005. The mandate of this taskforce was explicitly to integrate and formalise the concept of sustainable development, and to review the various monitoring and measurement approaches that had emerged since Brundtland. This report also strongly advocated the capitals approach to sustainability, positing stocks of natural, human and social capital as components of extended national balance sheets:

> [T]o assess the potential of future generations to pursue their well-being, information is needed on the changes in the stocks of economic, natural, human and social capital. If these stocks are calculated using a common measure and assumptions are made about the substitutability of various capital stocks, changes in the total stock of wealth (per capita) will provide information on the sustainability of the development path of each country (UNECE et al. 2013, 63).

Furthermore, earlier work by both the World Bank (World Bank 2006) and OECD (OECD 2001) had influenced the growing interest in treating sustainability through the perspective of capital. In a recent report it argued that:

> Comprehensive wealth accounts show the value of various assets at a particular time and they can also be used to monitor whether per capita wealth is maintained or is increasing over time. This is a simple criterion for sustainable, long-term growth (World Bank 2018, 31).

The World Bank has been active globally in this sphere though its Wealth Accounting and the Valuation of Ecosystem Services (WAVES) programme (World Bank 2018), based on natural capital measurement, and its work on the concept of adjusted net savings, a total measure of the aggregate change in the wealth of a nation across all capital

stocks.[16] This approach has also been influential in the UK, both at the ONS (2012a) and the dedicated Natural Capital Committee which oversees the greening of the UK's national accounts (NCC 2013). Perhaps most influentially, at least regarding natural capital, this is the approach instituted through the UN's System of Environmental-Economic Accounts (SEEA), accepted as a new global statistical standard in 2012. The SEEA states, for instance, that:

> One purpose of accounting for environmental assets is to assess whether current patterns of economic activity are depleting and degrading the available environmental assets…valuations of natural resources and land can be combined with valuations of produced and financial assets to provide broader estimates of national wealth (UN 2014a, 19).

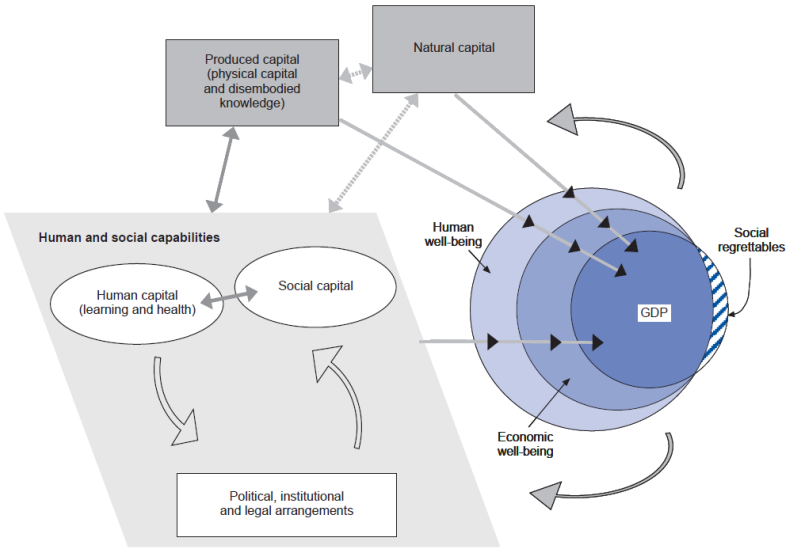


*Figure 2: The Capital Stocks Approach to Measuring Sustainability (from: OECD 2001)*

As we can see, at the end of the 2000s the measurement of global sustainability was re-constituted as the assessment of the depletion or maintenance of global 'capital stocks', extended beyond the produced and financial assets registered in the original SNA asset boundary. But this poses the problem of where the accounting boundary of 'economic' assets stops, and how to value nature and knowledge in the absence of market prices.

[16] While generally focused on the measurement of natural capital, the WAVES project has also conducted work on the valuation of global human capital stocks.

A central implication of all the critiques of GDP outlined in section 1 is that the non-market impacts of economic policies need to be better accounted for in official measurement systems. Therefore, one major aspect of beyond GDP reforms has been the development of new valuation methods to monetise the economic value of a wide array of goods that are not traded on markets – from air quality, to health and friendship. As will be shown in chapter 8, these techniques pose a challenge to the revealed preference underpinnings of orthodox consumer theory, developed in the mid-20th century. Furthermore, these valuation methods draw increasing upon aggregate survey data on subjective well-being that has been generated as part of the beyond GDP agenda. This, it is argued, can provide a direct representation of the utility generated by various non-market goods, and underpin monetary valuations as inputs into accounting systems and cost-benefit analysis.

Survey data on life satisfaction had played a key role in the origins of the economic critique of GDP, as we saw in section 1. For instance, Easterlin drew upon Gallup polling data to ground his arguments about the declining utility of income and the observed breakdown of the relationship between wealth and wellbeing in affluent countries (Easterlin 1974). But before the 2000s, such studies had remained the preserve of private polling organisations, and thus lacked the credibility and international comparability of official statistical sources. They were also conducted on a largely *ad hoc* and often irregular basis. This made them poor candidates as socio-economic indicators both on comparability and temporal grounds and limited their use.

However, the post-Stiglitz international statistical agenda has heralded both the rapid standardisation of the measurement of subjective wellbeing and the large-scale incorporation of subjective variables into official, regularly produced surveys with large sample sizes (Hicks et al. 2013; OECD 2013c). The production of subjective data on a large scale by all governments was one of the central recommendations of the Stiglitz commission in 2009 (Stiglitz et al. 2010; White et al. 2012). Subsequently, high profile interventions in favour of producing wellbeing statistics and incorporating it into decision-making, notably in a speech by then UK Prime Minister David Cameron in 2010. Such support was crucial in legitimising subjective data and the science

underpinning it (Interview AS). This has since been reflected in the creation of a dedicated institutional unit inside the UK government in 2015 (Interview DS).

At the international level, meanwhile, the OECD was given the task of creating a set of standardised methodological guidance for the measurement of subjective wellbeing and promoting its harmonisation and cross-country comparability (OECD 2013c). This formed a part of its wider embrace of 'wellbeing' as an organisational response to the crisis of 2008, and the apparent failure of its traditional growth-focused policy advice, under the banner of its internal 'New Approaches to Economic Challenges' programme (Mahon 2015; OECD 2015b, 2015c). The first decade of the beyond GDP agenda has therefore precipitated an avalanche of official statistical data on populations' subjective mental states; these are now accepted as never before as a legitimate object of official measurement and governmental scrutiny.

There remained a stubborn question, however: what exactly is the relevance of such subjective data to economic analysis, and how can it be made tractable to policy problems (Hicks et al. 2013)? In extreme versions, it has been argued subjective wellbeing should become the central metric within new public 'accounts of wellbeing' (Kahneman et al. 2004), which would gradually supplant traditional national accounts of the market economy and become the overarching objective of all public policy. This has been generally rejected as too radical a paradigm shift in statistical and accounting communities. The use of aggregate wellbeing data as a headline indicator as one dimension within multi-dimensional dashboards has become common (Eurostat 2011c; OECD 2014; ONS 2016c), but faces continued resistance. Since these emotions are usually captured using 10-point scales, built into their measurement is an upper bound and long-term temporal stability (Ormerod 2012). This means that headline figures do not move up or down appreciably over time: while they fluctuate somewhat in response to sudden sharp shocks such as economic crises, they generally cluster around stable long-term national averages. Such stability clashes with the acceptable temporality of a policy indicator – which should move up and down appreciably to assess governmental performance (Hicks et al. 2013). There are also fears that if used as an explicit political target it would lose its informational content (Frey and Gallus 2013a). The rise of official subjective well-being measurement can therefore be characterised as a data revolution in search of a policy application.

However, wellbeing data has found new applications as part of the broader beyond GDP critique of the revealed preference assumptions of economic consumer choice theory, that has emerged within policymaking discourse alongside the behavioural economics revolution and the rise of positive psychology.[17] In this context, wellbeing data is presented as a solution to the practical political problem of pricing diverse non-market goods in cost-benefit analysis (Frey et al. 2004), informing well-being based policy interventions that will address the hedonic failures of the market. Well-being data has found a new lease of life as a means of practically addressing criticisms of GDP through a scientifically robust demonstration of the gap between market prices and experienced utility. An increasingly influential use of this data is to derive accounting values for non-market goods as an input into cost-benefit analysis (SIT 2011); this agenda will be discussed in detail in chapter 8.

## 2.3 Assessing Beyond GDP: Managerialism and De-Growth Critique

As we can see, the measurement reforms catalysed by the beyond GDP agenda go right to the heart of the question of what the economy *is*, raising questions about its ontological unity and borders with society and the environment, as well as about the meaning and extent of apparently core economic concepts like capital, value and production. Nevertheless, a comprehensive empirical investigation of the exact nature of the challenge posed by these reforms to economic theory, and how this challenge is managed by the global statistical and accounting community, has yet to be conducted. Mapping the nascent literature this agenda onto broader philosophical and epistemological positions on the role of quantification and measurement in the governance of economic life, we can identify two distinct positions in the literature on the beyond GPD agenda. Each of them, I suggest, is characterised by the assumption that accounting practice shares an identity with market-based economic reasoning.

[17] Economists with a background in positive psychology, such as Richard Layard and Paul Dolan, have become key advisers to the UK government, while also gaining important roles in developing methodological guidelines for subjective wellbeing measurement internationally (Dolan and Metcalfe 2012; O'Donnell et al. 2014).

*Managerial Perspectives on Beyond GDP*

A first set of perspectives, **'managerialism'**, offer a cautiously optimistic perspective on the potential of beyond GDP measurement reforms to effect incremental yet transformative top-down change, which can overturn the growth paradigm in politics and development discourse. The economy is still often conflated with the market system in such literature, but 'economic' outcomes are to be nested within a broader multi-dimensional information system in which the trade-offs between the 'economic' and 'non-economic' ('social', 'environmental' or 'political') dimensions of progress become more transparent.

Managerialist perspectives tend to originate in disciplines which are more positivist in orientation, originating in the work of accountants, statisticians or ecological economists, many of whom have been key to formulating the mature critique of GDP and inspiring the contemporary reform efforts. Consequently, they tend also to write with an advocacy voice (Costanza et al. 2009). In their political orientation, these accounts tends to be managerial and gradualist, focussing on institutional adjustments that can effect incremental change which amounts, over time, to a substantive paradigm shift in thinking about social progress (Chancel et al. 2014).

The mechanism by which managerialist accounts imagine change away from an obsession with market-led economic growth being affected is often through incentive structures. Through a gradual re-wiring of the targets and performance metrics set in key decision-making sites, it is argued that this agenda can readjust the priorities that governments and businesses pursue. Donella Meadows, one of the authors of the Club of Rome's original 1972 *Limits to Growth* report, which helped raised the profile of the critique of GDP and catalysed the search for alternative metrics, has argued (writing before the current agenda took shape) that:

> Changing indicators can be one of the most powerful and at the same time one of the easiest ways of making system changes—it does not require firing people, ripping up physical structures, inventing new technologies, or enforcing new regulations. It only requires delivering new information to new places…if there are good indicators of sustainable development, it will be almost impossible *not* to make decisions and take actions that make the indicators improve (Meadows 1998, 5).

On similar lines Kroll argues that 'the possible consequence of the new sets of indicators if they are set up in a prominent position would be nothing less than a reorientation of politics in accordance with the information brought to light' (Kroll 2011, 23). This is not to suggest that such accounts are politically naïve, or do not appreciate the scale of the challenges involved in contesting the hegemony of GDP in governance thinking. However they construct this relationship in a particular way: while GDP does present a formidable institutional orthodoxy, generating considerable inertia (Hayden and Wilson 2016), this is largely due to its long-established position in the common-sense metrics used to assess governmental and business performance.

These perspectives mobilise representationalist or descriptive (see Austin 1975, 1-3; Rorty 1989, 3-21) epistemological claims about the connection between statistics and reality. GDP, in this account, is akin to a vast information failure, which distorts political debate by putting a biased emphasis on the growth of the economy. Kroll, for instance, argues that measuring other dimensions of progress and displaying this information alongside information on 'economic' performance will be a 'victory for evidenced-based policymaking', and bring 'more transparency and accountability' (Kroll 2011, 23); while Whitby et al. suggest that 'if our measurements are flawed or incomplete, decisions are likely to be distorted' (Whitby et al. 2014, 13) This outlook is reflected in the preface to the Stiglitz report itself, which argued: 'We have wound up mistaking…our representations of reality for reality itself. But reality always ends up having the last word' (Stiglitz et al. 2010, ix).

Consequently, debates about the political significance of beyond GDP reforms in this literature thus to be focused on methodological rigour: the aim is to develop 'more robust' measures, to gradually test and validate these, harmonising and standardising indicators until they gain credibility and comparability. This also provides an explanation for lack of change in these perspectives: beyond GDP measures simply need time to establish themselves as reliable and credible (Seaford 2014; Whitby et al. 2014); they will gradually diffuse as their validity is recognised, and with a sufficient supporting communications strategy (Whitby et al. 2014). It is pointed out, for instance, that the national accounts themselves went through a similarly experimental phase before their methodologies were harmonised and accepted (Lepenies 2016).

In this view beyond GDP reforms, in emphasising non-economic factors, by definition challenge the ideological hegemony of markets, as they allow governments and citizens to better understand the trade-offs between economic and non-economic objectives. Implicit in this perspective is that the beyond GDP reforms predominantly involve having *less* of the economy vis other spheres of life. Using the common metaphor of dimensionality Dheret, for instance, suggests that:

> [T]here is no single factor which determines well-being. An individual's life satisfaction depends on a wide range of factors, which embrace health, labour-market participation, education, housing, security, income, work-life balance, working conditions, social relationships, access to public services, having a role in decision-making, etc….an individual's sense of well-being depends on both economic and social factors (Dhéret 2011, 2).

Kubiszewski et al. similarly argue that: 'Nations need indicators that measure progress towards achieving their goals - economic, social, and environmental. Standard economic indicators like gross domestic product (GDP) are useful for measuring just one limited aspect' (Kubiszewski et al. 2013, 58).

As such, the challenge to the very idea of the economy and its construction as an accounting and statistical object implied by moving beyond GPD is rarely a subject of analytical interest. The question is generally how they can best be mainstreamed into the day to day decision-making processes of powerful institutions (Chancel et al. 2014; Whitby et al. 2014; Bleys and Whitby 2015). What tends to be underplayed in these accounts is any sense that 'the economy' itself is an unstable, historical notion that changes over time and that does not constitute a realm constituted *a priori* of the ideas, modes of reasoning and measurement technologies used to understand it (Çalışkan and Callon 2009). Consequently, while a more inter-disciplinary, joined up policy-making process is advocated – supported by more 'horizonal' working across issues (Seaford 2014) – this is only because economic objectives will play a less important role in policy deliberation. The economy is still understood to be largely a discrete domain of statistical representation; however, its scope and importance is seen as in urgent need of curtailing.

To summarise, managerialist perspectives consider that the economy, understood as a largely self-contained system of markets, can continue to be construed as a discrete

dimension of governmental intervention, understood using the market-centric analytical tools and concepts of post-neoclassical economics. GDP and the national accounts will continue to represent this object. However, the importance of the growth of the economy needs to nested within a richer, multi-dimensional picture of human well-being. Through bringing non-market metrics into public and private incentive structures and decision-making systems, the growth of the market economy will be placed on parity with other 'non-economic' goals. Such perspectives thus downplay the challenge that is implied by beyond GDP accounting reforms to the historical theoretical categories and assumptions that allow the economy to be constructed as a 'dimension' of existence (that can grow or shrink) in the first place. As we have seen above, however, moving beyond GDP has created a series of initiatives and reforms that pose radical questions about the boundaries it draws between the economy and society or nature, and the unitary ontological vision of the economy that the national accounts are based upon.

*De-Growth and Critical Accounting Perspectives on Beyond GDP*

The second broad set of perspectives on the beyond GDP programme – originating in the **'de-growth'** political theory (Latouche 2009) and **critical accounting** studies (Carter and Toms 2010) – are much more radical in their assessment of the ideational changes needed to move beyond the growth paradigm. Unlike managerialist accounts, they insist that moving beyond GDP must involve problematising the naturalistic conceptual categories and language market-based economic theory used to frame political economic problems. However, they tend to assume that the translation of the beyond GDP agenda into accounting systems and methodologies can offer no resources in this broader problematisation of economic knowledge and the language of the market. Two aspects of this can be detected: firstly, the scepticism in de-growth accounts that the challenge to economic renderings of political problems can come from centralised or globalist institutions; and secondly, the general assumption in critical accounting studies that accounting technologies necessarily support economistic, market-based reasoning.

Unlike the managerialist mainstream, the political philosophy of 'de-growth' (Latouche 2009; D'alisa et al. 2014) *does* have at its core a fundamental critique of market-centric understanding of economy and society, and the constraints this ideational structure

exercises on political discourse. Takis Fotopoulos, for instance, suggests that de-growth politics 'implies going beyond the economy by challenging its domination of present life, in theory and in practice, and above all in our mind' (Fotopoulos 2007, 2). Similarly, Valerie Fournier has argued that:

> [T]he movement's main emphasis is not merely on calling for less growth, consumption or production, but more fundamentally, in inviting one to shift and re-politicise the terms in which economic relations and identities are considered … it is first and foremost about providing a critique of the economy and its colonising effect, and pointing to escape routes … maybe the main contribution of the degrowth movement to environmental politics and debates is that through its emphasis on "escaping from the economy" it provides both conceptual and practical strategies for challenging the growth economy (Fournier 2008, 528).

Thus, clearly de-growth perspectives are interested in the wider ideational transformation involved in moving beyond the growth paradigm and the challenges it represents to the dominance of economic theory in political life.

However, de-growth literature in general argues that the locus for this transformation must be local. Transition to a democratic de-growth politics must be effected through a re-localisation of economic decision-making and citizenship (e.g. Latouche 2009; Rees 2015, 43-52). The spatial and political imaginary of de-growth politics therefore contrasts the local and the communal with a liberal globalist imaginary that is incapable of delivering this transformation in the terms of economic discourse (Fioramonti 2013; Quilley 2013, 119-144). As such, de-growth perspectives on the beyond GDP agenda tend to mobilise a spatial metaphor that John Law has described as 'romantic complexity' (Law 2004), which contrasts the complex and global with the simple and local (see also Law and Hetherington 2000; Brassett and Higgott 2003). Law has argued that this focuses attention away from the way the categories of political space are constructed and contested, and should be replaced by a more 'baroque' sense of the global in which 'there is no final coherence. There is no system, global order, or network…Instead there are local complexities and local globalities' (Law 2004, 24).

In consequence, national accounting and centralised statistical systems are rarely explored as potential resources which may promote the shift away from the market-centric vision of the economy which dominates political discourse. Fioramonti, for

instance, largely dismisses beyond GDP accounting reforms as a technocratic fix, arguing that genuine political alternatives to GDP growth must come 'from below' (Fioramonti 2013, 82-144). Furthermore, beyond GPD accounting efforts are generally dismissed as window-dressing or a PR exercise: 'a smokescreen exercise to "humanize" statistical accounting' (ibid, 114), and one indeed through which 'the market mentality has expanded its reach' (ibid, 116). Such an attitude generally precludes a fine-grained empirical investigation of the methodological debates and changes in accounting reasoning that accompany such changes.

The suspicion of de-growth perspectives towards the beyond GDP agenda reflects a broader critical hostility to quantification and accounting rationality. It is rooted in a long critical lineage which implicates quantification, measurement and calculation in rationalistic, impersonal, abstract logics of power unique to post-enlightenment society – both within the modern bureaucratic state and the disciplinary accounting technologies of capitalist enterprise (Miller 1990; Klamer and McCloskey 1992; Miller and Napier 1993; Porter 2001).

This assumption of an identity between accounting practice and economic reasoning can be seen in early historicist sociological work on the origins of capitalism. Weber and Sombart both emphasised the importance of techniques such as double-entry bookkeeping to the rise of the capitalist mentality, and the centrality of impersonal measurement systems to the rationalistic 'iron cage' of modern bureaucracy (Weber 2004 [1905]; Chiapello 2007). This suspicion of quantification *tout court* is reflected in many later critical and anti-capitalist traditions, including much Frankfurt School (Horkheimer 2013 [1947], 58-59; Marcuse 2013, 168; 236) and later autonomist and post-Marxist literature – which sees the escape from capitalist forms of work as predicated on the crisis of capitalist accounting and measurement that immaterial labour has created (Hardt and Negri 2005; Spence and Carter 2011). The attitude of the critical theorist Andre Gorz is instructive:

> Economic rationalisation begins with counting and calculating. So long as they are not subjected to it, human activities are free from economic rationality: they are at one with the time, movement, and rhythm of life…from the moment I am no longer producing for my own consumption but for the market, everything changes. Then I need to learn to calculate…Calculation allowed an emancipation from all external tutelage while at the

> same time generating an order against whose objective laws there was no appeal (Gorz 1989, 109-112).

Since quantification in general can only further depoliticise the process of economic governance, re-locating it away from the immediate lived experiences of individuals and into centres of rationalised calculation, statistics offer no real route to contesting or destabilising market-based expertise or formalist reasoning on economic matters. Indeed, in reproducing the idea of the social world as amenable to quantified control and measurement, they further entrench many of the tenets of abstract, market-based thinking about the economy and help extend this reasoning to new areas of social life.

More recently, since the 1980s, quantified targets and indicators have been viewed as a form of political technology particularly suited to neoliberal, market-based modes of governance. They fit with a culture of auditing (Power 1997) and a managerial obsession with targets and performance metrics (Power 2004a) characteristic of the extension of competitive market logics into new areas of life and the privatisation of public activities. This means that quantification is considered mainly in terms of a technocratic tool which serves to de-politicise economic knowledge, extend market-based, financialised notions of value, and thus entrench broader neoliberal governing logics (Miller and Rose 1990; Rose 1991; Miller 2008; Lehtonen 2015). For instance, Merry and Conley argue that:

> The deployment of statistical measures tends to replace political debate with technical expertise. The growing reliance on indicators provides an example of the dissemination of the corporate form of thinking and governance into broader social spheres. (Merry and Conley 2011, 83).

Applied to the sphere of statistics at the level of global governance, they are implicated in a form of state ranking and surveillance which internalises and propagates liberal norms and penalises states which may attempt to take a course which diverges from deregulatory, free market principles, and which generally reconstitute states as competing destinations for capital investment (Monk 2002; Löwenheim 2008; Davis et al. 2012; Broome and Quirk 2015; Kelley and Simmons 2015).

This critical orientation has been applied to almost all of the specific planks of the beyond GDP agenda, despite their ostensible aim of challenging the hegemony of market-based measures of performance. This general perspective can be detected in

analyses of the rise of wellbeing data (Binkley 2011; Wright 2013; Davies 2015a, 2015b), the measurement and valuation of environmental sustainability (Rydin 2007; Bell and Morse 2008; Gómez-Baggethun and Ruiz-Pérez 2011) and human capital (Van Doorn 2014), health indicators (Wahlberg and Rose 2015) and attempts to measure poverty and inequality (Ilcan and Lacey 2011, 64-65).

My contention is not that these critiques are wrong *per se* – the intimate connections between calculation and accounting technologies and the rise of capitalist rationality are well-established and clear – but they tend to preclude a finer understanding of the surprising, contradictory logics at work in the way beyond GDP statistical reforms are re-constructing the relationship between accounting practice and economic forms of reasoning. They underplay the contradictory and often *re*-politicising (Porter 1996; Barry 2002; Desrosières 2015) results of the technical implementation of such reforms.

They also tend to assume that attempts to translate beyond GDP measurement concepts into the language of the market will *work*. The assumption is that economic theory has the technical and practical means to colonise ever more areas of life, including through the extension of measurement to apparently non-market issues. While, as the evidence I develop in this thesis shows, it is undoubtedly true that the demands and assumptions of market-based analysis do play a role in conditioning the implementation of this agenda, this perspective stops us from understanding how the very efforts to extend market concepts into new domains and fields of governance (and the limited and partial nature of these accommodations) creates important resources for contesting and politicising our understandings of the economic process.

## Summary

In this chapter, we have reviewed the central critiques of GDP that have emerged since the formation of the UN SNA in the 1950s. We then saw how these have been formulated into a mainstream governance agenda, that is posing new challenges for national accounting systems and the market-based assumptions about the economy on which they are built. However, neither of the two predominant perspectives on beyond GDP politics have investigated how fundamentally these statistical reforms are

challenging market-based understandings of the human economy and the historical concepts and assumptions which underpin this vision.

In the managerialist vision, this broader challenge to the terms and categories through which 'the economy' is naturalised as a discrete field of existence is assumed to be unnecessary. Through supplementing measures of economic growth with a richer set of indicators, beyond GDP reforms necessarily contest the hegemony of the market in political life, allowing a richer democratic discussion over the blend of social, economic and environmental goods that will provide optimal sustainable wellbeing. Moreover, they can help us deliver this version of the good life through re-calibrating the metrics and incentives that structure institutional incentives and decision-making processes. Against this, critical scholars warn that statistical and accounting systems are necessarily depoliticising and impersonal form of governance, implicated in the abstract, rationalist modern schemes of thought which reproduce and naturalise formal market-based assumptions about the world. From such a perspective, the translation of the radical potential of beyond GDP politics into the technocratic terms and categories of national accounting systems can only serve to co-opt the movement and undermine the prospects of a more fundamental democratisation and localisation of economic life.

As a consequence, we still lack qualitatively rich understanding of the ways in which these accounting and statistical initiatives are reconfiguring 'the economy' as a site of governmental knowledge. In the next chapter, I introduce Polanyi's historical perspective on the place of economy in society as a means of grounding such an investigation. The Polanyian approach I develop suggests that achieving the goals that the beyond GDP agenda has set itself will demand a wider ideational transformation in the very understanding and conception of what the economy is, and its status as a discrete realm of price-forming markets. Polanyi saw this shift in thinking as essential to recovering a substantive sense of the economy and the proper place of market exchange in economic processes. However, he also believed that accounting practices and valuation could play a foundational role in this transition. His work thus gives us a set of criteria for assessing whether beyond GDP reforms challenge market-centric modes of economic reasoning. This sets up the empirical contribution of the thesis, developed in the remaining chapters, by analysing to extent to which the practical implementation

of the beyond GPD agenda is problematising this historical understanding of the economy and its statistical construction.

# 3. Freedom from the Economy: A Polanyian Framework for Assessing Beyond GDP Accounting Reform

In this chapter, I present a framework to evaluate the challenge efforts to move beyond GDP represent to the theoretical idea of the economy constructed by market-centric theory. I ground this in Karl Polanyi's critique of the intellectual legacy of market society (Polanyi 1968, 1977, 2001 [1944]). As we saw in chapter 2, in the existing literature there has yet to be a sustained investigation of the challenge to the market-based view of economy which these accounting reforms present. Yet this agenda has been characterised by struggles about the very meaning and boundaries of the economy. Tensions over what is included 'inside' the economy and what things fall outside of it are at the heart of contemporary debates about how we conceptualise progress in contemporary societies. In this chapter I therefore make the case for the value of understanding the agenda through an engagement with Polanyi's critique of the 'market mentality', and the impact of post-GDP accounting on the assumptions which underpin this view of the economy.

To develop this approach, I draw upon recent currents in Polanyian literature that have placed greater emphasis on the ideational aspects of Polanyi's critique of markets (Watson 2005; Dale 2010; Block and Somers 2014; Holmes 2018). These are drawn upon to suggest that a Polanyian approach to moving beyond GDP requires moving beyond the structure of thought that equates the human economy with the market system, and the assumptions about human nature that accompanied this vision. However, Polanyi's work also emphasises how accounting and monetary valuation can play a role in such a transformation in economic reasoning (Polanyi 2016 [1922]). The empirical contribution in the remainder of the thesis is thus to provides an in-depth assessment of how far beyond GDP reforms to national accounting are exposing the need for this more fundamental re-assessment of the nature of the economy.

In the first section, I introduce my reading of Polanyi's thought and situate this in the secondary literature on Polanyi's ideas. I show how there has been a turn to emphasising Polanyi's later comparative and historical work on economic institutions, over his

analysis of the dis-embedding of the market system in *The Great Transformation* (Block 2003; Watson 2014a). Polanyi's work has increasingly been read as a critique of the universalisation of forms of economic reasoning developed to understand the historically contingent institutions and norms of Western market societies (Holmes 2014). In this context, I introduce the important distinction Polanyi drew between 'formalist' and 'substantive' representations of the economy which underpins the remainder of the thesis. I suggest that Polanyi's work was centrally concerned with overcoming the distorting picture of human society reproduced by 'formalist' forms of economic thinking, which narrowed understandings of economic relations to the process of means-end calculations under scarcity conditions (Polanyi 1968, 142-148). When market-based modes of reasoning are generalised, they narrow societies' sense of political agency and impoverish the social imagination. Thus, a Polanyian reading of the agenda suggests that it will be impossible to fulfil the objectives it has set itself without problematising this broader vision of economy and humanity on which it rests. A project to move 'beyond GDP' must involve moving beyond the structure of language and representation that create 'the economy' as a distinct field of governmental reasoning.

In the second section, I unpack in more depth what recovering a 'substantive' vision of the economy demands. I show how formalist reasoning, in Polanyi's thought, rests on an 'economistic fallacy' (Polanyi 1977, 5): a complex of assumptions about economy and society that make it possible to conceive of the economic process as a closed, law-bound system of market transactions. In particular, I identify four characteristic features of this way of thinking: firstly, it assumes that the economy is an autonomous, self-adjusting system possessing internal ontological unity; secondly, this unity rests on upholding a boundary between the economic and the non-economic sphere of life; thirdly, it naturalises a view of money as functioning purely to facilitate market exchanges, therefore precluding the independent use of money as a unit of account; finally, it is associated with a naturalistic and hedonic vision of human nature, which reduces economic behaviour to a rational behaviour in response to price stimuli and conflates 'value' and price with utility. Finally, I show how beyond GDP reforms to the production of the national accounts increasingly challenge their ability to uphold the economistic fallacy. Thus, beyond GDP reforms are increasingly at odds with some of the fundamental tenets of 'formalist' economic theory. This chapter thereby sets up the remainder of the thesis and its substantive contribution.

## 3.1 Pathologies of the 'Market Mentality': Polanyi and the Critique of 'Formalist' Economic Thought

In this section I outline and situate Polanyi's critique of economic ideas and economistic modes of reasoning, and the effects of these in disciplining how political and ethical problems are understood. Firstly, I make the broad case for understanding Polanyi's work in terms of the political effect of economic ideas, locating this both in relation to wider contemporary currents in political economy and economic sociology and the secondary literature on Polanyi. Secondly, I unpack Polanyi's key distinction between formalist and substantive definitions of the economy, and the various pathologies which he ascribed to formalist modes of reasoning. Thus, I show how the question of what 'the economy' is, and how it emerged as a discrete and separately instituted field of human action and reasoning, lies at the core of Polanyi's thought.

*Polanyi as a Critic of Economic Ideas*

Before we proceed to discuss Polanyi's account of how the modern conception of the economy came into being, and to specify the distinctive features which he saw as accompanying this historically unprecedented intellectual development, it is thus helpful to briefly locate Polanyi's work within the broader history of economic thought. The economy emerged as a distinct object of theoretical speculation only with the rise of commercial society (Backhouse 2002); before that thinking on economic matters was bound up with moral and theological discussions, particularly natural law and just price theory (Foucault 2010). In the 17th century, with the rise of commercial society and the first global commodity markets, this evolved into a distinctive mode of governmental reason concerned with maximising the power of the sovereign, associated with mercantilism. Classical political economy was thus grounded within these broader currents of thought, partly as a solution to the post-Hobbesian question of what holds society together and partly evolving out of theological ideas of 'nature' and the natural order (Tawney 1920, 8-19). Liberal theory secularised these ideas, through the harmony of human reason with a just natural order. In the work of Smith, economics thus remains inseparable from moral philosophy (Smith 2010 [1759]; Watson 2012).

Gradually, over the course of the 19th century, mainstream economic theory became more formal and deductive (Yonay 1998; Watson 2018). The empirical, ethnographic richness of Smith's work evolved into the faceless workers, capitalists and landowners of Ricardo, and mathematical reasoning gradually replaced empirical and historical analysis. This process was further advanced by the development of marginalism in the late 19th century (Howey 1960). Many different strands of thought emerged in reaction to this development. A heterodox tradition emerged with the German Historical School, institutional analysis (with the work of Veblen and later Commons), and the sociological approach of Weber, Simmel and Tonnies (see Dale 2011a; 2016b, 13-54), who sought to show how modern capitalism came into being as a result of ideational and ethical shifts associated with the European reformation.[18] In the late nineteenth century there thus appear two traditions of economic analysis: one, which came to be called simply 'economics', was based on marginal utility theory and the notion of equilibrium and viewed the economy as a natural, ordered and rule-bound system (Dale 2018); the other sought to locate the market system in the historical, social, political and institutional context within which the appearance of an economic realm became possible.

Polanyi sits within this second tradition of economic thought, synthesising many of its aspects and drawing eclectically from other intellectual resources such as economic anthropology (Dale 2016a, 2016b). He understood the economy as a historically specific and contingent creation, and as inseparable from broader political and social institutions (Cangiani 2011). He insisted on taking a broad historical perspective, and refused to accept the notion of economic behaviour as fully reducible to the question of rational decision making in response to price signals (Watson 2005, 141-160). But he was eclectic in re-interpreting the theoretical currents which informed his thinking. For instance, while he took from Marx's earlier work the humanist ethical critique of the institution of wage labour, he combined this with a functionalist approach to society, understanding that there are social imperatives which transcend class interests and how class movements can take on, in given historical moments, a wider protective function (Dale 2011b). Furthermore, he accepted marginalism *within the confines of market society*, contra the Marxian labour theory of value, but argued this understanding is only valid within the institutional conditions particular to this historical formation.

[18] Marx of course also offered a radical critique of the assumptions of classical 'bourgeois' political economy, through accepting and inverting many of the categories and distinctions it was built upon.

Polanyi thus understood the economy as a distinctly modern construction, rooted in the idea of interlinked and self-adjusting markets for all factors of production (Polanyi 2001 [1944], 71-80). But there are two different ways in which the significance of this construction can be understood: at the level of historical fact – that is, analysing the actual emergence of a dis-embedded and self-regulating market system as a successfully ontological accomplishment – and at the level of theoretical representation, as a parallel ideational response to certain historical tendencies, leading to the development of a body of theory and common sense understandings, a complex nexus of ideas about human nature and society. The relationship between these two different aspects of the creation of market society in Polanyi's work is complex and requires clarification. In particular, it is important to distinguish the effects of this idea of the economy and its representation from the analysis of the historical developments which gave rise to it.

Drawing upon recent interpretations of Polanyi (Block and Somers 2014; Holmes 2014), I argue his work is best interpreted as implying that ontological dis-embeddedness is never fully achieved, but that epistemic dis-embeddedness creates powerful effects, making it possible to produce representations of the economy as a distinct object or sphere (Block and Somers 2014). This interpretation is based upon the argument that there is a tension between the 'ontological' conception of the dis-embedded economy emphasised in *The Great Transformation* and the 'ideational' focus of his later work (see Block 2003). This move is made mainly to avoid the difficulties which arise from considering Polanyi's empirical and historical account of the rise of market society in the 19th century alongside his later work on comparative economic institutions (Holmes 2010).

Concerning the first of these, Polanyi is widely associated with developing the concept of the 'dis-embedding' of the market system from its social moorings over the course of the 19th century, and the protective 'double movements' which emerged to protect society against the consequences of commodification. In *The Great Transformation*, Polanyi described the historical development of market society and linked this to the commodification of the key factors of production: land, labour and money (Polanyi 2001 [1944], 71-80). These, according to Polanyi are 'fictitious commodities', in the sense that they are not produced for sale on the market. But they must be treated as commodities

like any other for the idea of a society integrated purely by the mechanism of market prices to function. This fiction can never succeed for any length of time, however, because it results in the organic substance of society being subjected to the whims of market forces (ibid, 136-40). This argument is mobilised to oppose the liberal interpretation of the rise of protectionist institutions and policies in the late 19th century as a conspiracy on the part of vested interests which guaranteed *laissez faire* principles were never in fact truly put into practice (ibid, 218-228). Rather, they are impossible to ever realise due to their utopian nature and the fact that they rely on extensive political intervention to bring into being in the first place. This 'utopian' project of an economy free of political regulation provokes an inevitable and spontaneous response: a 'double movement' on the part of society as it moves to protect itself from the strains this produces. Such a movement (in opposition to some strands of Marxism) transcended the narrow interests of any single economic class.[19]

This what I will call the 'ontological' components of Polanyi's critique of market society. The implications of this argument about the rise of market society have proved enormously problematic and have provoked a prolonged debate in economic sociology, economic anthropology and recent Polanyian scholarship (Krippner 2002; Gemici 2008). I will not attempt to extensively review this debate. The crux of it focuses around whether this movement – to commodify the factors of production and produce a self-regulating market system in which society itself became embedded – was ever actually accomplished in historical reality, and the precise nature and timing of the double movement against it (Dale 2010, 188-206). On the one hand, economic sociologists have argued that the economy, even in modern market societies, is still interwoven into social and cultural ties and supported by non-economic institutions Thus, at no point could the economy have been 'really' dis-embedded, as Polanyi is purported to have claimed.[20]

[19] This point should not be overstated. In the work of Marx and Engels, the working class was posited as advancing universal interests, and contemporary Marxist social movement theory has developed more nuanced accounts of class alliances, coalitions and cleavages that move beyond earlier accounts of binary class struggle.

[20] The claim of dis-embedding is ambiguous, especially in later writing. For instance, in a 1947 essay he argued that 'in actual fact, man was never as selfish as the theory demanded…In vain was he exhorted by economists and utilitarian moralists alike to discount in business all other motives that "material" ones. On closer inspection, he was still found to be acting on remarkably "mixed" motives…[and] maybe, secretly, even enjoying work for its own sake' (Polanyi 1968, 69).

On the other hand, economic anthropologists have suggested that the pre-capitalist economy was never as 'embedded' as Polanyi has claimed, that markets had a more independent existence in pre-commercial society than implied by the idea of a historically unprecedented dis-embedding in Polanyi's account (see also Holmes 2010, 44-57). These problems highlight the limitations of dis-embeddedness understood at the *ontological* level.

However, this does not invalidate Polanyi's arguments about the 'ideational' consequences of the transformation to market society. Polanyi can be read as primarily concerned with understanding the interaction between the historical and institutional developments associated with the rise of commodity markets and the evolution of market-bound representations about human nature and society which emerged in tandem with these. It is these representations, how they came about, and their political consequences, that he is concerned with understanding, particularly in his later work while in the USA in the 1950s (Dale 2016a, 200-255). As he argued in *The Livelihood of Man:*

> [O]nce man's everyday activities have been organized through markets of various kinds, based on profit motives, determined by competitive attitudes, and governed by a utilitarian value scale, his society becomes an organism that is, in all essential regards, subservient to gainful purposes. Having thus absolutized the motive of economic gain in practice, he loses the capacity of mentally relativizing it again. His imagination is bounded by stultifying limits…Not the permanent and abiding features of all human economies but the merely transitory and contingent ones appear to him as the essentials…Such obsessive economy-centred notions, reflecting time bound conditions, must prove a hindrance to the solution of wider problems, including those of the adjustment of the economy to new social surroundings (Polanyi 1977, xlvi-xlvii).

Such a passage gets to the heart of the tension described above. On the one hand, it could be read as suggesting that the institutional structures of market society *did* achieve a dis-embedded state. But another reading is that theoretical and ideational developments were internal to the process of creating a market society in the first place: the values created by certain representations of these emerging institutions participated in their construction and solidification. Economic theory and ideas thus become constitutive.

Polanyi was thus centrally concerned with understanding not only how the idea of the economy came about in the first place, but also how this construction conditions ethical and political projects to think past the market-orientated view of human nature and society engendered by economic theory (see Holmes 2013). A key aspect of his thought was an attempt to uncover and analyse the normative implications of taking a contingent set of institutions and socialised norms as the basis for a universal scientific model of human society, and how this placed artificial limits on political and ethical projects aiming to transcend the confines set by market society. He was among the first theorists to critique the conditions set by economistic representations of the world on political reasoning and discourse.

*Situating Polanyi in Contemporary Political Economy Scholarship*

Read in this way, we can relate Polanyi's work to various modern trends in political economy and IPE scholarship. For instance, there has been a trend towards questioning the starting point of IPE in Susan Strange's work (Strange 1975), as it naturalises the field of the economy even as it seeks to problematise a narrow focus on national economies in isolation from geopolitics and the international order (Watson 2005; Rosamond and Clift 2009). This recovery of the holistic classical political sensibility has sometimes been referred to as 'pre-disciplinary' or even 'post-disciplinary' IPE (Jessop and Sum 2001), or as 'moral economy' (Sayer 2000); indeed, the rise in popularity of Polanyi's work in recent decades partly reflects these wider theoretical currents. Likewise, Polanyi's insistence that the economy must be understood in relation to the cultural and social processes it is imbricated in marries with the literature on cultural political economy, 'everyday IPE' and feminist political economy (Waring 1988; Marilyn Power 2004b; Hobson and Seabrooke 2009; Best and Paterson 2010) Elsewhere, these shifts are mirrored in disciplines such as economic anthropology, for example in the 'human economy' project which is also influenced by Polanyi's work (Hart et al. 2010; Graeber 2014).

This constructivist (Abdelal 2009) and historicist orientation to the politics of economic ideas also tallies with recent moves towards viewing economic theory as 'performative' of economic reality (Callon 1998; MacKenzie 2008; Butler 2010). In this literature, the emphasis is not on how economic theory is *wrong* or *right* in its representation of the

world, but how this representation produces effects, constructing and remaking the world in its image (Mitchell 2005; Muniesa 2014). Polanyi directly foreshadowed performative understanding of economic theory *avant la lettre*, suggesting that: 'indisputably the social sciences have a massive influence on man's wishes and purposes…by creating the very phenomena on the existence of which they were insisting – such as the utilitarian psychology of the businessman' (Polanyi 2014, 114-115). Indeed, foundational works of this tradition cite Polanyi as inspiration (Callon 1998, 2; Mitchell 2008, 118; Çalışkan and Callon 2009, 370; Butler 2010, 148). These literatures, in line with Polanyi, suggest that the notion of 'the economy' is a remarkably recent and unstable achievement associated with a certain view of human nature and society which emerged in the 18th century and was subsequently solidified and reproduced by (among other things) official statistical and accounting systems, econometric modelling, macroeconomic management and development expertise by the 20th (Hirschmann 2016). They help supplement Polanyian theory with an appreciation of how the theories, ideas and methods which produce this reality are always suspended within the substrate of socio-technical practices (see Latour 1990, 1993; Butler 2010).

*Freedom from the Economy: The Pathologies of Formalism*

We have established that, for Polanyi, the question of what the economy *is for* cannot be separated from the definitional question of what the economy *is*. Crucial to reading Polanyi in this way is the distinction he draws between two different definitions of the economic system: formalist and substantive (Polanyi 1968, 142-57).[21]

Polanyi argued that the central logical error of 19th century economic rationalism was to equate human economy in general with its historically recent market form. This he termed the 'economistic fallacy' (Polanyi 1977, 5). The classical theorists imagined that they were developing universal and timeless laws, which once specified would be applicable to economic institutions in all places and times. But, in reality, they had only theorised the economy in the historically unique market form in which it manifested itself in Western societies in the wake of the industrial revolution. In making this point,

[21] These terms were of Weberian heritage but were given an idiosyncratic meaning in Polanyi's writings (see Dale 2010, 109).

Polanyi elaborated two distinct definitions of the word 'economy': the substantive and the formal (Holton 1992; Dale 2010).

The substantive definition of economy referred to 'the elemental fact that human beings, like all other things, cannot exist for any length of time without a physical environment that sustains them...Man's patent dependence for his livelihood upon nature and his fellows' (Polanyi 1977, 19-20). To study the economy in the substantive sense therefore meant to study the 'institutionalised interaction between [man] and his natural surroundings' (Polanyi 1977, 20). This mode of inquiry left questions of the ends to which economic institutions were directed and their moral and political underpinnings open. On this basis he went on to specify four ideal-type 'modes of integration' through which economic production has been embedded in social relationships historically: institutions based on the logic of reciprocity, redistribution, house-holding or exchange (Polanyi 1966).

The formal definition, on the other hand, restricts the meaning of the economy to the calculation of the optimum use of resources under conditions of scarcity, and so can only conceive of economic institutions based on the logic of exchange. This mirrors the neoclassical conception, most famously articulated by Robbins (Robbins 2008 [1934], 75). Under this definition, markets are spontaneously self-generating given the inevitability of scarcity. Polanyi thought this idea of a distinctly economic incentive originating in the motivations of hunger and gain provoked by the reality of scarcity was only empirically permissible within the historically recent conditions of market society. It was only once market structures based on exchange had been made the basis of society that such motives became dominant.

However, Polanyi's central argument was not simply that the formalist perspective was 'wrong', but rather that it produced an idea of humanity which constricted our political imagination. He criticised this understanding of the economy for closing off broader moral and political questions that are inseparable from economic life, an impermissible 'eclipse of political thinking', through which questions of 'what should be the end of man, and how should he choose his means' were circumvented (Polanyi 1977: 13). There were, for Polanyi, thus both analytical and political justifications for contesting the

restriction of our understanding of the economy to formalist terms, despite the 'logically irresistible' (ibid) appeal of such parsimony.

Polanyi's central critique of formalism was that it hinders our ability to think creatively and holistically about the problems of complex (post-)industrial civilisation, restricting political imagination and ethical agency (Polanyi 1968, 59-77). Thus, political projects which retain it will reproduce these pathologies, and be unable to step outside the discursive and ideational limits of market society. As an example, take the contemporary crisis of care and demographic transition to an older population. If the commodity understanding of 'work' and production is assumed, then there is no way of seeing possible solutions to this problem that look beyond the expansion of wage labour (Gorz 1989; Lutz 2017; Tronto 2017). Community-based service provision or the redistribution of working time to make space for care outside the market cannot be considered as 'economic' solutions at all. Such policies must necessarily harm 'the economy', if it is assumed to consist only of price forming markets extended to labour, nature and money. As Polanyi argued:

> Only since the market was permitted to grind the human fabric of society in to the uniformity of selenic erosion has man's institutional creativeness been in abeyance. No wonder that his social imagination shows signs of fatigue (Polanyi, 1968, 71-2).

The market vision of economy restricts analytical and imaginative space for institutional and political experimentation (Block and Somers 2014, 58-72), and so has deleterious effects on political discourse and democratic life; it also precludes solutions to problems that are at the very heart of the beyond GDP agenda.

Hence, we need not to just question the empirical objective of 'growth', but the broader mode of thinking about the economy itself which makes it possible to conceive of the economy as a discrete object that *can* grow, and the forms of reasoning which reproduce this. To fulfil the aspirations of the beyond GDP agenda, a different understanding of what the economy is would be needed. We would need to recover a form of economic reasoning that re-integrates the political and the economic, that dissolves the idea of the economy as a contained, autonomous realm of markets which can be analysed as a natural-scientific process, using foundationalist and deductive reasoning. Without this, we will not be able to think clearly about the 'urgent problems [that] spring from the

need of adjusting the forms of our social life to the technology we have adopted' (Polanyi 2014, 48). Indeed, 'such an endeavour cannot be successful unless it is disciplines by a total view of man and society very different from that we have inherited from market economy (Polanyi 1968, 77).

## 3.2 Escaping the Market Mentality: Criteria for Recovering a 'Substantive' View of Economy

Before operationalising this framework as a means of analysing the implementation of the beyond GDP accounting and statistical agenda, we need to first unpack in greater depths the specific forms of economistic fallacy that, for Polanyi, underpinned formalist thinking. Then, we will be in a position to assess how far the implantation of this agenda reproduces or contests these premises and assumptions. In this section I outline the key features that Polanyi saw as distinctive about the place of economy in modern society and the 'market mentality' which developed as a theoretical response to these. In particular, I will show that there are four distinctive features of the formalist representation of the economy which emerged in response to the rise of market society from the late 18th century. Specifically, these are: 1) the idea of the economy as a self-regulating internally sufficient system of exchange co-ordinated through the price mechanism; 2) the corresponding separation of the economic from both the political and the social spheres of society; 3) the reduction of the conception of the use of money to its role in commodity exchange, thus ignoring its other social functions; 4) the identification of a distinctly 'economic' or 'material' component of human nature, namely rational utility maximisation under conditions of scarcity, and the reduction of such behaviour to the automatic response to price stimuli at the moment of exchange.

*Economy: Neither Autonomous nor Unitary*

In this first section we will deal with the first and most crucial feature of formalist thought: the idea of economy as an ontologically unified and autonomous sphere, subject to natural scientific analysis and theory (Polanyi 1968, 59-77).

This vision was linked to the generalisation of the exchange process, which gave the appearance that the economy was completely enclosed within the system of inter-

locking price-forming markets – a system which, of course, in fact took considerable political action to create (Watson 2005, 143-6). Moreover, monetary resources could now be considered as commensurable and fungible units of value, so that the economy became a system which could be summed up into an overall aggregate representation. As Polanyi argued: 'The properties of unity and stability, structure and function, history and policy accrue to the economy through its institutional vestment' (Polanyi 1977, 30). This appearance of unity was made possible by the extension of the market system to labour, money and land during the 18th century. This enabled it to be theorised as a self-regulating and self-adjusting mechanism which operated independently of other 'non-economic' institutions, which it did not depend upon for its reproduction (Jessop 2001).

It was only when market exchange was made the dominant mode of integration that it became possible to speak of an identifiable economic sphere of society which was governed by economic laws and could be studied by a discipline called 'economics'. A powerful representation of the economy was thus made possible, whereby it could be understood as existing above conscious human agency and which was self-adjusting if freed from external interference. As Polanyi argued:

> The commodity fiction handed over the fate of man and nature to the play of an automaton that ran in its own grooves and was governed by its own laws…So long as no property-less person could satisfy his [sic] craving for food without first selling his labour in the market, and so long as no propertied person was prevented from buying in the cheapest market and selling in the dearest, the blind mill would turn out ever-increasing amount of commodities for the benefit of the worker (Polanyi 1977, 10-11).

This idea was later combined with the development of national accounting systems and econometric modelling in the mid-20th century, so that a single size could be attributed to this object (Mitchell 1998; Hirschmann 2016). It was only at this point that this size could be portrayed as expanding or contracting, in terms of the quarterly GDP figures which still dominate economic reporting today, and economic growth could become the central object of economic policy and the assessment of state performance.

Indeed, Polanyi anticipated later analyses of the role of quantification and statistical practice in constructing this sense of a unitary and cohesive economic sphere, suggesting:

> We have an institutionally separate economic system in our society, and an important integrating concept in our economy is that of an aggregate of interchangeable economic units. Hence the quantitative aspect of economic life…[W]ithout such a quantitative concept, the notion of an economy is hardly meaningful (Polanyi 1977, 53).

A necessary corollary of this cohesive unity is that the economy came to be understood as located within, and coextensive with, a defined and internally self-contained set of institutions. No longer were economic processes interwoven with social, cultural and political institutions which they were inseparable and indistinguishable from. Instead, they had become encompassed within a separate and discrete set of institutions.

The problem with this vision, as discussed above, was that it encouraged an apolitical and naturalistic style of reasoning about the economy. Once it was seen as a discrete, law-bound object, this suggested it could be studied in isolation from political and normative questions (Polanyi 2001 [1944], 321-44). Moreover, it is this sense of unity that made it possible to think of the economy as a system that could grow or shrink, and so paved the way to the technocratic growth paradigm which emerged in the 20th century. An important criteria for recovering a substantive understanding of economy was the abandonment of this unified and homogenous economic sphere.

*Society: Inseparable from the Economic Process*

A necessary consequence of the above point – that the economy is contained *within* a distinct and identifiable set of institutions and had a coherence, unity and size – is that the economy has an *outside*. Defining the characteristics of this outside – the 'non-economic' sphere of life – is essential to formalist representations of the economy as what falls inside it (Mitchell 1998, 92-3).

The first sphere of life which is thus systematically excluded from the economy is all the productive activity and work which is done outside of formal employment, in the 'private' household sphere. In the formalist conception of economy, the economy is represented as encompassing contractually mediated exchanges between the holders of property rights. Consequently, any form of production or activity which does not involve a transaction or an exchange of contract between individuals, cannot be included in the way in which the economic process is represented and understood. As Polanyi observed:

> The economy comprises man as a collector, grower, carrier, and maker of useful things …Yet such a process has no separate existence. The thread of interaction may branch off, interlock, form a web; but whether the mesh of cause and effect is simple or complex, it can no more be physically detached from the ecological, technical, and societal tissue than can the life process from the animal organism (Polanyi 1977, 33).

Thus, formalist conceptions of the economy exclude vast swathes of (re)productive activity which are clearly of economic benefit and which furthermore are essential to the reproduction and stability of the sphere of commodity exchange, which could not exist without this reproductive labour. This historical exclusion of the 'social' or 'domestic' realm from the sphere of the economy is not limited to the private household. It also extends to informal relations within the community, or to commons-based property where rights are not individualised and are linked to certain positions and functions with attendant duties and responsibilities (Cole 1920; Tawney 1920).

A related process involves the separate institutionalisation of 'politics' – public law and decision-making procedures – which with the entrenchment and extension of individualised property rights was institutionalised within the separate sphere of the formal State institutions, as a 'non-economic' process.[22] The first two features of the modern conception of the economy led to the development of the belief in then natural order which these economic institutions, if left to themselves and freed of external interference, would spontaneously produce (Holton 1992, 62-67). This required that political deliberation and decision making could not in itself be understood as internal to the economic process; it could only be conceived as something exogenous, which happened in the formal process of parliamentary and judicial deliberation. The economic sphere could be regulated by politics, but it was not itself a site of political rationality.

[22] We encounter here similar problems concerning the 'ontological' dimension of this process versus its 'ideational' consequences. While there was a process by which political institutions were formalised and separated from the private contractual relations which came to be called the economy, the economy never 'really' – i.e. as a matter of ontological fact – attained this independence. Again, I stress how Polanyi allows us to theorise the effects of these representations independently of an analysis of their achievement as a historical fact, which we can bracket in this analysis.

Again, Polanyi sought to historicise this notion and show it to be a recent and contingent construction rather than a timeless ontological divide. This forms some of the most interesting sections of his analysis in *The Great Transformation* (Polanyi 2001 [1944]). He sought to demonstrate how political processes were, at all points, intimately connected to the rise of market institutions, and in particular to create the institutions needed to support the commodification of land, labour and money (Watson 2005, 145). This required the active breaking down of traditional relationships and structures which protected the 'substance of society' (Polanyi 2001 [1944, 75) from exposure to market mechanisms. At the same time, slowly over the course of the late 19th and 20th century, the state gradually grew up and took on more and more regulatory functions as society reacted so as to mitigate the devastating effects which this produced, developing protective political institutions in the process which further entrenched the division between 'politics' and the economy (Holmes 2018).

Consequently, a second criterion for the recovery of a substantive understanding of the economy was contesting the designation of 'society' and 'politics' as external to economic processes. Activities outside the market are both economically meaningful and productive and interact in crucial ways with the market system itself. Any form of representation or discourse which reproduces these separations is unable to fully overturn the vestiges of formalist thinking.

*The Recovery of Special Purpose Monies*

Polanyi's analysis helps to interrogate another crucial component of the 'market mentality', namely the (historically recent) narrowing of the conception of the role of money and monetary prices to its use in commodity exchange. Polanyi referred to this as the 'catallactic fallacy', a rather ungainly term for a straightforward idea which he termed 'among the most powerful in the field of modern economic thought' (Polanyi 1968, 180). The classical political economists tended to assume that money grew up as a natural and spontaneous consequence of individual acts of exchange and barter (Graeber 2014, 21-43), and that money's primary and essential purpose was to facilitate market exchange.

Polanyi sought to contest this assumption using comparative and historical analysis. He viewed money in much broader terms, as akin to a 'semantic system' which functioned like other measurement systems, only with the function of gauging value: 'what it gauges is not how long, large or heavy an object is, but how great its importance is to us in a definite situation' (Polanyi 1977, 57). He argued that, in many historical societies, trade and markets were not synonymous. Much trade was external rather than domestic, and it was not conducted via competitive haggling based on fluctuating prices (Polanyi 1966). Rather, prices were set politically before the trading took place. He further shows how many ancient economies utilised large scale accounting systems to plan the allocation of resources before money was commonly used in exchange. Thus, a complex division of labour and trade in goods, mediated by politically administered monetary values, was achieved without market institutions (see Dale 2010, 137-85). Both trade and money predate, and are independent of, the supply/demand/price mechanism. The presence of money was thus wrongly taken as evidence of market exchange by classical economics because in market societies the exchange use *had* become dominant, but this was a recent development (Polanyi 1968, 175-203).

One consequence of denaturalising this assumption using Polanyi's analysis is that it becomes possible to liberate monetary values from their frequent conflation with competitive exchange in contemporary contexts. As we will see in later chapters, in national accounting monetary prices are traditionally assumed to necessarily emerge from a process of exchange, which tends towards discovering the 'true' value of a given good (Hayek 1945). Therefore, only market goods can properly be assigned a true monetary value; anything else will represent a false or irrational price. But this assumption obscures the many other independent roles which money can plays in societies, both historical and present – for instance, as a pure representation of the value placed on a resource, which could be established by public authority or democratic deliberation (Polanyi 2016 [1922]).

This can be better understood if placed in the context of Polanyi's interventions into the inter-war socialist calculation debate (Chaloupek 1990; Becchio 2007). The early exchanges in this debate ran along binary lines: Mises argued that prices were needed for economic decision making, and that prices must necessarily be formed within markets (Mises 1935 [1920]; see also Hayek 1948, 119-208); Neurath argued prices were not

needed and that in-kind planning by the state could take place in physical, incommensurable units (Neurath 2004 [1919]). Against this, Polanyi provided a vision of price formation that did not rely on either state calculation or market exchange and which was intimately connected to his wider political philosophy and view of human nature (see Dale 2010, 19-39).

In fact, Hayek and Polanyi agreed on one important point: a centralised authority cannot gain oversight of the diverse, heterogeneous and distributed sorts of considerations needed to organise the economic process (Polanyi 2016 [1922]). But Hayek concluded that only contractual market exchange between atomised individuals can therefore deliver this.

Polanyi's critique of this assumption was related to his political philosophy, which centred in the interwar period around the possibility of achieving freedom in modern societies with a complex division of labour (Cangiani 2012). For Polanyi, freedom under such conditions paradoxically implied a clear-sighted and precise recognition of the various (potentially contradictory) constraints which participation in a complex society placed upon individual action. According to this viewpoint, both *in natura* calculation by the state and market prices offer equally flawed basis for transparent, responsible ethical action by people in their various diverse economic roles – as workers, consumers, citizens and so on. The processes through which market prices formed under competitive capitalism and private property happened just as much 'behind the backs' of the people as in opaque state bureaucracies. Rather than objective economic values, market prices merely reflect the contingent imperatives of a society based around private property; they consequently ignored the social, ethical and environmental externalities that market interactions produce, and the complex moral and social relationships in which market exchanges are situated (Polanyi 2016 [1920]). Hence, market price signals could not give individuals an 'overview' of the effects and consequences of the economic, social and ecological relationships they were a part of. Neither could delegation of such decision making to a central planning body.

Polanyi suggested a way out of this dilemma, which implied a radically different approach to price formation. It imagined prices and values as the outcome of an explicitly political process of collective deliberation (Rosner 1990). This would mean

that prices for key commodities and resources would reflect the social preferences and priorities worked out in conscious deliberative processes, which could only happen by embedding prices in participatory democratic institutions within the economic process itself (Polanyi 2016 [1920]).

This discussion, while apparently arcane, will be vital to the analysis in the remainder of the thesis. The contemporary challenge to GDP can be understood primarily as a challenge to the idea that monetary values arrived at through market exchange represent an adequate account of social progress. Thus, much of this agenda is, in one way or another, concerned with accounting for non-market goods, be these the benefits of good governance, tolerable level of inequality, adequate education, non-market services or household production, good quality jobs and employment (rather than merely quantitative expansion of wage labour), environmental quality, or the sustainability of present levels of wellbeing. Such an agenda runs into the same inevitable questions, which will continually crop up in the following discussions: should these non-market values be monetised, and if so how? Practical attempts to confront these questions in the beyond GDP agenda run into the exact problems which Polanyi foresaw.

In the marketing view of money use, money is only a means of facilitating exchange, and therefore monetary values are synonymous with commodified markets; their calculation cannot be understood in any other way. But if we understand the other functions money can play, in particular its use as a unit of account, such discussions become much more open. This means that markets are not privileged as the site for establishing values, and that politically negotiated values and goals can be reflected in the prices assigned to crucial natural and social resources. Acknowledging this fact frees us from the necessity of referring all monetary valuation back to competitive exchange in the marketplace. This has the potential effect of allowing political and normative considerations to enter the sphere of economic calculation and reasoning, thereby encouraging a more substantive approach to the allocation of resources.

*Value after* Homo Economicus*: A Substantive view of Human Nature*

The final, but perhaps most profound, characteristic of modern modes of representing the economy is that it is underpinned by and reproduces a particular understanding of

human nature, agency and rationality. The perspective on the relationship of value and prices outlined above also implies a radical critique of the psychological underpinnings of neoclassical theory, and the view of human nature and economy it was based upon. According to this view, humans have a nature (and a set of preferences and interests) which pre-exists their participation in social institutions. It is only on the basis of this assumption that individual utility can appear as something satisfied or delivered by economic institutions: preferences form before the individual's engagement in society and political processes, originating in a self-interested human nature which pre-exists these (Carver 1918; Veblen 2007 [1898], 73-78). Market exchange (in this view) simply reveals the outcome of these individual preferences. While there is a sense of volition in this theory – active choice between alternatives is the bedrock of such analysis – these choices can be read off an underlying and objective utility function which pre-exists the individual's participation in social processes.

Political, collective and deliberative processes are here seen to be a *hindrance* to the discovery of true economic values, which prevent us from knowing the real values which emerge from the unconscious, behavioural response to price stimuli in markets (Hayek 1948). Hayek's suspicion of conscious interference in price formation is reflective of a suspicion of political behaviour polluting the pure, instinctive responses which should characterise market exchange and which will reveal information about underlying preferences. The psychological and political consequences are clear:

> Those who clamour for "conscious direction"…should remember this: the problem is precisely how to extend the span of our utilization of resources beyond the span of the control of any one mind; and, therefore, how to dispense with the need of conscious control and how to provide inducements that will make the individuals do the desirable things without anyone having to tell them what to do (Hayek 1948, 87-8).

Polanyi's critique of Hayek's view of the price mechanism thus reflects a broader opposition to this deeper asocial, behaviourist and universal view of human nature (see Dale 2010), in a line of argument which Polanyi's admirers such as Marshall Sahlins have developed (Sahlins 2008), analysing this view as a key tenet of a specifically Western and modernist mode of political thought (Dumont 1979; Siedentop 2014).

The central problem here, again, is the narrowing of ethical and social imagination that results from naturalising contingent values, norms and preferences. Sahlins has argued, for instance, that:

> The development of culture would have to be complemented by the deprogramming of genetic imperatives or what used to be called instinctual behaviours. The effect was the organisation of biological functions in various cultural forms, such that the expression of biological necessities depended upon meaningful logics. We have the equipment to live a thousand different lives…although we end up living only one. This is only possible on the condition that biological needs and drives do not specify the particular means of their realization… the issue is not whether human nature is basically this or that. The issue is biologism itself…There is no such pre-social individual, no such thing as a human being existing before or apart from society…born neither good or bad, human beings make themselves in social activity as it unfolds in given historical circumstances (Sahlins 2008, 106-109).

Such an understanding of human nature, which the neoclassical view of value and price is built upon, deprives people of the ability to reflexively re-make themselves in this way, to consciously confront and challenge their preferences. It undermines our collective capacity to grasp the contingency of the institutions we are part of and how these condition our received preferences and behaviour. It thus impoverishes our capacity to imagine how things might be differently structured, weakening our collective sense of political agency and responsibility. It implies that adding a critical, reflexive space between instinctive responses and price formation is essential to avoiding the 'formalism' that Polanyi criticised as the flaw in modernist economic reasoning more generally.

### 3.3. Exploring the Limits to Formalist Reason after GDP

Thus, Polanyi's work allows us to identify four key aspects of the formalist conception of 'the economy'. In Polanyi's account, recognising their historicity and contingency allows us to see past naturalised ideas about economic reality. This is thus essential to analysing the significance of political projects – such as the beyond GDP agenda – which aim to think about development, progress and human livelihood in a more open-ended way. The Polanyian critique of formalism developed in section 1 and 2 allows us to ask a new set of questions about the political significance of the contemporary moves to

supplant GDP. It suggests their significance lies, not primarily in how they shift attention away from 'economic' objectives to other dimensions of progress, but in the challenge they present to the broader market-bound modes of theorising and representing the economy which emerged alongside the birth of market society and condition contemporary attempts to think beyond its institutional structures. Exploring this challenge constitutes the substantive contribution of the thesis, which will be developed in the remaining case studies. This section briefly reviews the central lines of these problems to orient the empirical chapters that follow, by linking each of the forms of thought discussed above to specific beyond GDP measurement agendas which challenge them in various ways.

A specific recommendation of the Stiglitz report was to 'give more prominence to the distribution of income, consumption and wealth' (Stiglitz et al. 2010, 13). This is associated with the call to pay more attention to data on inequalities in living standards based on 'micro data' from household surveys, rather than the averages provided in the SNA macro-data aggregates such as GDP per capita (see chapter 2). The consequence of this move is that it generates a wider problem of holding together the integrity and cohesion of the idea of the economy itself. The problems emerge when these different measurements no longer provide the same picture of the object known as 'the economy'. As the Commission report highlighted: 'A major effort of statistical reconciliation will also be required to understand why certain measures such as household income move differently depending on the underlying statistical source' (ibid, 12). This directly threatens the representation of the economy as a unitary object with a single 'size' that we can depict as growing or shrinking.

The key question posed by this challenge of representing the economy is thus that of managing the resulting proliferation of different statistical representations of the economy. If this is not achieved, then the coherence, integrity and authority of the SNA system itself is brought into question. How these tensions manifest, and the interaction of these reforms with the ontological vision of macroeconomic theory which underpins the SNA framework are the central questions which will be addressed in chapter 4.

The second feature of formalist reasoning discussed in the first section was the assumption that the domestic household and informal sector are external to the

economic process. The ability to uphold this boundary is challenged by the recommendation to measure non-market production when analysing living standards. This was included in the Commission report, under recommendation 5: 'broaden income measures to non-market activities' (ibid, 14). It is a prominent theme of much post-Stiglitz statistical work, justified based on the numerous critiques of GDP's exclusion of non-market activities reviewed in chapter 2.

Such moves raise problems as to the status of such non-market activity, which frequently blur and complicate the established boundaries between the economic and the non-economic within global statistical systems and the SNA framework. This tension shows up in numerous forms. The Commission claims that 'their exclusion from official measures reflects uncertainty about data more than conceptual difficulties' (ibid, 14). But by threatening to bring the domestic sphere into 'the economy' proper, key income concepts upon which national accounting is based are called into question. If accepted, these would mean radical change to the entire SNA system and threaten its integrity as a cohesive representation of 'the economy'. Furthermore, as chapter 5 will demonstrate, such a claim simplifies the extent to which these two issues can be separated from each other in practice, and the extent to which broader analytical concerns condition what is considered 'good data' in the first place. Accounting efforts to value non-market activity must grapple with the fundamental question of where the economy 'stops', and on what grounds. These challenges and their management will be examined in more detail in chapter 5.

The challenge to the third aspect of the economistic fallacy outlined above is presented by the need of the statistical initiatives emerging from the Commission's proposals to capitalise the 'non-economic' assets upon which the sustainability of growth depends. These non-material assets include the skill base of the human population (human capital) and the value of finite natural resources and ecosystem services (natural capital).[23]

The need to develop such measures, and therefore extend the statistical representation of national wealth and the asset base beyond physical manufactured capital, forms the third pillar of the Commission's recommendations, and has attracted much work and attention since 2009. This brings with it, however, the tricky question of whether (and

[23] The history of, and the debate surrounding, these concepts was discussed in more depth in chapter 2.

how) to value these capital stocks, or whether to instead leave them as incommensurable physical units. Once again, we find that such questions are intimately connected with the problem of the boundary between the economic and the non-economic, and interfere with the constitution of this boundary in accounting practice. For instance, recommendation 11 of the Commission's report suggested that:

> Sustainability assessment requires a well-identified dashboard of indicators. The distinctive feature of the components of this dashboard should be that they are interpretable as variations of some underlying "stocks". A monetary index of sustainability has its place in such a dashboard but, under the current state of the art, it should remain essentially focused on the economic aspects of sustainability (ibid, 19).

But what are the 'economic aspects of sustainability', and how are they to be identified and separated from the non-economic ones?

In theory, this should be a relatively straightforward matter for formalist economic analysis to determine: where there is a market price, there is a 'true' monetary value arrived at through competitive exchange, and therefore we are dealing with 'the economy'. Indeed, this is the approach tentatively endorsed by the Commission:

> [Converting] all these assets into a monetary equivalent, thereby implicitly assuming substitutability between the different types of capital…has significant potential, but also several limitations, the most important being the absence of many markets on which the valuation of assets may be based. Even when there are market values, there is no guarantee that they adequately reflect how the different assets matter for future well-being. The monetary approach requires imputations and modelling which raise informational difficulties. All this suggests starting with a more modest approach, i.e. focussing the monetary aggregation on items for which reasonable valuation techniques exist (ibid, 17).

However, this quickly becomes problematic in practice, and is connected to far bigger issue that the euphemistic phrase 'informational difficulties' implies. As we will explore fully in chapter 6, separating the 'economic' bit of such assets from their 'non-economic' residue along market lines is not straightforward.

In relation to natural capital, for instance, actors constructing and using these values must determine which sorts of natural resources and services are truly 'economic'; unfortunately, these do not always match up with those connected to markets. How are

we to value the sink services provided by the global atmosphere, for which there are no markets? In relation to human capital, the tensions concern the link between education and the job market. It is difficult to defend the claim that even the purely 'economic' benefits of education are fully encompassed by the increased income it affords the student on the job market; and such connections are almost impossible to isolate. But to abandon this claim and attempt to value other goods derived from education in monetary terms is to abandon the link between money and market exchange. Each of these suggests that the acknowledgement of the function of money as a unit of account, as distinct and detached from its role in market exchange, is becoming increasingly hard to contain or suppress. The consequences of these developments may have much further-reaching effects. These issues will be the subject of chapter 6 of this thesis.

Finally, the issues of non-market valuation interfere with the fourth feature of formalist reasoning identified in section 2: that instinctive choices between alternate ends, in response to price signals in the market, is the distinctively economic form of behaviour. This property of formalist reasoning comes under threat from various techniques developed to value non-market goods within the post-GDP agenda. Generally, these rely upon using information about the value placed on a non-market good to be generated in a way which is entirely decoupled from a formal market transaction, and which can then be used to develop a monetary estimation for these goods. They raise problems, however, in that they involve establishing values in the absence of the behavioural and institutional conditions of market exchange, often involving people making reflexive and considered judgements. But since the information they produce is subsequently used in the formation of monetary values, they potentially interfere with various assumptions about the nature of rational behaviour which are essential to the modern representation of the economy, and risk bringing the sphere of conscious deliberation into the monetary values arrived at through the market.

This tension manifests itself most acutely in relation to the development of subjective wellbeing data and the nascent use of this data in cost-benefit analysis. Development of well-being data and their use in non-market valuation were key recommendations of the Commission, which argued both: that 'measures of both objective and subjective well-being provide key information about people's quality of life. Statistical offices should incorporate questions to capture people's life-evaluations, hedonic experiences and

priorities in their own survey' (ibid, 18); and that 'measuring these features requires the use of types of data (i.e., responses to questionnaires and non-market observations of personal states) that are not captured by market transactions' (ibid, 64).

The use of this data to infer monetary prices is still experimental, but is gaining in prominence and sophistication. This is raising concern among many statisticians and economic analysts about the quality of the underlying data; but the line between the 'data quality', or 'technical', aspects of these controversies and the broader conceptual and ideational politics surrounding it again proves fuzzy and complex. Such concerns often revolve around the idea that market price data are 'objective', whereas reported data on people's experiences of life are merely 'subjective'. What this distinction means in practice is that market prices are understood to be the largely un-reflexive behavioural consequences of an innate economic rationality; whereas the sort of behaviour that informs subjective life evaluations is the outcome of reflexive processes, and therefore originate in the 'non-economic' component of human nature. This distinction therefore relates, at base, to the representation of properly economic behaviour outlined in section one.

The responses by those defending the use of such measures are equally instructive and interesting: they often seek to show how the measures do in fact correlate with objective biophysical or behavioural outcomes. As the Commission highlighted: 'A rich literature on these subjective measures concludes that they help to predict people's behaviour…these self-reports are also correlated with electrical readings of the brain' (ibid, 65). Other non-market valuation methods attempt to bypass the problematic presence of conscious thought that supposedly distort subjective data, by stimulating market-like choice environments through artificial surveys and other constructed environments. But these also depart in various ways from the ideal behavioural conditions of markets in orthodox consumer theory. This provides us with the final source of tension between the tenets of formalist reasoning and the post-GDP accounting agenda in this thesis: the extension of valuation technique to non-market goods challenges the formalist representation of human nature and its relationship to value and price formation. The management of these tensions will be the subject of the analysis in chapter 7.

## Summary

This chapter introduced key concepts from Polanyi's work as a lens through which to assess the challenge that the beyond GDP agenda represents to modern theoretical constructions of the economy. Polanyi's work suggests that the objectives of the beyond GDP agenda imply a fundamental shift in how we understand and represent 'the economy' and its place in human societies. Notably, this can be achieved by overcoming a series of market-centric modes of thinking which constrain our ability to view economic relations as a site for ethically oriented, conscious collective action and valuation. Since the ideology of growth was predicated on these modes of reasoning, moving beyond growth potentially necessitates moving beyond formalist understandings of the economy itself. These ideational criteria suggest a fundamental shift to a substantive conception of the economy, and not simply shrinking the priority 'the economy' occupies in political deliberation or balancing growth against other (social, environmental or political) goals.

Having identified a series of tensions between the ambitions of the beyond GDP agenda and the assumptions of modern economic theory, the empirical core of the thesis explores the role of formalist economic ideas in framing how post-growth statistical problems have come to be defined and understood. In the rest of the thesis I develop four in-depth empirical case studies of post-GDP statistical reforms – informed by expert interviews and documentary sources – and use these to evaluate and assess the extent to which the agenda is contributing to the re-imagining of the economy on substantive lines. These encompass the agenda to better measure inequality and distributional questions (chapter 4), moves to value non-market work and activities (chapter 5), the field of sustainability measurement and the valuation of non-economic capital stocks (chapter 6), and finally the development of tools to value non-market goods using wellbeing data and the incorporation of non-market goods into cost-benefit calculations (chapter 8).

In each of these areas, we will see how, in practice, the technical and methodological challenge of defining and measuring these concepts in accordance with formalist economic theory have generally frustrated these framings and exposed the limitations of defining and measuring post-growth objectives and goals in this way. This, I argue, is

creating a tension between statistical and economic reason, which in turn is providing resources with which to recover a more 'substantive' political understanding of the place of the economy in human society.

# 4. Economy after GDP: Inequality, 'Micro-Macro Gaps' and the Limits to Macroeconomic Ontology

> *Under a market system…the vast comprehensive mechanism of the economy can be conceived of working without the conscious intervention of human authority, state or government …[but] before modern times…the economy as such remained nameless…For the series of interactions between man and their natural surroundings will, as a rule, carry various significances, of which economic dependence is only one* **– Karl Polanyi**

> *National accounts…provide an accounting framework that tracks households' economic resources in a consistent way, from their generation (for instance via wages), via their (re)distribution (for instance via interest, dividends, taxes and social benefits) to final disposable income. However, national accounts provide no information on how income, consumption and wealth are distributed across households…A logical way forward would appear to be to integrate the distributional information from household micro-surveys with the consistent and standardised macro-information from the national accounts. This is easier said than done, however…While "income", "consumption" or "wealth" seem to be well-defined measures, closer inspection shows that they hold many meanings* **– OECD**

In 2016, when statisticians from the ECB and OECD compared estimates of total household wealth in the national accounts with data on wealth inequality, they found that vast swathes (up to 80%) of the economic assets measured in national accounting systems appeared to be missing from the data on inequality between households (ECB, 2016). This was accompanied by the frank acknowledgement that: 'a full reconciliation and even a full explanation of the differences…are likely to be impossible' (ibid, 50: emphasis added).[24] Historically, 'micro' statistics on inequality and the national accounts were produced in isolation; moreover, for much of the post-war period this didn't appear to bother anybody very much. However, as we saw in chapter 2 the significant differences between these two statistical representations of the economy are increasingly framed as 'micro-macro gaps' (Kavonius and Honkkila 2013; ONS 2015a; OECD 2017), in need of closing. Following the Stiglitz report recommendations on inequality, a series of statistical initiatives have been established to reconcile 'micro' data on household living standards with macroeconomic aggregates derived from the system of national

[24] Similar gaps were identified for income and consumption data in related OECD studies (ONS 2015a; OECD 2017).

accounts, such as per capita GDP (Eurostat 2011b; OECD 2013b; ONS 2015a; DGINS/ESSC 2016; ECB 2016).

How is it possible to mislay up to 80% of the economy, and why has it proved so difficult to put back together again? Operationalising the Polanyian framework developed in chapter 3, this chapter traces contemporary efforts of national accountants and statisticians to address these questions, which form a vital component of post-GDP efforts to embed inequality into the heart of economic policy (Stiglitz et al. 2010; Eurostat 2011b). It uses this as a first case study to answer the question of how seriously GDP statistical reforms challenge the foundational assumptions of 'formalist' economic reasoning. Specifically, it explores the challenge that incorporating inequality data into macroeconomic analysis is presenting to the idea of 'the economy' as an autonomous, unitary and self-contained system (see chapter 3). It demonstrates how the construction of this object within national accounts systems (Polanyi 1968, 78-114; Mitchell 1998) is challenged by the practical requirements of reconciling micro and macro data statistics.

The first section of the chapter traces how post-war developments within economic theory have influenced the framing of the current beyond GDP agenda on inequality measurement around the problem of micro-macro data gaps, showing how these concerns are influenced by recent developments in the broader project to provide 'micro-foundations' to macroeconomics. Specifically, the failure of the DSGE paradigm during the global financial crisis, and resultant moves to incorporate agent heterogeneity into macroeconomic models, has driven contemporary demands for household-level data which are 'reconciled' with the macroeconomic national accounting description of the economy. The very ability to conceive of these differences as 'gaps' in need of closing, is thus predicated on the first key aspect of the formalist view of economy identified by Polanyi: that the economy is an autonomous system, fully contained within an interconnected series of price-forming markets. The second and third sections present an empirically grounded analysis of this contemporary statistical agenda, in order to assess how far these statistical initiatives interfere with such macroeconomic understandings of 'the economy, and the construction of these within national accounting systems. Drawing on interviews and documentary sources, they demonstrate how the practical efforts by national accountants and statisticians to unify these two pictures of the economy is demonstrating the impossibility of fully reconciling the

realities of households' economic relationships and experiences with the vision of the economy as a self-contained mechanism produced by the centralised data infrastructure of the national accounts.

As we will see, measuring household inequality necessarily brings macroeconomic theory into empirical contact with the messier realities of economic relations at the household level, which are increasingly found to be incompatible and incommensurable with the economy as represented by the national accounts. This is resulting in a growing recognition of the impossibility of a unified statistical description of the economy. In turn, such initiatives are leading national accountants to embrace a more 'substantive' and plural understanding of accounting concepts – which, as is becoming evident, *necessarily* overflow macroeconomic understandings of the economy as a unitary system of markets.

## 4.1 Formalist Reason and Inequality Measurement: Macroeconomics beyond the Representative Agent

As outlined in chapter 2, the issue of closing the 'gaps' between the 'micro' and 'macro' statistical representations of the economy has become a principal component of official statistical work on inequality since the Stiglitz report. This section traces the wider theoretical currents which inform this project, placing it within broader changes to macroeconomic analysis in the wake of the financial crisis. Specifically, the critique of the representative agent assumptions of DSGE models has led to the new demands for harmonised distributional data consistent with national accounts aggregates. Consequently, these recent statistical reforms can be understood as the latest phase of the post-war quest to provide 'micro-foundations' to aggregate mathematical descriptions of the economy developed by mainstream post-War Keynesianism. Significantly, these new micro-foundations necessitate empirical contact with the measurement of households' livelihood, where previously abstract theoretical consistency was considered sufficient.

Statistical production does not take place in a vacuum: statistical agencies are embedded in a wider ideational and political context, being informed by and informing theoretical developments and forms of economic analysis. Statistical agencies increasingly conceive of themselves as a data hub, bringing together new information sources and presenting them in a way to meet ever-changing needs of users, or 'policy customers' (see e.g. ESSC 2014a). One of the most important constituencies statistical systems serve is the macroeconomic organs of central government: central banks and finance ministries. These agencies generally look at the economy from a macroeconomic perspective, informed by the neoclassical synthesis – which, as we have seen, is also intimately connected with the development of national accounting and GDP. This section shows how macroeconomic theory has influenced the priorities of the beyond GDP statistical work on inequality data, helping to channel these efforts into the quest to reconcile the picture of the economy given by the national accounts with micro survey data. This is worth considering in some detail, as it represents a significant means through which formalist ontological assumptions about the economy have influenced beyond GDP work in the field of inequality measurement.

Macroeconomic policymaking is informed by forecasting and modelling techniques which first emerged in the post-war period. The orthodox IS/LM Keynesianism of the neoclassical synthesis – pioneered by economists such as Harrod, Hicks and Hawtree and popularised by Samuelson, Solow and Hansen (Young 1987; Clarke 1990) – interpreted Keynes' work (2017 [1936]) as a demonstration of market failure through the stickiness of money wages in the face of adjustments, rather than focussing on fundamental uncertainties and the possibility of permanent disequilibrium in market economies (Patinkin 1990; Mann 2017, 309-317). These theories carved out an important, if carefully delimited, role for discretionary fiscal policy interventions, to ensure full employment through downturns, as wages failed to adjust to equilibrium under new conditions. In analytical terms, they also created the need for econometric data and computer models which would inform the timing and magnitude of fiscal interventions (Coyle 2014, 18-24). Traditionally based on tracking statistical relationships between aggregate macroeconomic variables across the whole of 'the economy', these models – known as 'structural econometric models' (SEMs) – were

instrumental to the design of post-war demand management policies. National accounts aggregates formed vital data inputs for these models. Indeed, as Timothy Mitchell has argued, it was these developments which allowed the economy to be constructed as a discrete object with a 'size', and for its growth to be taken as the central object of developmental expertise (Mitchell 1998, 2002; Breslau 2003).

Neo-Keynesian macroeconomics came under attack in the 1960s and 1970s (the period of stagflation), for lacking 'micro-foundations' (Backhouse and Boianovsky 2012). It was criticised for its lack of consistency with post-Walrasian microeconomic theory, and thus for its inability to grasp how relationships could change or break down as rational agents adapted to new policy settings or anticipated their monetary effects, rendering them ineffective. As Skidelsky argues:

> The neoclassical synthesis was intellectually unstable. It left the relationship between macroeconomics and microeconomics in a mess. There seemed no logical way of getting from the optimizing behaviour which microeconomics attributed to the individual to the perverse outcomes in the macro sphere which justified…counter-cyclical policy (Skidelsky 2009, 104).

At this point, the quest for 'micro-foundations', and the supposed gap between the micro and macro picture of the economy, had little to do with the empirical realities of household living standards or the measurement of inequality. It was rather related to the lack of theoretical consistency between microeconomic models of behaviour and macroeconomic theory. Specifically, monetarists such as Friedman and Lucas attacked neo-Keynesian mathematical models of the economy for being at odds with the concept of rational behaviour and expectations. Echoing Ricardian equivalence, Friedman's permanent income hypothesis suggested that individuals will always anticipate probable future losses of income and will smooth over consumption in relation to long-term income expectations rather than short term monetary stimuli (Friedman 1957). Such arguments appeared to undermine the neo-Keynesian emphasis on counter-cyclical deficit spending. Later, Lucas's critique of Keynesian econometric modelling also stressed that agents would respond to changing policy settings and internalise these into their behaviour, so that past macroeconomic data could not be used as an unchanging guide to the future effects of policy interventions (Lucas 1976; Lucas and Sargent 2003 [1978]).

These and subsequent critiques led to the quest to 'micro-found' macroeconomic models – by rooting them in the modelled behaviour of representative rational agents (Hoover 2008). This paradigm continues to shape mainstream macroeconomic policy analysis. Divided between 'freshwater' New Classical or real business cycle theory and 'saltwater' new Keynesian approaches, these nevertheless work within what Willem Buiter describes as a shared 'complete markets paradigm' (quoted in Skidelsky 2009, 31).[25] Skidelsky agrees that New Keynesians 'inhabit the same theoretical house as the New Classical economists, differing from them only in their view that it takes *longer* for economies to adjust to shocks' (ibid). The most notable *analytical* shift these critiques produced was the development of DSGE modelling from the 1980s, based on predicting the behaviour of representative rational agents rather than relying on historical econometric variables. These became influential in central banks through the 1990s and 2000s: in 2004, for example, the Bank of England replaced its structural 'medium term macro model' with the DSGE Bank of England Quarterly Model (Hendry and Muellbauer 2018).

DSGE models have themselves come under fierce recent criticism for failing to predict the global financial crisis of 2008 and the unrealistic assumptions underpinning them (Caballero 2010; Krugman 2018; Stiglitz 2018). At stake in post-crisis critiques of DSGE models is the rational representative agent as an adequate 'micro-foundation' for macroeconomic theory (Davidson 1982). One strand of these critiques centre around the conception of rationality which DSGE modelling assumes: many recent new Keynesians, such as Stiglitz (2018), have instead stressed how these models ignore the behavioural realities of information asymmetry, irrational exuberance and herding behaviour which Keynes identified as crucial to understanding the behaviour of financial market participants under conditions of real world uncertainty. Such critiques have prompted the emergence of models incorporating bounded rationality, collective exuberance and herding dynamics (Haldane and Turrell 2018).

[25] Similarly, Spahn suggests that: 'the purported strength of NKM is its firm anchoring in micro decisions; competing theories that introduce macro variables without direct derivations from utility are excluded from the Econ Tribe on account of using "ad hoc" theories without "proper micro-foundations"' (Spahn 2009, 1).

However, crucially for the present discussion, another central target of recent critiques of DSGE modelling was the 'representative' aspect of the rational representative agent. As an example, Muelbauer has argued that the 'underlying conceptual reasons for the failure of central bank models of the DSGE type include their typical assumptions about representative agents' (quoted in Hendry and Muellbauer 2018, 288). This is especially significant, as these critiques have influenced the current quest to generate better data on wealth and income distribution, and specifically statistical efforts to harmonise them with national accounting aggregates. The SEMs developed after the war only tracked aggregate accounting identities and were not concerned with the effects of household inequalities in income or wealth. But likewise, the DSGE models developed in response to the critiques of Lucas and others were not interested in 'micro' *empirical* data either (Hoover 2008). They sought to model the responses of representative agents to changes in prices and incentives, based on *a priori* and deductive behavioural assumptions about utility maximisation and rational expectations. In other words, they had sought purely abstract 'micro-foundations' for macroeconomics, which left the statistical description of the economy constructed by the national accounts intact (Watson 2014b, 13-14). Models based on these assumptions, however, failed dramatically during the financial crisis – both in terms of predicting (or even acknowledging the possibility of) the crisis in the first place, and in terms of modelling the subsequent effects of unconventional monetary policy and fiscal stimulus.

At the core of recent criticisms of the DGSE paradigm is the fact that individuals with different levels of income or assets will respond differently to changes in the macroeconomic climate, interest rates or income. This 'agent heterogeneity' is increasingly recognised as having important implications for how financial shocks develop and are transmitted, and therefore also to macroeconomic policy interventions aimed at addressing these (Constancio 2017; Debortoli and Galí 2018). For instance, many of the most asset poor families may be forced to behave in 'hand-to-mouth' ways, whereas asset-rich households may have the luxury of smoothing consumption in response to short-term changes in income. This point is invoked in numerous papers published since the crisis, to explain aspects of the 2008 crisis which representative agent models missed., while Stiglitz has also attacked DSGE models on the basis that:

> Some individuals are credit constrained, others are not. Moreover, numerous studies … have emphasized the importance of debt for aggregative behaviour; but in a representative agent model, debt (held domestically) nets out, and therefore should have no role … The central problems of finance – bankruptcy, debt, and asymmetric information – simply cannot arise in a representative agent model (Stiglitz 2018, 76-78).

These dynamics are recognised as having vital implications for monetary policy. Andy Haldane and Arthur Turrell, prominent economists at the Bank of England, suggest that: 'for monetary policy, one of the important practical channels for influencing consumption relies for its effectiveness on agent heterogeneity: those who gain from policy easing have higher marginal propensities to consume than those who lose' (Haldane and Turrell 2018, 238). This highlights how the representative agent assumption underlying DSGE models have come under heavy criticism from prominent economists since the financial crisis.

This academic critique has found support in senior central bank elites, leading to the introduction of various reforms to the forecasting and modelling instruments used to guide monetary policy. Vitor Constancio, vice president of the ECB, chose this as a prominent theme in a speech delivered to the ECB's 2017 annual research conference, a forum that brings together senior macroeconomists and monetary policy analysts. In this address, he stressed that:

> [T]he standard DSGE framework imposes unrealistic micro-foundations for the behaviour of households as embodied in the "rational expectations permanent income" model of consumption … in stark contrast to recent research that emphasises the importance of precautionary saving, liquidity constraints, leverage and heterogeneity, including heterogeneity in marginal propensities to consume (Constancio 2017).

Janet Yellen, former head of the US Federal Reserve, echoed these sentiments about the serious limitations of representative agent DGSE models (quoted in Haldane and Turrell, 2018, 238). Such prominent support indicates the degree of pressure that representative agent DSGE modelling is now under.

Aside from calls simply to return to SEMs and relax new classical demands for theory consistency (Krugman 2018), two specific new approaches have emerged in response to these critiques. Attempts to introduce reforms to basic 'representative agent' New

Keynesian models ('RANK'), which are based upon aggregate consumption functions derived from a Euler equation, have led to the adoption of Heterogeneous Agent New Keynesian models ('HANK'), in which 'the economy is populated by a continuum of households indexed by their holdings of illiquid assets a, liquid assets b, and their idiosyncratic labour productivity (Kaplan et al. 2016, 708; see also Debortoli and Galí 2018).[26] Since the risk of unemployment and income shocks is considered to be 'uninsurable' in these models, it is argued that they depart from the complete markets paradigm of mainstream new classical macroeconomics (Haldane and Turrell 2018).[27]

Another approach has been agent-based modelling (ABM) techniques, advocated by Andy Haldane among others. Drawing analogies to the rise of complexity and systems thinking in the natural sciences, Haldane and Turrell argue that:

> Modern physics research deals with complex systems, emergent behaviours, vast simulations, and outcomes which are probabilistic and stochastic beyond what is implied by the Gaussian distribution …. [A]n ABM could be used to look at how heterogeneity along several inter-related dimensions affects policy transmission—for instance, marginal propensity to consume as a function of net assets (Haldane and Turrell 2018, 230).

These reforms are still underway, and it is unclear whether the traditional DSGE models will be thrown out entirely. More likely, they will be supplemented by a wider modelling ecosystem including this plurality of approaches, with their use also constrained to more particular questions and confidence in the results they deliver more heavily qualified (Lindé 2018). This has already begun to occur, with the adoption of the ECB-MC and the Bank of England's 'suite of models' approach (Hendry and Muellbauer 2018). Nevertheless, these statements reveal the extent to which prominent policymaking elites are now seriously questioning the representative agent assumption underpinning pre-crisis DSGE models and developing alternative approaches which can accommodate household-level inequality into macroeconomic theory.

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[27] Kaplan et al., outlining the HANK, do nevertheless still depend upon some rather heroic assumptions, including the rather dystopian vision of a world in which: 'Households die with an exogenous Poisson intensity $\zeta$, and upon death give birth to an offspring with zero wealth and labour productivity equal to a random draw from its ergodic distribution.' (Kaplan et al. 2016, 708).

These analytical changes have created an urgent new need for distributional household balance sheet data on inequalities with which to empirically ground and test the parameters used to define the new models. This has been influential in shaping the priorities of the beyond GDP statistical agenda on inequality. This impetus is leading macroeconomists to seek *empirical* micro-foundations which are tested and validated by household level micro-data – these will, it is hoped, *finally* provide the robust grounding for the quest to model the economy in a unified way. The ambition of this vision is illustrated in a recent article by Hendy and Muellbauer, who suggest that 'to improve policy models, central banks need research that merges theory-driven and data-driven approaches, rather than treating them as adversaries' and:

> [I]t is possible that, in future, the generation of vast amounts of micro-data from administrative sources rather than surveys subject to selection bias and large measurement errors, may allow quantitative models for the whole economy to be constructed. Ideally, such macro-models would be based on statistically tested models of micro-behaviour, aggregated up from micro-data on millions of households and many thousands of firms (Hendry and Muellbauer 2018, 312).

These sentiments have brought micro data into the consciousness of macroeconomists in new ways (Ahn et al. 2017), in turn influencing beyond GDP efforts on inequality measurement.

The ECB has been at the forefront of these activities in relation to data on wealth inequalities – introducing the new Household Finance and Consumption survey (HFCS), specifically to generate more regular and harmonised data on wealth inequality across the Eurozone. The creation of the HFCS is justified explicitly in relation to the analytical developments outlined above. A report on the HFCS first wave summarised its use and application:

> Household-level data make it possible to evaluate the impact of shocks, policies and institutional changes across households…[which] yields important insights about issues like monetary policy transmission or financial stability… For instance, the recent financial crisis has demonstrated that a relatively small fraction of households (in this case the ones that are highly indebted) can have important effects on market outcomes.… On a number

> of occasions, central banks have been able to infer relevant information from the surveys that could not be recovered from aggregate statistics (ECB 2009, 5).

The description of the HFCS and its use on the ECB website similarly stresses, for instance, how 'survey data are key to…building and calibrating realistic economic models incorporating heterogeneous agents'.[28] This illustrates the way in which the critique of representative agent models has sparked new interest in distributional data in the macroeconomic policy spheres, collapsing old distinctions between the uses of micro and macro data that allowed the 'gaps' between them to remain uncontroversial. Macroeconomists are now searching for new, more empirically validated 'micro-foundations', where previously, under the DGSE regime, only abstract formal consistency with microeconomic theoretical assumptions was sought (Watson 2014b).

More directly, these developments have provided much of the impetus for the current efforts to create harmonised distributional national accounts, by closing 'micro-macro' statistical gaps, has come to be such an important part of the beyond GDP agenda. As well as launching the HFCS survey itself, for example, the ECB is also spearheading an expert group on aligning micro and macro data on wealth (with the OECD). It is significant that these statistical matching exercises are overseen by central banks, as this points to the intimate connection between new demands of monetary policy analysis and macroeconomic theory and the micro-macro gaps agenda. This is also given as an explicit justification for producing harmonised macro and micro data. Prominent members of the ECB expert group on micro-macro wealth gaps stated that: 'In view of the potential role that distributional data can play in explaining macroeconomic developments, the European System of Central Banks Statistics Committee established an Expert Group on Linking Macro and Micro Data for the Household Sector' (Kavonius and Honkkila 2013), and that:

> The current financial crisis has emphasised the need of household data and preferably, data with clear links between micro and macro level, as, for instance *financial stability analysis focuses increasingly on the transmission mechanism of shocks and risks between and across the different agents in the economy* (Kavonius and Tormalehto 2010, 4).

28http://www.ecb.europa.eu/pub/economic-research/research-networks/html/researcher_hfcn.en.html

This imperative is not limited purely to efforts in the field of wealth inequality, although this is of greatest interest to central banking. It also depends upon linkages with income and consumption data, motivating the agenda create harmonised micro and macro statistics in these fields as well. Jorrit Zwijnenburg, who heads the OECD's efforts on linking micro data to national accounts totals for income and consumption, explains the use and demand for distributional data aligned to the national accounts in these terms:

> [A]s results are consistent with national accounts totals, the distributional results can also be linked to relevant macroeconomic indicators, such as gross domestic product and household disposable income, therewith broadening the scope for various forms of policy analysis (OECD 2017, 8-9).

The Eurostat taskforce which was influential in founding this group similarly described the purpose of such data as: 'to give more credibility to the macro figures by offering distributional information and bringing discussions on inequalities to the attention of economic and finance ministries' (Eurostat 2011b). Interviews confirmed that these reforms respond partly to new demands in policymaking associated with the increased attention to household heterogeneity, with a senior statistician at the ECB stating there was a 'lot of demand for micro-data on wealth, especially after the crisis. Here at the ECB, when you look at the speeches of our governors, inequality is really being talked up. Five years ago is was not really an issue' (Interview JH).

We can see from this discussion how the distribution of economic resources has become a newly urgent concern of macroeconomic analysis, as part of the post-crisis criticism of the new classical DSGE paradigm and the representative agent on which these have been 'micro-founded'. The production of consistent data on the distribution of household wealth and assets has become an important global statistical agenda largely in support of these analytical developments. Thus, the contemporary statistical agenda on inequality directly relates to a longer project to formulate a unified theoretical synthesis which can describe and model 'the economy' in its entirety. Consequently, the current agenda to close micro and macro gaps rest on what Polanyi referred to as a 'formalist' vision of the economy. The final two sections shift the analysis to the practical success of the contemporary statistical work on reconciling inequality and national accounts data, in order to examine the implications of this agenda for such a conception of the economy.

## 4.2. Inequality and the Limits to Formalism: The Frustrated Promise of a Technical Solution to Micro-Macro Gaps

This section details how, as part of recent attempts to unite the micro and macro descriptions of the economy, statisticians and national accountants have firstly attempted to develop a technical solution to harmonising the micro and macro representations of the economy, as demanded by developments in macroeconomic analysis. This has centred primarily on the growing use of administrative data in new and innovative ways to construct distributions which can be used to measure household inequality. By reducing the dependence on surveying data traditionally used to measure inequality – and aligning the technical and infrastructural base on which these two pictures of the economy depend – the discrepancies between them will be overcome. However, this project is encountering a number of difficulties: in the process, statisticians are realising that the differences between micro and macro data cannot be reduced to purely technical issues or measurement bias, as they relate to fundamentally different views of the economic system, which do not overlap.

*The Limits of Admin Data for Representing Household Livelihood*

A first strand of contemporary efforts to close 'micro-macro gaps' is to align the data sources from which micro statistics and the national accounts are calculated. This in practice means moving beyond the use of survey data to produce distributional information, drawing instead upon the centralised administrative data used in national accounts, matched with demographic from registers and other databases. This is being made possible partly by technological developments. A senior staff member in the ONS's national accounts division explains that:

> Some of the reasons why you see slightly different figures for income components in the micro and macro sources is to do with the fact that different data sources are used ... Historically, micro stats have relied almost exclusively on household surveys. But within the ONS there's a number of big transformation programmes which are underway, which are radically changing the way we produce statistics. Admin data is integral to that. I think what we'll see in the future is that micro and macro will be using more comparable

> sources… the use of admin data will make it substantially easier to achieve those reconciliations (Interview RT).

These administrative sources thus appear to present a ready-made technical solution to the newly urgent problem of micro-macro gaps: aligning the data sources used to compile information on inequality with those used to compile the national accounts will close the gaps between them.

This move away from surveys and towards the greater use of administrative data is linked to recent problems with declining survey response rates, itself associated with socio-economic changes which have made 'the household' a less stable statistical unit, unamenable to surveying. Households have become more mobile; the single income nuclear family has declined; people lead busier lives. These changes in social structure also raise epistemic problems for statisticians, making it harder to survey households. Pierre LaMarche, a former INSEE statistician now working for Eurostat, explains how within statistics agencies:

> There is a movement now which is really strong – a scepticism about surveys, which is growing and growing, especially as response rates are declining in many countries. At some point this leads NSIs to try alternative sources. Until the 80s or the 90s surveys were working fine – the response rates were good, and no one were complaining about the quality. But things tended to get worse (Interview PL).

Beyond declining response rates, there is a wider epistemic politics at work here, relating to the trustworthiness ascribed to centralised records as opposed to survey data. There is a powerful sense that official databases, maintained by banks or the State, can be *trusted* more than people filling in surveys. This is linked partly to worries about recall bias and errors of self-reporting that surveys are prone to. But it is also linked to a broader ontological vision of the economy, as contained within the financial and fiscal transfers which are legible to centralised state bureaucracies. Generally, the national accounts are considered to provide a more 'complete' representation of the totality of economic transactions than a sample survey ever can. This view is linked, in turn, to a financialised economic imaginary. An expert on the subject at the OECD, who began his career at the Dutch statistical agency, explains:

> The problem with survey results is that, if you have the information from banks – for instance, in the Netherlands you have five or six very large banks – if you capture those in your statistics you cover 95% of all the income flows. On the other hand, you have a sample survey of households which only contains nine thousand – for the population for the Netherlands of 20 million! So what are you going to trust: the 95% of banks that have to report to all kinds of institutions, or the sample survey that has been scaled up? (Interview JZ).

LaMarche echoes these sentiments, but links them in interesting ways to the epistemic limitations of households themselves to know the ever-changing reality of their own financialised economic situation. The temporality of the human mind simply cannot compete with the frenetic pace of financial markets, which places limits on the ability of surveys to compete epistemically with the national accounting description of modern economies:

> We know that for financial assets there is a strong under-reporting from the households, because financial assets may be very uncertain in terms of value. If you have stocks, for instance, people are not really able to say how much they are worth on a day-to-day basis (Interview PL).

In this view, common sense for most national accountants, the economy is routed through the centralised recording systems of financial institutions and the fiscal structures of the state. Banks maintain centralised, audited accounting systems which capture all monetary flows; the state levies tax on the income of all households. These data sources are therefore seen as almost comprehensive representations of economic reality. Survey data are incomplete, partial, and distorted pictures of this reality.

This move is partly related to technological changes and the use of information technology within statistical agencies. The rise of more powerful software as well as larger and more interlinked databases with richer metadata, has expanded the possibilities for combining and reusing information across diverse sources. A statistician in the OECD's national accounts division reflects on these changes, also connecting them to budget cuts and wider institutional re-structuring:

> 25 years ago, every statistic could have its own survey. Money was not an issue, response burden was not an issue. If you wanted to have a specific definition, you just sent out a new survey, and if your colleagues sitting next door wanted to have a slightly different

> definition of the same variable, they just send out a survey as well. Nowadays you're not allowed to survey everything anymore. You must first ask "okay, is this already available in admin data?"…So nowadays statistical offices are forced to use whatever is out there… statistical offices have a larger IT department and also more methodologically skilled people. If they hire new staff, they're looking for "what are your IT skills? Do you know programmes like AR and SPSS?" – just to handle all the data (Interview JZ).

This illustrated that a major way in which statistical agencies have responded to the imperatives of aligning macroeconomic data with data in household inequality is to draw increasingly upon admin data rather than traditional survey instruments to perform distributional analyses. This is often narrated as a technical fix to the reconciliation problems they are confronting in relation to the imperatives of the beyond GDP agenda.

Nevertheless, these developments have led to some surprising and largely unintended effects. For instance, the growing use of admin data has changed and strengthened the role of micro-data experts within the process of compiling the national accounts totals themselves, which is causing new epistemic conflicts. By encouraging micro-statisticians to use administrative data in new and creative ways, one effect has been to empower them in the ongoing negotiations over balancing national accounts items. As one statistician describes, this is not simply an abstract confrontation between statistical sources and reality, but a negotiation process between different experts armed with their different data sources: 'You start with the sector specialists. They do the first estimate, then the transaction specialists balance each transaction … then the sector specialists want to look at the results again. Usually, when balancing the transaction, they are already negotiating, discussing' (Interview JZ). Micro-statisticians working on the 'household sector' were previously regarded as having a lowly status in these negotiations. Their data were modified at will during the balancing process. But the growing embrace of admin data by micro-statistics has empowered micro-statisticians within the national accounts balancing process. And this in turn is creating new conflicts over the size of the totals given for the household sector in the national accounts themselves:

> Now the person responsible for the household sector has a very strong negotiation starting point, because he [sic] has a very strong underlying data. 15 years ago, it was "okay, the banks say this, the balance of payment says that, so I am going to adjust your estimate by minus 20" – and you had to say "hmm, well, okay"…But now, when they approach you, saying "I want to reduce your number by 20", you can reply, "actually I

> don't think this looks correct. I think the non-financial corporations might have an error, if you look at time series". So the negotiation starting point is now much stronger. If we are discussing micro-macro gaps 20 years ago, 15 years ago, it was "the national accounts are good, we have to adjust the micro"…Now the micro people are saying, "okay, come on, bring us what you got there!" (Interview JZ).

This illustrates how an attempt to subsume household-level measurement of inequality under national accounts frameworks via technological alignment of data sources has in turn fed back onto the unity and cohesion of the national accounts themselves, and led to new sites of conflict in negotiations over the size of national income.

*When Micro is Bigger than Macro: The Contested Ontology of National Accounting*

More fundamentally, however, this attempt to subsume the measurement of inequality under the rubric of centralised administrative records has revealed the fundamental limits of the basic picture of the economy that the national accounts sources can provide. For a start, the very sense that data drawn from the financial sector and tax data can more accurately capture the value of assets is problematic in the view of many types of spatially distributed real assets, such as housing or land, which may have idiosyncratic features or are traded infrequently. In these cases, surveys by people observing these assets 'on the ground' in fact provide a more accurate view of their value than the financial transactions which tend to be legible in official registers and administrative data:

> Usually people are quite good in evaluating their real assets. It's related to the fact that if you are a household you have this face-to-face interview, so the interviewer is coming into your home and is able in a way to assess the value of your home. So it's something that the interviewee has in mind, and of course he will adapt his answer to this knowledge (Interview PL).

So, while administrative data may work well for capturing some aspects of wealth inequality, especially financial assets, they are not particularly good at representing real assets such as land or property (Interview JH). The picture of surveys as distorted and untrustworthy representations of the centralised records is problematised by such facts. A picture of wealth inequality which wants to include these assets, in their specific materiality, has not been able to escape the need for direct empirical observation that survey instruments provide.

Moreover, statisticians are realising that this embrace of admin data cannot solve the problem of capturing household inequality in its various dimensions, because 'the economy' does not appear to be contained within the administrative systems of banks and the State after all. For instance, because national accounts data is predominantly collected from central administrative records, it cannot contain any information on transfers between households. Even if statisticians could map the income and wealth contained in admin data such as tax records perfectly to every household, this would still not be able to provide any sense of how households interact with each other in ways which are not routed through financial institutions or the state:

> The thing to remember is that there are differences between the micro distributional statistics and the national accounts aggregates for sensible conceptual reasons as well. One example is transfers between households, where you've got one household providing another household with money, whether that's students living away from home or maintenance payments or whatever. These household-to-household transfers aren't reflected in the national accounts as they obviously all fall within the household sector, whereas for individual households, when you're looking at distributions they play an important part (Interview RT).

A core underlying assumption on which much of the debate over micro-macro gaps rests is that the micro-data give a partial, incomplete approximation of the economy, which is more fully grasped – '95% of all income flows' (Interview JZ) – by the sources drawn upon by the national accounts. But this assumption has been undermined by efforts to close the micro-macro gaps with admin data.

The importance of the whole constellation of more informal inter-household relationships, as well as the impossibility of measuring this realm of activity from calculative centres, is becoming increasingly evident. In the case of many developing countries, where informal transactions between households or unrecorded remittances compose a very significant means through which economic relations are co-ordinated, micro-data actually produces larger estimates. Mexico is a prominent example of this within the OECD:

> For Mexico, informality and remittances are important. [Flows between households are] under-valued in the national accounts, but the micro-survey is reporting that the current transfers are coming and going from the same household sector…when we investigated

> this, we realised that the national accounts is lower than the micro-survey! (EG DNA Meeting, 2016).

As a result of attempts to close micro and macro gaps, the idea of the national accounts as a larger more representative example of a single object – 'the economy' – has come unfixed. The issue is made even more serious when other definitions of income start to be used. For instance, the income concept used in much surveying data includes informal income earned outside of salaried employment, often in cash and unregistered by banks. Again, quoting a senior representative from the Mexican statistical office at an OECD working group:

> We have a lot of money going from children to parents. Yes, obviously, because in Mexico we have a certain kind of family…but those transfers are not visible [in the national accounts], because they are inside the household sector. The micro-survey lets us understand what is happening. One aspect of this, that's really amazing, is that most households are buying dwellings from the family – not from a bank. When you start to think about this, you start to understand there are many relationships that you are not revealing if you're not looking at the micro-survey… if you are only using counterparty information from the financial sector or the government. There are some issues that are very important, happening inside the same sector, that you cannot see. Informality in Mexico is almost 20% of the economy – but informal employment happens within the household sector (EG DNA, 2016).

Attempting to unify these two representations of 'the economy' has increasingly revealed the fuzziness and ambiguity which surround its boundaries, and the presence of a myriad of interactions and institutions of economic relevance which are illegible to the centralised information systems from which national accounts are constructed. People share things, create goods and services for their own use, employee their families and friends. The individual cannot always be taken as the self-evident unit of analysis; families and communities structure these interactions in complex ways. 'Income' flows, understood in this broader sense, could in fact be far larger than those given in the national accounts. The issue of epistemic authority has been reversed. Perhaps it is the macro data – that appears to offer the authoritative and complete picture of the economy – that is incomplete after all. Households and their economic relationships are not nested 'inside' the economy as understood by national accounts, because their economic experiences overflow their interactions with financial markets or the state, which is all that the administrative data infrastructure on which the national accounts are constructed makes visible.

## 4.3 Substantivism and Inequality Measurement: Towards a Plural Understanding of 'Income' and 'Wealth'

Given the limitations of admin data to create a unified representation of the economy through technical means, this section examines statistical efforts to reconcile these data sources through methodological and conceptual reconciliation. It demonstrates how, because of this work, leading global statisticians are confronting fundamental differences between the economic interactions relevant to households and the picture of the economy given by national accounts frameworks. Moreover, it is increasingly recognised that aligning these is not a technical statistical problem – rather, it relates to the fact that 'the economy' being described in each case it not the same thing: on the one hand, it refers to the 'formalist' understanding of the economy as contained within a complete system of market transactions, and on the other a 'substantive' understanding of household livelihood. Thus, I suggest the statistical work increasingly exposes the fallacy of assuming macroeconomics can be empirically 'micro-founded' at the household level, because the economic interactions of households are not reducible to the macroeconomic vision of a closed system of price-forming markets described by national accounts.

*The Incommensurability of National Accounts and Household Livelihood*

Efforts to develop harmonised methodological frameworks in which the measurement of micro-level inequality can be reconciled with national accounts standards have been undertaken by international working groups, co-ordinated through the OECD and ECB. These working groups gather statisticians skilled in both areas from national statistical agencies, in attempt to develop methodologies to achieve this reconciliation (OECD EGDNA 2016; OECD WPNA 2016; ECB 2016). The discussions centre around apparently dry, technical matters: the similarities and differences between sub-items as they may be defined in the national accounts and relevant micro-data variables from household surveys; how best to match up survey items to national accounting entities; the reasons for the 'under-reporting' of particular items in micro data (alcohol, for instance) or their complete absence. Through confronting these issues through detailed, item-level definitional and conceptual comparisons, it is hoped to arrive at a reconciled set of data on inequality which is consistent with national accounts totals and

can be presented side-by side. Two main approaches to the issue are emerging (Interview JH; Interview PL), both of which have ultimately come to accept that the economic concepts relevant to measuring household living standards are not ultimately compatible with, and do not fully overlap, those drawn upon in the national accounts; however, they manage this fact in different ways.

The first, favoured by the OECD in its approach to income and consumption inequalities (OECD 2017), has been to treat the national account definitions and totals as correct and 'complete', and from this try to match the survey data onto these results. This is achieved by scaling up the micro-data totals to the national accounts aggregates, and by making assumptions about how the distribution of the 'gaps' influences the overall level of inequality in the household sector of the national accounts. The key questions to be resolved here are which of the national accounts items the survey items correspond to, and (where micro data is missing) how the imputed income for these gaps should be allocated across households. Through these discussions, and various experimental statistical exercises, standardised principles are beginning to be developed for allocating the gaps so that inequality and macroeconomic figures can be presented in a unified way. The outcome of these discussions how these issues are handled has a significant impact on the picture of inequality that is produced, and that will be used in economic analyses and political discourse.

We might understand this technical work as a process of methodological alignment towards a more complete account of economic activity and its distribution. And this is indeed how national accountants sometimes narrate it. A staff member at the OECD national accounts division indicated that:

> We have the national account total and this is the starting point, and then you say, "okay, what are the gaps, what is the quality of this, what is the quality of that?"…You make adjustments, and with every step you come closer to the national accounts…you start distributing in line with national accounts totals (Interview JZ).

But again, the story is more complicated than this suggests. Statisticians are more reflexive than anybody about the links between data and the practicalities of its collection, and about the inherent differences which result from constructing measurement of phenomena via one instrument or another. One ONS staff member

explains that the differences between micro and macro sources reflect not just measurement error but: 'the fact that with the micro statistics, obviously the main object of interest is the household, whereas in the national accounts they are looking at things from a whole economy basis' (Interview RT); an OECD publication similarly notes that: 'both frameworks are influenced by the practicalities of collecting data relevant to the concepts to be measured' (OECD 2013, 15). This is another way of saying that these are not gaps between measurements and a unified economic reality, but rather reflect the measurement of different economic phenomena, implied by different perspectives on what 'the economy' constitutes: in Polanyian terms, between economy in its substantive and formal sense.

This inescapable fact has resulted in considerable practical difficulties in aligning these concepts: many of the items missing from the national accounts have turned out not to be 'gaps' *per se*, but rather economic phenomena that either do not make sense to measure from the perspective of household living standards or prove almost impossible to measure in household surveys, as they are so far removed from the everyday realities of people's economic experience. Most of these items stem from finance. A prominent example of this is 'Financial Intermediary Services Indirectly Measured' (FISIM). FISIM is an important income concept within the national accounts, used to represent the 'value' created by the financial services sector. But it is not registered as an expenditure item in micro surveys. Households could not be expected to report upon the extent to which they personally benefit from a fictional abstraction created to represent the national income generated by the entire financial sector. As a Eurostat statistician explains: 'if you turn up to someone's door and ask them how much FISIM they receive, they have no idea what you are talking about' (Interview PL). This point is echoed in an ONS study:

> Some national accounts variables have no equivalent in income microdata, either due to their conceptual nature or practical considerations. For example, FISIM and investment income attributed to insurance policy holders both have no counterpart in micro-data (ONS 2015a, 4).

During a discussion of the OECD's expert group, one of the OECD national accounts team, while agreeing that 'from an income perspective FISIM is probably one of the less ingenious ideas in the national accounts', nevertheless emphasised the:

> Importance of FISIM is to the total framework of the national accounts. I mean, you need some imputation for this item. One could argue that here, where we focus on the disposable income of households, it is less important, so we should reason without FISIM. That was done for France. But I understand that in previous meetings we agreed to try to estimate FISIM…it's important to be aligned with the national accounts, so we have to find a way to include FISIM, *whether it's a good idea or a bad idea.* (EG DNA 2016, emphasis added).

This raises interesting questions about whether this is indeed an 'under-reporting' of income at the household level (as sometimes implied), or not: FISIM itself is a recent and highly artificial accounting construct with a tortured, contested post-war history within the SNA itself (Christophers 2011, 2013). Recent scholarship has argued that it has been invented simply to ensure that the non-productive nature of finance was not revealed by the national accounts, and serves to legitimise finance-driven growth models (Assa 2016). The matter of incorporating FISIM into household income for the purposes of inequality measurements thus remains unresolved.

A similar issue arises with income from share dividends, which in technical national accounts terminology are referred to as 'distributed income of corporations'. Again, measuring such an income concept in surveys has proven impossible, and statisticians explicitly link this to the remoteness of this form of financial remuneration to the daily economic experience of most households. The head of the Austrian statistical agency told the OECD's expert group that for share dividends there is:

> Massive under-reporting in the surveys… [and] there is no tax data, because these things are not taxed…so we have no solution at the moment. Those people that are asked in the survey simply don't give an answer – they don't know it, it's not important to them, they don't give the right answer (EG DNA 2016).

This partly relates to a point discussed above – that the temporality of financial markets simply makes it impossible for most people to truly comprehend their own economic position at a given moment in time, if asked in a survey. But it also points to a bigger issue: that in advanced and highly financialised economies many of the income concepts that have become important to national income and macroeconomic analysis, that simply do not feature in the everyday lives of people, and are thus immeasurable when

considering inequality at the household level. This in turn frustrates statistical attempts to give a harmonised description of 'the economy': the 'practical' limitations of surveying actually have to do with the fundamental disjuncture between households' everyday experience of the economy and the way in which modern economies function at the macro level: the growing disconnect between the measurement of livelihood and habitation and of improvement. The fact that there are moves to impute and scale up these concepts, on the basis they are 'missing from the micro data', therefore has significant political implications for how inequality comes to be defined and which actions might best reduce it: if FISIM and share dividends are included in this way, then policies of financial inclusion might begin to seem an effective route to inclusive growth; in not, the efficacy of these actions might seem less evident.

*Emergence of Hybrid Definitions of National Accounting Concepts*

The second approach to this issue more explicitly rejects the assumption that national accounts concepts are the definitive standard, and that micro data should be scaled up to match these. Instead, new hybrid definitions of these concepts are being developed. This has been favoured by the ECB in its work on aligning wealth inequality data aligned to national accounts balance sheets (Interview JH; ECB 2016). Here, the focus has been painstakingly working through the different classes of assets and liabilities found in national accounts balance sheets, to assess the extent to which they can meaningfully be compared with items from household wealth surveys such as the HFCS. This might be either because they are completely excluded from surveys, or are defined so differently in conceptual terms at the household level that comparison is considered meaningless. A paper laying out this approach:

> Concludes that it is not reasonable to stick to one wealth concept…*it is almost impossible to apply a standardised concept as the wealth as well as income concept applied in both statistics are considerably different*…some concepts do not necessarily make sense at the balanced macro system level…the micro survey focuses only on one individual households, which forces one to define the concepts from the household point of view…there are severe coherence problems with some of the components (Kavonius and Honkkila 2013, 3; 6; 14; 19 emphasis added).

This involved working through different categories of wealth and assessing their definitions and the comparability between the two sources. Thus, such moves represent the insistence by the statisticians and accountants working on these programmes that the quest to reconcile the household view of living standards with the macroeconomic vision of the national accounts is a futile endeavour, as they are representing fundamentally different views of the economic process.

Again, interestingly, this acceptance is partly driven by the difference between financial assets and real assets. As a member of the ECB expert group explained, the coverage of real assets is patchy in national accounting systems and that 'definitely the coverage of non-financial assets is better in the survey than the coverage of financial assets' (Interview JH). A working paper substantiates this point further:

> Non-financial assets, i.e. predominantly housing wealth, are relatively easy to estimate at the micro level … [However] the financial flows at the macro level are more reliable than in the surveys. Consequently, in wealth surveys the share of non-financial wealth has been recorded as significantly higher compared to the national accounts (Kavonius and Honkkila 2013, 14).

For this reason, the 'hybrid' wealth concept adopted to use to build harmonised DiNA in these exercises excludes real assets 'as non-financial assets are not available at country level' (Kavonius and Honkkila 2013, 6). This is a rather extraordinary conclusion. It essentially concedes that many of the assets most central to households' livelihoods, such as property or land, are to be excluded from the measurement of wealth inequality because the national accounts data on these assets is incomplete.

The issues also extend to the complex entanglements between the public and private, 'business' and 'household' aspects of wealth. This particularly affects small businesses run from a family or by a few self-employed individuals. The national accounts draw a distinction between 'unincorporated enterprises', which are situated within the private household sector, and 'quasi-corporations', which count as 'separate institutional units' that 'function as if they were corporations' (UN 2008, 440). The ECB methodology outlines some of the problems that emerge from the entanglement between the private and the public that this involves:

> Financial and non-financial assets, as well as liabilities, are spread over the various items of the household balance sheet…and it is thus not possible to distinguish between the wealth of the unincorporated enterprise and the wealth of the household…If, however, the economic activity is considered to be a separate unit, any property rights are classified in national accounts as equity participation held by the household... In general, the distinction between households and business wealth was considered problematic for respondents, particularly in the case of small businesses (ECB 2016, 54).

Of course, such a problem only makes sense or can be comprehended given the framework of the national accounts, which are required to sort these things out into neat sectors called 'household' and 'business'; and this in turn can be traced back to the separation of the corporation as a legal person in Western legal systems. A member of the ECB team illustrates this point further:

> We have something called business wealth … the problem with business wealth in the survey is that it's not very comparable across countries, because it's something that's not very easy to collect. the household does not think in terms of national accounts definitions when they report their business wealth. So part of it may be classified, for example, as household deposits in the national accounts, but the households consider that they are self-entrepreneurs and consider it as business assets (Interview JH).

As we see, the economic activities of households tend to overflow macroeconomic accounting categories; it is these messier realities that the wealth surveys must deal with. As a result of these and other issues, the ECB has constructed a hybrid wealth concept which it uses to construct its reconciled distributional wealth national accounts which excludes all these areas of incompatibility. This is restricted to widespread, commonly held and stable assets such as bank deposits, publicly listed equity, bonds and mutual funds. Even pensions were excluded, because of valuation problems. It was only on this basis that the ECB could get the micro data 'coverage ratios' to the national accounts to acceptable levels (27-62% of national accounts data), and 'wealth' could be made to look like an almost stable object once more.

To summarise, both methods discussed above represent a means for statisticians to confront and manage the fundamental incompatibilities between the formalist vision of the economy given in national accounts frameworks with the realities of the economy as experienced by households. Accepting that no single measure can capture both the aggregate economy and household-level inequalities, they bring into question the

national accounts view of the economy as a closed and unitary system, and the economic dimensions of inequality as neatly contained within this system.

## Summary

This chapter has surveyed recent statistical attempts to address one of the major critiques levelled at GDP – that it fails to account for the negative effects of rising inequality and social exclusion that may prevail even during periods of aggregate economic expansion. In line with the rest of the thesis, its central interest has been not in assessing how far this agenda is undermining the value placed on growth relative to other political or social objectives, but rather how it is interacting with and disrupting modes of economic reasoning which make the economy appear to be an autonomous and unified sphere which can grow and shrink in the first place. As argued in chapter 3, in Polanyian terms this represents the test of whether the beyond GDP agenda holds the potential to challenge the formalist understanding of the economy as fully contained within a closed system of price-forming markets.

The first section outlined how this agenda has been framed in terms of the need to close the gaps between measures of inequality and the national accounts, and the influence of economic theory on this. The recent focus on harmonised data on inequality and macroeconomic aggregates is bound up with a rethinking of the 'micro-foundations' on which new classical macroeconomic models are based. Whereas until the crisis adequate micro-foundations were assumed to consist of theoretical reconciliation with rational representative agent assumptions of microeconomics, there are now serious moves to reconcile macroeconomic theory with household-level heterogeneity, grounded in empirical data. Part of this project is an attempt to show how micro and macro pictures of the economy can be reconciled so that inequality can be seamlessly integrated into macroeconomic models. This agenda is predicated on the formalist assumption that the empirical living standards of households and national accounts aggregates represent different measurements of what is ultimately a *single* unified object - 'the economy' – that can therefore be brought into alignment. The current interest in distributional data as part of the post-Stiglitz beyond GDP agenda can be situated within this broader project: both in the abstract, as another attempt to bring micro and macro representations of the economy into alignment; and more directly as an analytical imperative linked to new

forms of monetary policy analysis in response to critiques of the representative agent underpinning DSGE models.

The central argument developed in sections 2 and 3 was that the practical implementation of this statistical reconciliation project is revealing the limitations of this historical vision of the economy in new ways. It is showing, for instance, that the informal relationships households conduct between themselves outside of market exchange cannot be understood through using centralised administrative data that the national accounts rely upon. It has also demonstrated that many of the income and wealth constructs represented in the national accounts have no meaningful equivalent at the household level. This is leading to a more plural and context-dependent understanding of the accounting concepts used to define economic categories like 'income', 'consumption' or 'wealth' within official statistical systems. While predicated on formalist assumptions, what is emerging from this agenda is therefore something more interesting: a new awareness of the fundamental multiplicity of economic reality. A project to shore up macroeconomics by integrating distributional issues into its models has in fact exposed the limitations of such a vision for comprehending economic reality.

Having examined the challenge that the beyond GDP agenda poses to the vision of 'the economy' underpinning the national accounts in this chapter, through the prism of inequality measurement, the next assessed how new measurement ideas are interacting with a second foundational feature of formalist economic reasoning: that 'society' is something that takes place *outside* of the economic sphere of production represented by GDP and the national accounts.

# 5. Society after GDP: Unpaid Activity and the Limits of the Production Boundary

> *The criterion of rationality assumes a person striking a choice between uses of scarce means…it follows that the only economic activity of the worker is that of selling his labour power…[But] the exclusion of everyday activities of producers from the scope of economic activities is utterly unacceptable to the student of economic institutions* **– Karl Polanyi**

> *There is little contention that many of the services produced by households for their own-use, such as cleaning services, preparation of meals, child-care etc contribute to material well-being…recent improvements in the statistical infrastructure of many countries (e.g. more detailed data on wages, improved data on non-market activities, and time-use surveys) have led many countries to produce household production satellite accounts that complement the traditional estimates of economic activity* **- OECD**

In 2014, when statisticians at the Office for National Statistics calculated the significance of unpaid work to the UK economy, it was estimated to generate £1.02 *trillion* annually: 56% of the value of the entire market economy captured by GDP; 8.5 times the income produced by the UK's financial services sector (ONS 2016b, 3). Such values are not just vast in absolute terms; they greatly impact the measurement of relative living standards between countries. For instance, an OECD study found that China's per capita GDP looked 50% higher relative to the US if non-market services were included in the comparison (OECD 2011b). These findings are something of an embarrassment for the national accounts system, which purports to provide 'a comprehensive and detailed record of the complex economic activities taking place within an economy' (UN 2008, 1). A major recommendation of the Stiglitz commission was that the value of this unpaid labour and leisure time should be measured more regularly and consistently, so that the relationship between labour markets and non-market activities could be brought into the analysis of economic welfare and living standards (Stiglitz et al. 2010). Better valuation of these services has consequently become a key strand of beyond GDP statistical work since 2009 (ONS 2008; Eurostat 2011b; ONS 2013b, 2013a).

In the previous chapter we investigated how the internal unity of 'the economy' has been fragmented by attempts to integrate distributional measures of living standards into the national accounts. This chapter examines how seriously its external borders with

'society' are increasingly threatened by the problem of accounting for the value of non-market activities. Using the Polanyian perspective outlined in chapter 3, the chapter helps us to further answer the question of how far these statistical reforms challenge 'formalist', market-centric representations of the economy. This is a more puzzling issue than it may first appear. After all, the very fact that this agenda seeks to value production outside labour markets appears to offer a more 'substantive' vision of economic production. On the other hand, efforts to monetise the value of social reproduction and affective labour using the standards of labour markets reflects a formalist impulse to commensurate all human activity with the logic of exchange relations.

To illuminate this question, the first section provides a conceptual history of how economic theory has approached the problem of defining productive activities. Specifically, it shows how the 'third-party criterion' (Reid 1934, 11) – developed by Margaret Reid in the 1930s to determine which activities are considered as 'economic', on the basis of whether they could be delegated to another person on the market – arose from a specific moment of post-neoclassical problematisation about how to define production and labour. This principle was subsequently incorporated into accounting methodologies for valuing unpaid work, which revolve around the comparison of time-use data with 'equivalent' market wages. The second section shows how the project of integrating these valuations into the SNA has encountered persistent challenges, ranging from apparently technical problems to more fundamental conceptual issues, resulting in their continued exclusion from GDP. The third section explores the consequent rise of alternative, output-based valuation approaches, as well as the proliferation of these measures in a growing system of 'satellite accounts'. These enjoy increasing political salience due to the digital disintermediation of services, the rise of the platform and sharing economies and the blurring of work and leisure these entail. I argue that these trends offer productive political resources for a 'substantive' view of economy, as they reflect a growing acknowledgement of both the economic significance of non-market work and social reproduction *and* the impossibility of meaningfully individualising this value or understanding it through the lens of exchange relations.

## 5.1 Formalist Reason and Unpaid Work: Reid's Third-Party Criterion in Contemporary Accounting Practice

This section traces how the problem of productive activity outside markets has been dealt with in the history of economic thought, specifically through Margaret Reid's third-party criterion, showing how this principle informs contemporary beyond GDP accounting practice. It situates Reid's work in a specific moment of problematisation, in which neoclassical value theory had unfixed the boundary between productive economic activities and society. Reid's work reflects the concern of neoclassical thinkers to demarcate economic activity as relating to allocative choice between present disutility and future utility, grounding the notion of labour in alienability and exchange. This led Reid to formulate the re-integration of non-market work into the economy in specific terms: while she broadened the concept of labour to include unpaid work, she did so with reference to whether a market existed for delegating these activities. Current methodologies for valuing unpaid work – based upon Reid's work – consequently represent an ambiguous terrain in which substantive objectives are practically advanced through a continued methodological privileging of exchange relations as the foundational site of the economic. They reproduce the concerns of neoclassical thinkers to explicitly contain the economy within the sphere of calculation, scarcity and exchange, after subjective value theory had threatened to compromise its boundaries.

*Defining Productive Labour from Classical to Neoclassical Economics*

Classical political economists famously worked with a labour theory of value; but this might also be described as a value theory of labour. Labour was activity that produced goods with exchange value. Smith often defined labour in open-ended terms, as: 'the fund which originally supplies [the nation] with all the necessaries and conveniences of life' (Smith 1993 [1776], 8), or elsewhere simply the 'toil and trouble' of initially producing useful goods. Smith did, however, draw a crucial distinction between productive and unproductive labour, based on whether its value was consumed in the process of creating it or stored up in a tangible good with exchange value:

> The labour of the manufacturer fixes itself in some particular vendible commodity, which lasts for some time at least after that labour is past. It is, as it were, a certain quantity of

> labour stocked and stored up to be employed, if necessary, upon some other occasion. That subject, *or what is the same thing, the price of that subject*, can afterwards, if necessary, put into motion a quantity of labour equal to that which has originally produced it (Smith 1993 [1776], 191; emphasis added).

In doing so, Smith coupled productive labour to the ability to bring the resultant good to market– i.e., generally to the manufacture of physical, tradeable objects. The distinction was used, moreover, to explicitly exclude the work of domestic servants as economically unproductive.[29]

Nevertheless, while the productive nature of labour is indeed grounded in the ability to exchange or barter the resultant *products*, Smith's distinction did not imply that the dividing line between productive and unproductive work was the labour market. Smith's definition excluded many activities which *are* traded on markets for a wage: even the services of a paid domestic servant were considered unproductive, as they were consumed immediately. Conversely, the unpaid production of exchangeable capital goods would be considered productive labour. Smith rather defined all affective service work as consumption (Brennan 2006). Until the late 19th century, this provided a secure principle on which to demarcate productive economic activities from unproductive consumption or society.[30]

With the marginalist shift to a subjective theory of value, definitions of productive labour evolved. Value was now considered in utilitarian terms, as anything that satisfies a desire or want rather than as physical goods produced by units of labour time. This potentially engendered much more expansive definitions of what constituted productive economic activity, which in turn threatened to overflow manufacturing work to encompass almost every human action (see Brennan 2006). Marshall, for instance, explicitly contested Smith's definition of productive labour, arguing that 'man cannot create material things

[29] 'The labour of the menial servant, on the contrary, adds to the value of nothing… [it] does not fix or realise itself in any particular subject or vendible commodity. His services generally perish in the very instant of their performance, and seldom leave any trace or value behind them for which an equal quantity of service could afterwards be procured' (ibid, 191-2).

[30] This focus must be understood not as representing a fundamental ontological divide, however, but as inspired by his concern with the ethical underpinnings of commercial society and transactions (see Watson 2018, 21-23).

… [W]hen he is said to produce material things, he really only creates utilities' (Marshall 2011 [1890/1930], 45). On this basis he entertained the notion that 'it would be best to regard all labour as productive except that which failed to promote the aim towards which it was directed, and so produced no utility (Marshall 2011 [1890/1930], 41). Likewise, in Taussig:

> Since the essence of production is that it leads to satisfactions or utilities, it follows that any labour or effort which yields utilities is productive. The musician whose performance brings us pleasure does precisely the same sort of thing as the florist whose blossoms last a few hours. The domestic servant contributes to our ease just as does the artisan who supplies the furniture for our dwellings…[The] services of those whom Adam Smith and his followers called unproductive labourers…are desired and prized; and they are yielded by human effort. The rewards earned by these efforts are an important topic in economic science (Taussig 1911, 18-20).

However, since almost any purposive human activity arguably engenders utility, this potentially implied that productive work could no longer be confined to market-oriented activity. Thus, the first objective of neoclassical theorists – to ground economics in a utilitarian theory of value – threatened to compromise the second, i.e. to turn economics into the mathematical study of choice and allocative efficiency under scarcity conditions.

Anxiety about the potential implications of this proliferation in the concept of labour is evident in the writings of neoclassical theorists. In particular, we see a concern to exclude from the economy activities which were done simply for their own amusement and yielded transitory pleasures. This was done through two central demarcation strategies: firstly, to re-define labour as only encompassing activities which did not themselves render utility for the person doing them; and secondly, to thereby re-connect labour conceptually with the exchange of an alienable and transferrable good. Wages could thus be reconstituted as the marginal price needed to offset the disutility of the labour involved with compensatory consumption possibilities. These moves were vital to Reid's subsequent efforts to re-include non-market work in the economy through the third-party criterion, which underpins modern accounting methodologies.

Firstly, labour was carefully distinguished from leisure and consumption in neoclassical theory through an emphasis on its essential *disutility*. Jevons, for example, worried that: 'In defining labour…we may, if we like, include in it all exertion of body and mind. A

game of cricket would, in this case, be labour' (Jevons 1965 [1871], 168). Rejecting this as absurd, he provided a definition of labour as the temporary endurance of disutility and hardship to produce future utility: 'Labour is the *painful exertion* which we undergo to ward off pains of greater amount, or to procure pleasures which leave a balance in our favour' (ibid). Marshall agreed with Jevons, and for similar reasons:

> Though some exertions are undertaken merely for their own sake, as when a game is played for amusement, they are not counted as labour. We may define labour as any exertion of body or mind undergone partly or wholly for with a view to some good other than the pleasure derived directly from work (Marshall 2011 [1890/1930], 46).

Through this emphasis on disutility, labour was re-connected to future-oriented activity: consumption, leisure and society became things that were done for their own right by the doer, and which yield no future utility; productive labour is activity that is, by contrast, inherently painful and unpleasant but stores up future utilities. Importantly, this focus on disutility also allowed neoclassical thinkers to connect labour with the marginalist methodological focus on rational calculation over the allocation of scarce resources. This allowed for a *de facto* analytical focus on labour markets and wages as the price we receive to endure disutility in order to produce future consumption possibilities. Revealingly, Jevons decided against a more inclusive conception of labour precisely because, since such activities are 'undertaken solely for the sake of the enjoyment attaching to it', they 'demand no calculus' (Jevons 1965 [1871], 168).[31]

Thus, neoclassical authors restored Smith's principle that productive activity was something yielding a future exchange benefit, but expanded it to apply to service work as well as 'vendible commodities' (Smith 1993 [1776], 191). They did so by delineating labour as temporary disutility which produces a store of utility that can be transferred to others on the labour market (the site where decisions over how to allocate this future-oriented disutility were made).

[31] The sense of labour as a disutility also underpins the development of compensating wage differential theory, which see wages as the marginal benefit needed to offset the disutility represented by the work performed. Furthermore, when Jevons considers how we might make economics a quantitative science, he admits that since no unit of pleasure and pain exist, so we must look to price movements as the visible effects of these hedonic calculi.

It is in this intellectual context – in which the scope of the economic and its boundaries with the social had been unfixed by neoclassical value theory – that we should situate Margaret Reid's canonical work in the 1930s on household production. Foreshadowing Polanyi's critique of formalist economics *avant la lettre*, Reid observed that:

> With few exceptions the interest of economists has been concentrated on that part of our economic system which is organized on a price basis. The productive work of the household has been overlooked, even though more workers are engaged in it than in any other single industry (Reid, 1934, v).

It was on this basis that Reid sought to clarify the economically productive aspects of non-market activity and secure its status within economic analysis. It is important to consider her work in some detail, as the way in which she approached this has provided the motivating force for beyond GDP efforts to integrate unpaid labour into national accounting, and the methodologies used to do so.

Reid's work directly engages with and reflects the concern of neoclassical thinkers to keep the economic within its proper bounds: exchange and allocative choice. Thus, while her thought is motivated by the desire to extend the definition of production to include unpaid work, she sought to keep it clearly demarcated from the 'social' activities of leisure and consumption. Discussing the expansive utility-based definitions of production introduced by neoclassical authors, she agreed:

> To define production merely as the creation of utility is to identify it with purposeful activity…Such a definition of production leaves production and consumption in a state of hopeless confusion and makes no distinction between economic, personal and social activities. A cheery "good morning", a swim in the lake, a game of golf, and social intercourse at the family table are production along with the cultivation of the soil, the making of shoes, the care of the sick (Reid 1934, 8).

Reid thus accepted the need for the demarcation work done by neoclassical thinkers, seeking to show how this might coherently justify incorporating many aspects of household labour as valuable and rendering it visible to economists. In doing so, she was committed to defending the idea of a clear boundary between economic and social

activities, and the idea that these can be meaningfully disentangled; however, she wanted to annex more territory for 'the economy', so that it now securely extended to productive labour in the household.

Moreover, Reid drew upon many of the same arguments outlined above to draw these distinctions in the context of unpaid household work. Firstly, she adopted the arguments of Jevons, Marshall and others that labour must not include activities done for their own sake: 'if the utility is derived only through the "doing" or by the participation of the one who uses the good, then the activity is consumption' (Reid, 1934, 10). Crucially, she also followed neoclassical theory in grounding labour in the storing up of *alienable* services which could be transferred and used by others. Reid explicitly ruled out activities which stay within the immediate social relations of the people doing them. Doing otherwise ran the risk of:

> Classifying as production many activities of a purely social nature. It is true that some of the deepest, most fundamental and lasting satisfactions arise from our associations with people…in the groups to which they belong.... [But] it seems that production is something apart from activities having to do with purely personal relationships (Reid, 1934, 11).

Thus, for Reid it was the ability to disentangle goods and utility from the idiosyncratic interactions and relationships of the group who created them that separated productive economy from personal 'consumption' and inter-personal 'society'. The economy was the sphere of (at least potentially) impersonal *exchange*.[32]

This led Reid to formulate a precise definition of which unpaid activities are to be counted as labour, based around the possibility of these unpaid activities being obtained on the market. This has become known as the 'third-party criterion', and underpins modern accounting methodologies for valuing unpaid labour:

> [T]he test which may be applied in order to separate production from consumption and social activities: If an activity is of such a character that it might be delegated to a paid

[32] Moor and Lury (Moor and Lury 2018, 5) argue that it was only around 1800 we get the 'orientation toward the impersonal' in markets and trade practices, which 'contributed to the differentiation of economic relations from other types of more personalised relationship' (See also Carrier 1994; Slater 2002).

> worker, then that activity shall be deemed productive…[H]ousehold production…consists of those unpaid activities which are carried on by and for the members, which might be replaced by market goods or paid services (Reid, 1934, 11).

This definition has been extremely influential in formulating the contemporary critique of the SNA production boundary and recent attempts to value household labour, as we will explore below. Specifically, it informs input-based estimates arrived at by comparing time-use data with equivalent market wages for similar activities.

The third-party criterion has been critiqued in recent years. Important feminist interventions, notably by Wood and Himmelweit (Himmelweit 1995; Wood 1997), have pointed to the masculine and western assumptions reproduced by this understanding of production, modelled as it is on 'first world economies, with interesting (if problematic) results for the treatment of third world women's labour…[through] an overriding exclusion of the personal' (Wood 1997, 48). Here I build upon these existing arguments to address the specific concerns of this thesis, namely: in formulating the economic value of non-market labour in these terms, how far did Reid escape exchange-based assumptions about economic activity which Polanyi defined as 'formalist'? I show how, since Reid's third-party criterion bears the legacy of the neoclassical theory which it responded to, it represents a partial and *incomplete* escape from formalist renderings of labour, as it continues to privilege exchange as the locus of the economy and is unable to fully conceive of non-commodity forms of economic integration as independent.

To understand this, it helps to re-emphasise two aspects of Polanyi's 'substantive' definition of economy.[33]

Firstly, Polanyi argued in several places that economic and social relationships generally exist in hybrid forms, and that they are often in practice impossible to disentangle. He famously argued for instance that 'man's economy is, as a rule, submerged in his social relations' (Polanyi 1968, 65). Moreover, there was no specific motive – such as desire for gain – that could be isolated as the source of economic action: 'In vain was [man] exhorted by economists and utilitarian moralists alike to discount in business all other motives than "material" ones. On closer investigation, he was still found to be acting on

33 This is more fully elaborated on in chapter 3.

remarkably "mixed" motives, not excluding duty toward himself and others – and maybe, secretly, even enjoying work for the sake of it' (ibid, 69). Thus, a substantive definition of economy arguably implies a rejection of disutility as the essence of labour as well as the idea that personal relationships should be isolated from productive activities. Indeed, it was for this very reason that 'the economy' itself was hard to discern before the 18th century when markets for the major factors of production became common. Fully adopting a substantive outlook would mean accepting that the border between economy and society *cannot* be hard and fast.[34]

As we saw in chapter 3, this was based on Polanyi's notion of independently instituted modes of economic integration. Economic activity can be co-ordinated in a number of viable and discretely instituted ways, which were inextricably bound up with personal, symbolic and familial ties, social duties and status. Exchange represented only one of these, which moreover had until the 18th century tended to be marginal and heavily circumscribed. Indeed, in reciprocal or householding arrangements, many of the activities Reid hives off as 'social' – including, for instance, 'working out for themselves and others satisfactory relationships in the groups to which they belong' (Reid, 1934, p.11) – would be essential to the co-ordination of economic activity. Thus, in Polanyi we get a vision of economy and society as multiple, heterogeneous and hybrid; whereas in Reid we continue to encounter the neoclassical concern that 'a satisfactory means of distinguishing between economic and social activities must be sought' (Reid, 1934, p. 10), even while the boundary of this is now to be set beyond the formal labour market within the family and the household.

Secondly, Reid makes labour markets the dominant standard through which non-exchange relationships might be considered valuable and productive (Wood 1997). This is sought because the existence of markets for these activities brings with it the possibility of an alternative allocation of this time to others, and thus brings these activities into relationship with economising allocative decisions. But as Polanyi argued, whereas 'The formal meaning [of economy] implies a set of rules referring to the choice between the alternative uses of insufficient means':

[34] For Polanyi, if we do not take this step, and simply seek to include activity into the economy on the basis of its exchangeable and alienable character, we are likely to preclude an understanding of different and distinct types of work/value or their specificity and uniqueness.

> The substantive meaning implies neither choice nor insufficiency of means; man's livelihood may or may not involve the necessity of choice…indeed, some of the most important physical and social conditions of livelihood…are not, as a rule, so limiting (Polanyi 1968, 140).

Reid, conversely does not just accept the need to clearly delineate the economic from the social, therefore conceptually precluding the possibility of independent non-exchange modes of integration; she also suggests that the only terms on which unpaid activities might be brought within the category of the economic is by virtue of their relationship with exchange relations established through formal labour markets. Thus, it is not clear that Reid's third-party criterion escapes Polanyi's critique of formalist understandings of the economy. It rather appears the case that it reproduces certain aspects of this thinking, i.e. 'by generalizing the use of price-making markets' (Polanyi 1968, 144) to other distinct modes of value creation.

This was to have important repercussions when her work was integrated with accounting practices. Through her definitional focus on the possibility of delegating activity to a third party on the market, it became impossible to imagine a way in which activities are valuable if not commodified. This implies that commodification will expand *both* the realm of the market and the realm of the economy outside markets – constituted as a mirror image of what is happening on markets. As an example, Reid considers shopping to have become a productive activity only recently (when she was writing), precisely because of the emergence of 'professional shopping services', and so this was activity which could now be delegated to the market (Reid 1934, 14).

Hence, according to the third-party criterion, the growth of household economy is linked conceptually to the growth of labour markets and its value cannot be independently theorised. As commodity markets develop for more and more activities and services, the scope of what is considered productive even outside the market sphere expands accordingly. Conversely, by this standard, almost nothing could have been considered 'economic' before the development of national labour markets in the 17th and 18th century, or in many contemporary non-Western societies. It also implied that the grounds on which these social provisioning activities are valued are the *individual's*

possibility of choosing to sacrifice consumption possibilities by delegating them to paid workers.

Thus, while Polanyi might have wholeheartedly endorsed Reid's desire to broaden the concept of work and production beyond markets, we must question whether the conceptual moves Reid used to achieve this support the demands of a 'substantive' understanding of the economy or social reproduction.[35] Reid was concerned to keep the boundary between economy and society tightly defined, extending it to include unpaid productive work done by individuals in the household only where this has a market equivalent. The substantive understanding of the human economy as outlined by Polanyi implies a more open and heterogeneous conception of production and economic value.

*The Third-Party Criterion, Accounting Methodologies and the Beyond GDP Agenda*

Despite Reid's theoretical work predating the 1953 formulation of the SNA by some two decades, the original SNA production boundary nevertheless excluded unpaid labour from national income.[36] As we saw more fully in chapter 2, this problem has plagued the SNA ever since, as following Reid's work the continued exclusion of this component of economic welfare has always lacked a consistent theoretical basis. Furthermore, the SNA has long included imputations for certain categories of non-market services and goods. For instance, estimations of the output of the government sector (Hicks 1940), imputation of the rents of owner-occupied houses and estimates for the production of own-produced goods (such as food and agricultural products) have long found their way into GDP figures (UN 1953) – further highlighting the arbitrariness of the exclusion of unpaid services.[37]

[35] Reid herself was wary of the potential consequences of any reductionist misuse of her criteria of production, stressing how 'by including in household production only those activities which might be delegated to a paid worker no ethical connotation is inferred; the social relations and activities and activities of the family are of the greatest importance to human satisfaction and social well-being' (Reid 1934, 16). Nevertheless, given the force that the economic has in public discourse this distinction, and its use in accounting methodology, remains politically important.

[36] See chapter 2.

[37] More recently, estimates for illegal activities such as the drug trade and prostitution have also been included.

Importantly, to confront this problem most studies have drawn on Reid's third-party criterion to develop practical methodologies which can overcome these measurement and valuation problems. Specifically, this problem has generally been confronted by estimating the labour inputs to market work, using a combination of time-use surveys and wage data. Evolution of this methodology gained pace in the 1970s amongst more critical accountants looking to construct the fuller, more welfare-based measure of national income that Kuznets had earlier sketched out, and overcome valuation and measurement challenges which had led to the exclusion of social reproductive work from the original production boundary.

Methodologies for valuing unpaid work began to evolve early in the post-war period. Reid herself, using the third-party criterion she had developed in the 1930s, drew upon time-surveys and data for domestic servants to construct a crude estimate of the value of household production of $34 billion for 1945 (Reid 1947).[38] This set the template for later studies. Tobin and Nordhaus, in developing their Measure of Economic Welfare in the early 1970s, adopted an input-based approach, arguing that 'The majority of those keeping house are women, and we thus choose the average hourly earnings for women as the proper valuation' (Nordhaus and Tobin 1973, 45). However, they did not differentiate further than this between different sorts of activities for lack of granular time-use data. This method was also accepted by Eisner in estimating his total income system of accounts (Eisner 1989), and by Hawrylshyn – again directly citing Reid's third-party criterion:

> An economic service is one which may be done by someone other than the person benefiting therefrom. The question can be asked; can one hire labour to achieve the same results? If not, the activity is a direct utility one and cannot be measured in any meaningful way. In effect, this criterion is exactly the same as that always used by national income accounts (namely the market criterion) simply extended to its full logical possibilities (Hawrylshyn 1977, 87).

[38] Reid looked back, in fact, to even earlier estimates made by Hildegaard Kneeland in the late 1920s (Kneeland 1929).

Similar studies were conducted in the 1970s by Gauger and Walker (1973), Murphy (1976), Edwards (1979) and others, consolidating the third-party criterion as the principle underlying practical methods for imputing the value of non-market time.

This methodological approach, fleshed out in the 1970s partly in support of Becker's theory of the household production function, was further cemented through its embrace during the late 1980s and 1990s by scholars with a very different normative and political agenda. Feminist political economists, notably Waring (1988, 1999), were concerned to make the value of social reproductive activity traditionally excluded from national accounts visible, and thus to ground political arguments for the redistribution of wealth and power and a recognition of this work in models of citizenship. To do this, Waring drew on Reid's criteria, and the earlier methodological work, to ground a feminist critique of the production boundary and the arbitrariness of the exclusion of non-market work. The valuation of unpaid time based on comparable wages subsequently became commonplace in many feminist economic studies (Goldschmidt-Clermont 1990; Benería 1992; Beneria 1999; Landefeld and McCulla 2000; Van den Berg et al. 2004). Calls to extend the production boundary using imputations based on such methods has become an important component of wider political and social movements calling for a greater awareness of the gender biases in economic measurement and a fuller recognition of the unequal distribution of social reproductive labour (Sangolt 1999; Van den Bergh 2007; Rai et al. 2014).

The post-war development of valuation methodologies based conceptually on the third-party criterion and empirically upon time-use data and wage comparisons has underpinned the official response to the growing salience of non-market work. Even before the Stiglitz report in 2009, the ONS and OECD produced experimental estimates and methodological guidance for measuring unpaid services in the early 2000s (OECD 2002; ONS 2002). These was subsequently taken as the standard for the official response to the Stiglitz recommendations. In the ONS, the Stiglitz recommendation influenced a major programme to update and regularise the 'household satellite account', produced only once before as a one-off exercise in 2002 (ONS 2008). It has shaped the statistical response of the European Statistical System to the Commission's findings (Eurostat 2011b), and also been used in OECD studies and working papers on the issue (OECD 2011a).

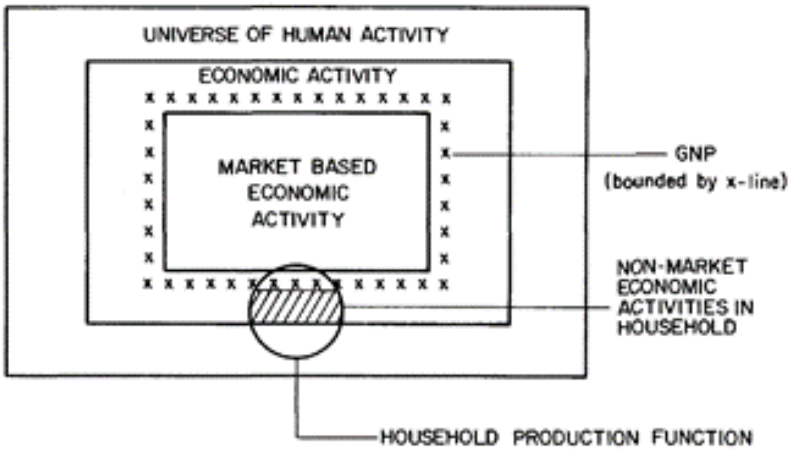


*Figure 3: Representation of an Expanded Production Boundary (from: Hawrylshyn 1977, 80)*

Through offering practical tools to impute values for unpaid activity, such methods have offered the promise of a more embedded, substantive view of the market economy and its relationship to social reproduction beyond the market. As figure 3 - taken from a 1970s study - graphically illustrates, these methods pose the problem of non-market work in a certain way. Reflecting the influence of Reid's work (and its post-neoclassical context), the boundary between 'economy' and 'society' is still a fixed and stable line. However, it has been moved to encompass certain defined non-market activities, viewed under the SNA as part of unproductive 'society'. Moreover, this move is grounded conceptually in the ability to compare such activities with commodified market activities, which underpins the valuation of these activities through using the time spent on them with an equivalent unit of wage labour.

## 5.2 Unpaid Work and the Limits of Formalism: Practical Problems Disentangling Economy and Society

Having investigated the historical ideas underpinning how non-market work has been brought into economic reasoning and accounting practice, this section outlines the contemporary problems encountered with integrating such estimates of this work into the SNA production boundary. Both aspects of this project – the time-use data on which they are based and the comparisons with wages in the market economy – are encountering various technical and conceptual challenges which have prevented a simple extension of the production boundary. In other words, a consequence of these reforms

is that the limitations of formalist attempts to comprehend the value of such activities with reference to a market equivalence are becoming increasingly evident.

*Time-Use Data*

The development of input-based methodologies using the third-party criterion as a conceptual yardstick deeply influenced the priorities of the post-Stiglitz agenda on non-market work. Primarily, this has focussed on the improvement of time-use survey data which underpins such valuation methods. In the process it is becoming increasingly clear that time-use data can never provide imputations that will be capable of being integrated into the SNA production boundary and GDP estimates. Indeed, the very possibility of categorising time-use outside of markets in a way which can map onto the temporal structure of wage labour is being problematised.

Input-based methods derived from Reid's third-party criterion rely on the generation of extensive data on how individuals use their time outside the labour market. This is not only a rather intrusive process, but also expensive – it has generally been done through intensive time-use diaries filled in by a sample of representative households. A statistician at the ONS stated that:

> It is quite costly… it's also quite burden on respondents as well. To be really useful you need to know 10-minute slots of how people are spending their time, so it's a lot of response burden, and I think as a result response rates are traditionally not quite so high as with other surveys (Interview AS).[39]

Consequently, population-wide time-use studies have historically been produced infrequently and sporadically. They also often lack the international standardisation that can underwrite stable international comparisons, and the granularity needed to conduct input-based valuations of non-market work. The head of the OECD's national accounts division explained: 'The time use survey data are simply not detailed enough. The quality of it absolutely needs to be improved to do this kind of analysis… it's a resources

[39] Another interviewee agreed: 'they tend to be done on a very infrequent basis and they are very expensive to actually run, so they're not run that frequently which makes it quite challenging for producing outputs for the HHSAs (Interview DW).

problem: these surveys on time use are expensive' (Interview PV).[40] Therefore, much beyond GDP work has focussed on devoting more resources into time-use data that will improve its timeliness, detail and comparability (for more background on pre-Stiglitz efforts to improve time-use data see Esquivel 2011).[41]

This has been a focus of statistical efforts at the European level. For instance, the Eurostat taskforce charged with co-ordinating the EU Statistical System's response to the beyond GDP agenda made this a central priority for research:

> Broadening income measurement to non-market domestic activities and leisure time necessitates information on the time spent by households on such activities…Considering, in the longer term, developing European legislation for Harmonised European Time-Use Surveys … [and] ensuring the regular availability of comparable data on time spent for non-market household production (Eurostat 2011b, 33).

Similarly, the Conference of European Statisticians conducted an in-depth review of time-use survey data in 2009, which 'drew attention to the limits of existing TUS in terms of frequency, classifications and other survey features' (Eurostat 2011b, 33). This led to the formation of an international task force (including the OECD and Eurostat) to harmonise time-use surveys, which published guidelines under the auspices of the UN in 2013 (UNECE 2013). However, these efforts have exposed the practical difficulties in measuring time in a way which might underpin regular and reliable imputations into GDP or their integration with the SNA framework.

[40] Another interviewee put it bluntly: 'the time you survey is rubbish ... well, it's really not stable over time, and the variables differ across countries. One country has it for 2010, the other for 2012, the other one for 2003. If you really want to use the time use survey, the quality has to be improved a lot' (Interview JZ).

[41] The Beijing Platform for Action in 1996 proposed: 'Developing methods quantifying the value of unremunerated work that is outside national accounts, such as caring for dependants and preparing food, for possible reflection in satellite or other official accounts' (UN 1995, 87).

Social Time and Market Time

One major challenge to using time-use surveys is that the temporality of their production does not align with the fluctuations of the market economy observed in quarterly GDP releases. Such data takes much longer to collect and analyse than the quarterly updates to the GDP, which are transmitted directly from corporate accounting information, and thus cannot be simply integrated into the same time-frame as GDP releases. Up to 2009, few countries had a regularised time-use survey at all, conducting them on an ad hoc basis.[42] Even after the statistical efforts since 2009, moreover, harmonised time-use data is not anticipated as being available even on an annual basis. The Eurostat task force, for instance, recommended merely that:

> TUS should be conducted every ten years at least. This is considered an adequate interval to assess significant changes in time-use patterns and to detect possible shifts of the locus of production between households and the market (Eurostat 2011b, 35).

The UK has only conducted one major time-use survey since the crisis, which was co-ordinated by researchers at the University of Oxford rather than the ONS (Interview DW).

The head of the OECD's national accounting highlighted this as a major obstacle to producing regularised imputations for non-market work in GDP estimates:

> Many countries only have a more detailed time use survey every five years. Well, if you want to have quarterly GDP estimates, I'm sorry but it doesn't work. Then we would be extrapolating half of GDP based on nothing! That's a big problem (Interview PV).

The lack of timely time-use data is partly linked to the cost of conducting them. In the Netherlands the cost of the time-use survey was estimated at €1m. It is also related to the detail needed to construct granular time-use diaries, and the response burden this places on respondents.

[42] The notable exception to this pattern is the USA, which conducts annual time-use surveys.

There are several attempts to develop technical and methodological solutions to this problem. One way is to use general stylised questions about time-use rather than using dedicated time-use surveys, or to conduct lighter time-use diaries, which could: 'help to detect particular trends in time use or shifts of the locus of production even between the benchmarks of regular TUS' (Eurostat 2011b, 36). Another proposal is to expand the use of internet-based surveys (which are quicker to produce) to speed the timeliness of time-use data transmission.[43] The problem with these solutions is that, in attempting to generate speedier data, such methods tend to sacrifice the level of granularity and detail which input-based valuation methods require to impute monetary values for unpaid work using wage comparisons. The reliability of these questions as an input into national accounts totals is also questioned:

> Stylized questions can be used to ask about time used for main activities only, but not about parallel activities, being with someone else or the timing of activities, which can be done with the diary method. Studying time use by using stylized questions also has measurement problems. It has been observed that stylized measures of time use overestimate the time used for gainful and domestic work (UNECE 2013, 43).

In other words, full time-use data has proven unable to match the temporality needed for integration with mainstream national accounts production, but timelier data are incompatible with valuation methods grounded in the third-party criterion. Attempts to generalise to improve the timeliness of time-use data in turn compromise the robustness of the imputations.

These methodological discussions highlight a much bigger issue with the whole concept of extending the production boundary further into 'society'. This is that the temporal dynamics of social reproduction simply do not match the temporal dynamics of capitalist labour markets. One persistent finding of much research on time-use is that changes to the basic reproductive fabric of human relations are relatively stable relative to the frenetic changes in market employment and wages. Arguably, this should lead to the conclusion that more attention should be paid to this enduring and resilient sphere of

[43] Such efforts mirror a broader movement triggered by the beyond GDP movement and the efforts to better integrate social and economic indicators towards flash-estimating or 'nowcasting' social data. It is hope this will improve the timeliness at which social trends can be observed, bringing them close to the near real-time release of economic indicators and the core measures of the market economy.

activity. However, the difference between the temporality of the market and the temporality of social provisioning activity is often used as a justification for the continued focus of the national accounts on tracking movements in the market economy which exhibit sufficient short-term change to warrant regular measurement.

Disentangling Work from Life: Time-Use Survey Categories and the Construction of Market-Like Time

Input-based methods based on the third-party criterion rely upon a precise classification of time into discrete categories. Moreover, these categories need to be of a nature that permits them to be brought into comparison with the 'measuring rod of money', i.e. comparable chunks of waged activity. However, in practice this demands that the time-use survey instruments disentangle and isolate the 'work-like' bits of people's lives from the background, 'social' and 'leisure' activities. This has proved to be a consistent problem for such methods, which the methodological design of international time-use surveys is increasingly attempting to address. Three key issues stand out in this respect: simultaneous activities, measuring passive forms of productive activity, and disentangling leisure from work.

Problematically for input-based methods, people in their everyday lives often do many different activities at once (Quah 1986). Indeed, it may not even be clear to them that these constitute discrete 'activities' (each with a neat market equivalent), which can be separated from a continuous life-world in which they are situated. For instance, parents may cook a meal while responsible for supervising children: 'Another issue that needs addressing is simultaneous activities. People look after children…but as they get older you can look after the child and cook a meal at the same time, you can do simultaneous tasking' (Interview DW).[44] Time-use surveys thus face the problem of isolating, from this complex milieu in which productive life outsides market may be situated, discrete classes of productive activity and the number of hours spent on them. This problem is not new; it has been highlighted by feminist scholarship for decades (Waring 1988;

[44] Another interviewee concurred: 'in some countries a secondary activity is recorded, so you might be able to distinguish between carrying out the primary activity on childcare or carrying out another activity with childcare as a secondary activity. There's discussions around how to look at and treat simultaneous events within the accounts, particularly in the UNECE group' (Interview CP).

Folbre 2006). But the Stiglitz report and the drive for more robust imputations of non-market production have brought them to the consciousness of statisticians and accountants as they look to improve the time-use data infrastructure on which valuation methods rest. It is evident that this simultaneous, overlapping use of time is hard to measure or categorise, but failing to do so compromises input-based methods for valuing non-market activity.

This is compounded by the fact that the meaning of time is so intrinsically bound up with cultural norms. If asked to simply describe the way they are spending time, respondents in different countries and from different cultures may give widely divergent descriptions. In the methodological literature on time-use surveying, this is ascribed to different ways of 'interpreting' certain activities, which are assumed to be essentially universal. But it potentially goes deeper, reflecting different constructions of time and its meaning across time and place (Gagnier and Dupré 1995; Floro 1997). Over the years, this problem has been approached through re-coding descriptions given in time-use diaries into fixed and stable categories, that can be neatly distinguished into work, leisure, and personal care. Recent work has seen a growing standardization of the categories used to designate time in official time-use studies. Specifically, over the years a distinct categorisation system based on 6 broad and universal types of 'time' has emerged, which was formalised by the UN in 2015 (UNSC 2017).[45]

Moreover, the categories which are imprinted into time-use data in the coding process are explicitly derived from the valuation methods (based upon the third-party criterion regarding what is economic activity) which have developed to impute monetary figures for unpaid labour. Thus, they are linked to categories of time which can be mapped onto. The arbitrariness of this is explicitly recognised in methodological documents:

> The conceptual design of TUS should take account of the requirements for these estimates…the underlying data should allow compilation of these estimates according to

[45] 'The International Classification of Activities for Time Use Statistics (ICATUS) is a classification of all the activities a person may spend time on during the 24 hours in a day. Its purpose is to serve as a standard framework for time-use statistics … a three-level hierarchical classification (composed of major divisions, divisions, and groups) of all possible activities undertaken by the general population during the 24 hours in a day' (UNSC 2017, 5).

> accounting principles. The reconciliation of TUS data with complementary sources requires the terms and classifications to be comparable. If not in detail, it should at least be possible to match the data at the requisite level. The variables for labour market categories in the HETUS 2008 guidelines are, for example, basically the same as in the Labour Force Statistics (Eurostat 2011b, 35).

In other words, the methodological approach developed to value non-market work now *pre-structures* the way in which the data that it is based upon is collected and organised, ordering our sense of time and its categories based upon the wage-based institutions of market society. In this sense, we should not confuse this data for a passive *representation* of how people use or experience their lives outside of labour markets. Time-use surveys constructively *perform* time-use, ordering and organising understandings of time into categories that can be classified and compared to the market economy (Law, 2009; Osborne & Rose, 1999).[46]

In this way the priority of wage labour as the source of the economy penetrates right down into the design of time measurement instruments and categories of time-use that are produced. This performative function of time-use surveys can also be particularly seen with the problem of leisure. For instance, it has been argued that the very idea of leisure as a distinctive activity is a relatively recent product of industrial societies and the specific family and social structures associated with capitalist modernity (Gorz 1989; Lefebvre 2014 [1947]). Time-use data arguably reify these categories, derived from the industrial economy and the rhythms of wage labour, and naturalise them as adequate descriptors of the temporality of social reproduction.[47] Valuation methods deductively drive how time-use is coded and categorised, rather than the categorisation of time following inductively from how people understand it. This is of course essential to the viability of these valuation methods.

[46] Moreover, these categories are further naturalised when they are imported into valuation methodologies which then yield objective and precise monetary figures (the figures which allow us to make claims such as 'non-market work is worth 50% of GDP'). The pre-figurative work done by the survey categories and their procrustean coding of self-descriptions of time given by the individuals surveyed is here further removed from view.

[47] This getting more of a problem even in formal labour markets, with rise of concerns over the phenomena of presenteeism.

Even given this standardised system for coding of time, there remains the problem of how to handle differing intensities of activity and the types of passive care or responsibility associated with many types of social reproductive work (Peterson 1978, 239). A significant example is child care (Floro 1995, 1920). Children must clearly be looked after 24 hours a day, and indeed if a parent is not there to do this it must be managed by another person (either in an unpaid capacity or through formal child care). However, this work nevertheless involves divergent levels of intensity and changes continually at different ages. This problem has been dealt with by constructing time-use surveys in such a way that respondents can record 'primary' and 'secondary' activities for the same period. However, this leads to the double counting of time, so that valuations based on this data would be skewed upwards versus market activity. In addition, time-use methodologies again encounter problems of with how this notion of primary and secondary activities are interpreted in different contexts. An OECD document on time-use classification argues that:

> Obviously, the same care activity can be coded as either a primary or secondary activity by two different respondents, depending on his/her perception and on cultural norms. Accounting for the presence of children during an activity, which is sometimes defined as "passive" childcare, for example having dinner with children, more than doubles time spent on caring for most of the countries for which data is available (OECD 2018, 6-7).[48]

This further emphasises how it is impossible to coherently disentangle productive time-use from unproductive time, and to portion it up into separate units of activity which can be compared to wages.[49]

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[48] Elsewhere, the document states: 'In some cases, surveys include separate questions designed to learn about simultaneous activities (i.e. watching television while cooking, or caring for children while performing other activities) … However, the reality is that while "primary" activities are comprehensively tracked, the recording of "secondary" is more prone to error because they are often omitted by the respondents. The comparability of estimates on secondary activities also suffers because some activities only take a few minutes of one's time (for example, moving laundry from the washer to the dryer) so that they are not reported consistently enough to produce reliable estimates' (OECD 2018, 10).

[49] Another interviewee supported this point, stating: 'Simultaneous activities is of those issues within this sphere that generates a lot of debate, it's not an easy thing to deal with. We will be aiming to publish some guidance to actually provide more concrete recommendations, but now we're still exploring varying different methodologies and trying to pin down which one would be the best approach, or whether you can't really pin that down' (Interview CP).

Thus, even given methodological adjustments and the development of standardised categories and the primary/secondary activity distinction, time-use appears to be too intrinsically enmeshed in other cultural processes and institutions that it is impossible to isolate its market-like elements precisely through methodological design. Its non-commodity dimensions overflow the attempts to time-use surveys to map them onto the industrial sense of work and time associated with wage labour. This highlights once again the arbitrariness of construing the value of non-market activity in terms of their relation to labour market wages, and the limitations of the project started by Reid and neoclassical theory to neatly isolate the economic from the social, using the criteria of delegability, choice and allocation.

*The Paradoxes of Equivalent Incomes*

Beyond these data collection issues, even more fundamental conceptual difficulties are encountered with *valuing* non-market work. Issues arise here both in relation to determining the appropriate wage to use in valuing non-market time, and adjusting for factors like the quality of output and intrinsic satisfaction gained from the work.

## 'The Measuring Rod of Money': Opportunity Cost and Replacement Cost Valuation

Once time-use data has been collected, if it is to inform and accounting valuation it must be brought into some sort of relationship to wages in the labour market. As Pigou stated, the fundamental valuation problem with non-market work is how to bring it into relation with 'the measuring rod of money' (Pigou 2013 [1920], 9), in the absence of market prices – in this case, a wage. But how should comparisons between non-market services and wage labour be approached? Two general approaches to this problem have been developed: the opportunity cost methods and the replacement cost method (Peterson 1978; Beneria 1999). Both of these concepts are drawn squarely from neoclassical economic thought – indeed, according to Wieser, Menger's main contribution was his marginalist theory of opportunity costs (Wieser 2009 [1895]). Each, however, is associated with a number of paradoxes.

Let's say a corporate lawyer or an investment banker bakes a cake in her home. Should the time this took be valued at her own market wage rate, in other words the price of the consumption possibilities she could have generated by working as a lawyer but has foregone in order to bake the cake instead? This is the opportunity cost approach, favoured in early methodological work (during the 1970s) on non-market valuation. The context is interesting, as these methods were proposed as being more 'theoretically consistent' during the era in which Becker's work on time-use in the household was popularised in economics (Becker 1965; Ferber and Birnbaum 1977; Stigler and Becker 1977). Becker was concerned with how households make allocative decisions between the labour market and the home. For Becker, rational agents are constantly determining how to optimise their use of time to produce consumption goods and utility. As stated by Hawrylshyn:

> The *theory states that in equilibrium the value of time spent at home equals its "opportunity cost" elsewhere,* which clearly is its wage on the market. The rational household applying the optimization rule will use the factor "time" in the household to the point where its marginal product equals its price. Thus, its own valuation of non-market time at the margin is revealed as being equal to its hourly market wage (Hawrylshyn 1977, 83).

This requires us to assume, for instance, an infinitely available supply of work, an infinitely elastic labour market for the activities which might be outsourced to the market, and an absence of cultural norms or expectations which might weigh on decisions over how to structure one's time.

However, this approach would result in a cake baked by a lawyer being assigned a higher value than a cake produced by a skilled baker. This seems intuitively absurd, and generates very high values for non-market work – values which moreover would increase as more basic jobs are automated and the workforce moves into higher skilled professions. Conversely, it also places the value of unpaid work done by the unemployed at zero (Gronau 1973, 164-165) – as there is no wage opportunity sacrificed to perform it. National accounting literature has generally found this unacceptable. In other words, the approach that seems to be most 'theoretically consistent' with neoclassical economics is increasingly regarded both as nonsensical and inaccurate.

This has led to the general eclipse of opportunity cost methods by replacement cost methods.[50] These compare non-market time not with the wage of the person doing it, but the wage of somebody who this might be outsourced to on the market (Rosen 1974). Here, the time of the lawyer who chooses to bake a cake themselves is set at the wage of the baker who could be paid to do it instead. While less consistent with the principles of Becker's new household economics, it is more in line with the thrust of the third-party criterion we discussed in section 1 – here the allocative decision being modelled is not whether to give up one's own potential labour time, and the consumption possibilities it affords, but whether to forego consumption possibilities of already generated income by using some of it to outsource household chores to the market.

However, even with this approach a number of problems are encountered. For instance, it requires more granular time-use data which can inform comparisons between hours of non-market work and appropriate sort of market work (Beneria 1999, 96). But it is often unclear exactly which market work to compare them to, both in terms of its content and also geographically. Where there are sizeable differences in regional wages for different types of employment, accountants would require geo-tagging of time-use data which could locate where the time was being spent as well as what was being done. As a statistician at the ONS expressed it (referring to the inflated wage in London compared with the rest of the UK):

> The best source for occupational wage rates is the annual survey of hours and earnings, and they do give a sort of wage rate by occupation, but it's not detailed enough to do it by occupation and location, and to capture the London effect (Interview DW).

The problems discussed above, with parallel activities and passive forms of labour only compound these valuation problems:

> It can be represented on time-use surveys, where you list a primary activity and a secondary activity. So you can start getting around that. But again, how do you value that: do you value the primary activity more than the secondary activity, do you halve the

50 As a statistician at the ONS stated: 'the opportunity cost…has been largely discounted. I mean the classic example is if you had a baker and a lawyer bake a cake, it would value the lawyer's cake much higher than the baker's cake even though the quality of the cake is probably much better from the baker. So that's largely been discounted, and the preferred approach is the replacement cost' (Interview DW).

> hourly wage rate? It's all very much developmental and experimental at this stage, there's no real sort of set way of doing it…we haven't got to the bottom of it (Interview DW).[51]

Mapping these sorts of time – which are embedded in broader social processes and represent varying levels of intensity, involvement and so on – becomes problematic, precisely because they are being compared with the specific institutional conditions of competitive labour market, an entirely different 'form of integration' (Polanyi 1968, 149), in Polanyian terms – but no less economic for that.

Quality and Intrinsic Utility

This problem of comparing non-market work to wage labour is not simply limited to selecting the correct reference wage. It is also affected by the problem of assessing the quality of work outside markets, and furthermore by the notion that this work contains an aspect of intrinsic utility or leisure, which makes it incomparable with the disutility that wages represent a compensation for in neoclassical wage theory.

If we return to the example of the lawyer baking a cake, their skill level is likely to be lower, and the cake of worse quality. This has led to concerns from some national accountants that these methods give an inflated picture of the economic value of non-market outputs, as they assume them to be of a similar quality to those provided in the marketplace. As an OECD national accountant explained: 'a meal at home is quite different from something which you get in a restaurant and how do you deal with the quality differences…there you get into a lot of trouble' (Interview PV). One response is that time should be valued using a general manual labourer's wage, or the national minimum wage – to reflect the unskilled nature of the work. This is an approach considered by the ONS:

[51] Peterson's work in the 1970s worried about the problem of double counting such activities when valuing non-market work. He argued that: 'A major problem with such a method is that it can lead to a gross exaggeration of the total amount of time spent performing household work. It is thus quite possible for households to report that they spend more than 168 hours a week performing household chores' (Peterson 1978). In response he suggested simply ignoring everything apart from the primary reported activity.

> If we want to measure the amount of DIY that people are doing at home and value that, and you say you're doing a bit of work as an electrician at home yourself, is it appropriate to use a professional carpenter's wage or a professional electrician's wage – given that you're going to have massive disparities in quality? One of the nice features of the ASHE is that we can get percentiles and deciles of wage information, so what we might do is use a wage lower down the distribution for some of the more skilled occupations (Interview DW).

This approach is feasible when one is considering work with an obvious material outcome, such as DIY or cooking. However, it becomes a much more complicated question when considering more immaterial types of service, even where these in theory have a market equivalent.

For instance, how are we to assess the 'quality' of family members looking after their own grandparents, rather than putting them into a care home, or of parents spending quality time with their children as opposed to sending them to a boarding school? Of course, one could argue that the 'skill level', training and human capital of those providing the service on the market might be higher. But the sorts of affective bonds and personal emotional connections which such an arrangement provides are incommensurable with the notion of 'quality' used to assess market services.[52] Indeed, it would be possible to argue that the quality of these non-market services is in fact higher than their non-market equivalents. Quoting the most senior national accountant at the OECD:

> It's a philosophical issue as well… You don't want to put a market price on everything, because then you change the whole nature of the thing. Perhaps for me there is also a fundamental difference, take the example of taking care of your children, between taking care of your own children or outsourcing that…It's a different product, in a different context ... I hate the word service even, it feels uncomfortable (Interview PV).

[52] This also interacts with the issue of price indexes and inflation adjusting. Even with market services, assessing quality changes is a hugely problematic issue (e.g. have waiters got politer at restaurants or not?), which seriously hinders the use of hedonic pricing to deflate for quality changes in this sector of activity. Applying this to the care services offered outside of the market, often by family members, seems impossible. See chapter 2.

This touches on another problem, which is the 'non-elasticity' of unpaid activity. This is the way economic discourse describes the fact that it would be, for instance, unacceptable in many cultural or social contexts to spend no time with your children or looking after your extended family, or to dine out every meal and be completely unable to cook for oneself. This demonstrates the essentiality of choice to the representation of the economy in national accounts. Unpaid services are excluded not because they are unproductive *per se*, but because due to this inelasticity they do not enter into economic calculus: there is seen to be a non-fungible residue to non-market services, fixed by their embeddedness in social and cultural processes not bound up with the logic of exchange. Thus, the influence of Jevons and the neoclassical definition of the economy – filtered through Reid's work – remain fundamental to the contemporary discussion of non-market work.

Then again, what about the fact that the lawyer may derive enjoyment from baking their cake and view it as a leisure activity. Or consider someone playing music in their own home. It is possible to pay to hear a professional musician play, but it would seem absurd to consider this in the same terms, and using the same conceptual apparatus, as the personal pursuit of an artistic or musical project. At the same time, this activity provides pleasure and welfare. It is therefore a contributor to welfare, and moreover one that the expansion of market activity may erode or sacrifice.

Reflecting Reid's original insistence to exclude social, interpersonal and leisure activities from the definition of the economy, all measures of activity based on the third-party criterion have been hostile to any suggestion of valuing leisure activities. Echoing neoclassical theory such as Jevons, with work defined as short-term disutility endured for future utility, this is generally approached by regarding the 'work' aspects off non-market activity as that which yields some indirect and alienable benefit. This approach is found in the work of post-war economists. For instance, Hawrylshyn argued that:

> The direct utility components are not and should not be subject to dollar valuation, and that any dollar valuation of non-market activities should be limited to the indirect utility components. Thus, "results" of household behaviour which are themselves utility, such

> as parental pride, cultural and aesthetic satisfaction, should be explicitly excluded from evaluation (Hawrylshyn 1977, 86).[53]

These arguments are echoed by contemporary national accounting experts in discussing the status of leisure in the SNA, and in rejecting the notion of imputing it monetary value in the national accounts. Thus, a clear line is drawn between work, as disutility that renders future utilities that could be exchanged, and 'leisure', defined as intrinsic enjoyment derived from an activity.

Nevertheless, the grounds on which this exclusion are based are far from secure – as national accountants readily admit. In discussing the issue, the head of the OECD's national accounting team posed the problem in these terms:

> What is leisure? You have a big question about leisure versus work. At some stage you might like to have somebody who walks the dog for you, but on most occasions if you can do it yourself I think people prefer to do it themselves (Interview PV).

This points to the extent to which, firstly, leisure and production often exist in hybrid forms, with activities often done partly for pleasure but partly with a view to displacing market activity. Decorating one's own house might be an example. Secondly, the status of an activity as 'work' or 'leisure' is context-dependent. A person may enjoy walking their dog on a balmy afternoon, but on a rainy evening may wish they could pay someone to do it for them. This is compounded by the fact that these arguments can all apply symmetrically to market work, which is often a source of utility, pleasure and meaning. Applying the above arguments consistently, should accountants *deduct* from GDP estimates an amount for the 'leisure' component of market work, whenever workers derive intrinsic pleasure from their occupation? Likewise, should a person who enjoys their vocation so much that they would not want somebody else doing it for them, or

[53] Similarly, Gronau suggested: 'An intuitive distinction between work at home (i.e., home production time) and leisure (i.e., home consumption time) is that work at home (like work in the market) is something one would rather have somebody else do for one (if the cost were low enough), while it would be almost impossible to enjoy leisure through a surrogate. Thus…leisure has only poor market substitutes' (Gronau 1977, 1104).

might do it for free even if they couldn't secure a livelihood from it, be excluded from employment figures?[54]

Indeed, an even trickier issue is raised here, which is that non-market work often serves more as a positional consumption good than a substitute for market production in advanced industrial societies (Hirsch 1976; see also Veblen 2007 [1899]). One may show off one's cooking skills, using vegetables freshly picked from your kitchen garden or allotment, not primarily to enjoy the meal it yields but because of the status it affords, or the positional lifestyle signals it sends out. Similarly, many forms of leisure act to display taste, and accumulate cultural capital, and are often bound up with things such as the class background or interests of the profession one is socialised into (Bourdieu 2010 [1979]). This may have productive aspects, but production doesn't encompass the economic essence of these acts – which also include the conspicuous, vicarious display of taste and lifestyle, or the accumulation of cultural and social capital.

As we can see from these problems, which the beyond GDP agenda has forced statisticians and accountants to confront in newly explicit ways, the attempt to understand unpaid activities using the formalist language of the labour market, and to frame their economic value using the third-party criterion, encounter practical limits and lose coherence.

## 5.3 Substantivism and the Measurement of Unpaid Activity: Valuing Social Provisioning beyond Labour Markets

This section outlines how, partly in response to the limitations of input-based techniques explored in section 2, accountants are turning to alternative methods for estimating these values. Firstly, statisticians at the UK's ONS have embraced an output-based approach to the value of non-market work. While this has predominantly been driven by practical expediency, I argue it also has important political implications. These methods decouple the value of non-market work from the exchange of labour in the marketplace. They thus accept the intrinsically social, relational and non-commodity aspect of social

[54] A further issue concerns whether leisure can be seen as improving in quality with technological advance (see Nordhaus and Tobin 1973).

provisioning activity. Consequently, they point towards and make visible different solutions to the welfare problems of contemporary societies, which focus more on de-commodified and collective provision of needs. Thus, these developments point to the growing embrace of a substantive conception of the economy, in response to the limits of framing the value and economic significance of unpaid activity through the conceptual lens of the market.

*Decoupling Production from Work: The Rise of Output-Based Estimates of Social Provisioning*

In response to the various problems with using time-use based methods to measure unpaid work, statisticians are exploring alternative methods which measure and value the overall output of non-market services generated by society, independently of the labour inputs that generate these. This is not an entirely novel approach. Discussions of measuring unpaid work via its outputs have been around for some decades (Fitzgerald and Wicks 1990; Goldschmidt-Clermont and Pagnossin-Aligisakis 1999). However, the vast majority of academic studies as well as early official methodologies embraced the input-based approach, discussed above.[55] Output-based approaches seek to derive a value for non-market activity and social provisioning, not through summing the individual inputs of time devoted to these (which are then compared to equivalent wages), but rather calculating the aggregate needs which have been met with this work, and thus the output of services produced across society beyond the market sector.

Somewhat ironically, this was initially assumed to be the more demanding and complicated method (e.g. Beneria 1999, 96). However, statisticians at the ONS have recently moved towards this method precisely as a practical expedient, because it allows them to circumvent some of the problems with time-use data and wage comparison discussed in section 2. As the co-ordinator of the UK's satellite accounting system explained:

[55] Ironically, however, this approach is more consistent with the approach of the rest of the SNA framework, where output of final goods is the central unit of analysis. The other major component measured by cost-of production (i.e. labour and capital goods) is the government sector. Here too there have been recent calls to move to output-based measures, including in the Stiglitz report itself, as this ignores any productivity increase or innovation that may occur in the public sector (Caplan 1998; Stiglitz et al. 2010).

> I think the fact the UK uses the output approach is just reflecting the fact that, well, we're not going to have regular time-use information, so what else can we do?! We want to develop methodologies that allow us still to get these estimates out. Because even though we don't have time-use information, for example, for childcare, there's a lot of published information on childcare that allows us to estimate it. It's just reflecting the fact that we're not just going to sit on our hands and wait for time-use survey data to come out, we'd rather try and develop different methodologies and explore other ways of doing it… we can do this approach every year, whereas for time-use we can only do a one off (Interview DW).

The output method also gets around some other problems described in section 2, such as the problem of quality adjustment for the time ('labour') that goes into meeting these provisioning needs, assessing the efficiency of the work or worrying about whether it has been conducted in discrete chunks of time or as part of a series of overlapping parallel activities. Quoting the same source: 'that's one of the advantages of the output approach: you don't need to worry so much about adjusting for quality. You know what you've produced, you know what it costs to produce that, regardless of how much time you spend doing it' (Interview DW). Thus, the practical measurement and valuation problems associated with deriving the value of unpaid labour with reference to labour markets has driven the embrace of output-based approaches by the ONS.

Interestingly, interviews reveal how the UK is something of an international outlier in this respect. The European statistical system has historically favoured developing time-use data as the solution to measuring unpaid work, while the ONS has generally been lukewarm about the value of devoting resources to time-use surveys. This is influenced by the resources and funding climate of the UK, as opposed to Eurostat. A member of the UK's economic well-being team explained that:

> There are lots of issues with time use surveys and they are quite expensive to run…there might be an [EU] regulation of time-use surveys in a few years' time… Eurostat are big supporters of it. Their attitude is: "if only we had a time-use survey we'd have answers to all our questions" – but I think implementing it and paying for it almost outweigh the benefits you get (Interview AS).

The head of the UK's household satellite accounts agreed:

> The UK stands out. I can't say exactly how many other countries do the output method but the UK is one of the only countries that does the output method and most use the input method, and use time-use data…instead of looking at what's produced they look at the inputs to produce that, and that's principally done via time-use surveys…but they are very expensive to actually run, which makes it quite challenging for producing the household satellite accounts. That's why the UK has tended to favour the output approach… I mean, I think the last time that there was time-use information for the UK was 2005. Other countries have more regular time-use information that the UK. That would be the driving factor (Interview DW).

This suggests that the shift to output based measures is far from universally embraced, and we cannot say that these methods are *displacing* input-based approaches. What we rather have is a valuation ecosystem which is increasingly fragmented and characterised by different emergent and experimental approaches which depart from time-use based methods.

On the other hand, the ONS also has an influential role in shaping this area of beyond GDP measurement reforms. It has the most developed system of household satellite accounts, and a long history of pioneering work on the accounting treatment of the unpaid sector. Moreover, statisticians from the ONS are influential in the international formulation of accounting guidelines and principles. For instance, the UN Statistical Committee on measuring unpaid work is chaired by the ONS. Consequently, there is some reason to believe the UK might act as a norm setter in this rapidly evolving field of statistical production.

One thing that is most striking about the shift (at least in the UK) towards output-based methods is the distinct way they construct the nature and value of social reproductive work, and the political implications of this. This is rarely explicitly discussed by accountants themselves, who tend to view the issue as a practical response to problems with input-based valuation. But two things are notable about how differently the value of unpaid work is framed: firstly, they decouple social reproduction from individual units of work, accepting in essence that this activity is intrinsically social in character and embedded in the tissue of social life; secondly, they work back from the total care and reproductive needs of society and attempt to calculate how the meeting of these needs is allocated between the market and non-market spheres; thus, the attempt to establish the value of social provisioning activities with reference to wages is abandoned.

Economic activities are understood simply as the way in which social needs are met – independently of their relationship to exchange. In Polanyian terms, they therefore represent a substantive understanding of the economy, as institutions beyond market exchange are considered as independent modes for co-ordinating economic life.

Firstly, output-based methods attempt to estimate the total quantity level of needs which require meeting across society. The value of the non-market sector is calculated as a residual, reflecting the amount of these needs which are met outside of the sphere of exchange. They thus represent a 'top-down', needs-focused approach rather than the 'bottom-up' work-based approach. For instance, rather than measuring the hours individuals spend on childcare, the amount of childcare required by society as a whole can be estimated by calculating the number of children and the time they require at different stages of their lives:

> It's a top-down approach… there is no survey of children and how often they're being looked after by their parents, but what we do have is a lot of information about the amount of time that children spend in formal childcare. We know for example, from the department of education, how much time children are spending in schools, and how many children are spending time at child minders and nurseries, and all the various forms of formal child care you can get. Our methodology takes those numbers and makes a few assumptions to derive the total amount of hours that children in the UK spend in formal childcare settings. We're basically saying: "the total amount of children in the UK is x, they are alive for x hours in a given year", and we subtract the number of hours they spend in formal childcare to get an estimate of informal childcare hours (Interview DW).

Secondly, this in turn means that they do not face the task of isolating units of 'work' from the social activities and processes their delivery might be embedded within. Statisticians themselves are sometimes bashful about this: 'this is one of the drawbacks – what we don't know is who is doing this informal childcare, the output just gives a total amount of informal childcare out, which is one of the limitations' (ibid). But what statisticians are moving towards, with this form of accounting, is an estimate of the value of provisioning needs across society, in a way which fully confronts the difficulties both of individualising the creation of this value or comparing it with distinct units of market work. They thus reflect a more relational and social conception of value, which is constructed independently of market exchange.

It is important, of course, not to overstate the implications of this change. For instance, currently the units of 'output' are still valued by comparing them with similar market goods. Once the amount of childcare has been deduced, this is valued using the rate of final childcare services (ONS 2014). However, this comparison is now with goods markets, and does not *assume* the commodity treatment of labour. Furthermore, there is no intrinsic reason these valuations could not instead be determined through a more political or democratic process of valuation, as their value is now methodologically independent of labour markets. These methods therefore reflect an important shift in how the relationship between market and non-market activities is constructed. In decoupling social provisioning from wage labour, output-oriented approaches accept both the irreducibly valuable and economic nature of such activities *and* their public, social and collective character. As such, they represent a much more fundamental escape from 'formalist' understandings of the economy than the third-party paradigm inherited from Reid's conceptual framework.

*The Political Significance of Satellite Accounting: Welfare beyond Work?*

What are the political implications of these shifts in the framing of unpaid work? Here, I briefly outline how these emerging methods are more consistent with de-commodified solutions to welfare and social reproduction. Let us conduct a brief thought experiment, based upon two political economic policies which have been proposed in recent years to provide welfare services to people independently of the market: Universal Basic Income (UBI) and time banking.

The first of these, the UBI (Van Parijs 2004; Standing 2017), is based upon the principle of redistribution: the state collects resources from enterprises and distributes them unconditionally to all of its citizens. The idea of this policy is to decouple production from work and to allow citizens, for instance, to meet the caring needs of their families or engage in other useful activity in their communities. For instance, Mason argues that is purpose is 'to formalise the separation of work and wages' (Mason 2016, 284). But its purpose is also to move beyond a conception of value and work as grounded in individual acts of labour. Guy Standing, one of the leading advocates of UBI, suggests that: A fundamental claim is that it is an instrument of social justice that reflects the intrinsically social or collective character of society's wealth (Standing 2017, 25). The

second of these, time-banking, is based upon the principle of reciprocity: people donate useful time and services for free to meet the needs of others; in turn, they can request others' services when they feel they could be of use to meeting their needs. This is based upon the radical principle that everyone's time and contribution is equal; i.e., that the provision of welfare and social reproduction is a collective affair that cannot be reduced to the efficiency of labour inputs (Collom and Lasker 2016).

Under a system of accounting based on the third-party criterion and wage equivalence, neither of these policies could ever be accounted as creating economic value independently of the continued existence of the commodity markets for the social reproductive labour they seek to displace. In other words, the value of the de-commodified work the policies are meant to facilitate would remain grounded in (or only able to be established and made visible with reference to) commodified labour markets for the same services. Take the example of the UBI. If this policy were expanded so that it constituted a dominant form of social protection, it would by necessity shrink the sphere of market provision of welfare services (such as caring). Input-based accounting methods, however, would have to value this work based upon wages taken from this shrinking market sphere. However, both the availability of this information and the substantive values of it would have been changed by this re-orientation of welfare to the non-commodity sphere. It is similar with time-banking. If such institutions grew in significance, they would displace and change the commodity provision of many services; but accounting methods based upon inputs of labour time would have to map these changes onto a shrinking commodity sphere to find equivalent values. Moreover, input-based methods reproduce the basic *logic* that these policies attempt to overcome: the idea that value creation is linked to individualised chunks of labour time.

The saliency of these issues has increased in recent decades with the rise of information-driven automation and concerns over skills-biased technological change (McAfee and Brynjolfsson 2016). Significantly, the scope of such unpaid work has dramatically expanded with the rise of the internet, while become much harder to isolate as a discrete activity. For instance, services which used to be conducted by estate agents in the market are now conducted for free by individuals browsing travel sites on the internet (ONS 2016a). This digital disintermediation of services has led to a vast expansion of free work performed by people in their homes. As Standing argues:

> The twenty-first century will be characterised by what should be called "tertiary time", in which activities labelled "work" and "leisure" blur into each other…for most of us, the ratio of work (unpaid) to labour (paid) will probably rise…This provides another justification for a basic income, paid to everybody to compensate for the work they do that is fundamentally social in character (Standing 2017, 160-161).

Even the generation of data trails as a by-product of online activity and social media could be considered productive economic 'work', in an era in which personal data has become a highly valuable and profitable asset generating market income through profiling algorithms and targeted marketing (Lanier 2014). The measurement of this work and the basis on which its value is established is thus set to become an ever more pressing issue; and the way it is framed impacts debates over the policy response to these changes.

In other words, the valuation methods used to measure the economic contribution of unpaid work are not simply different technical solutions to the same problem. How we conceptualise the value of unpaid time is an important political matter. Methods which continue to focus on deriving its value from individual inputs of time valued in relation to market wages construct its political status in a certain way, and imply different sorts of solutions: micro-payments, say (Lanier, 2014), in contrast with UBI-type policies. Estimates of unpaid activity when approached through output method value the social provisioning needs of society in a way which is decoupled from labour markets. This approach is gaining ground through the growing awareness of the practical and conceptual limitations of viewing this sphere of activity using the third-party criterion, shaped as it was by post-neoclassical conceptions of the economy as a realm of exchange and scarcity.

## Summary

This chapter has explored how the problem of valuing unpaid activity has been approached within beyond GPD accounting reforms. The first section outlined how the third-party criterion – developed in the 1930s by Margaret Reid – has become the dominant conceptual principle used to underpin the accounting treatment of non-market activity. However, this reflects the neoclassical concern to delimit the economic

within the sphere of exchange and calculation. It thus retains aspects of the 'formalist' view of society, in that the value of economic activity is grounded in its exchange potential, even while it is decoupled from formal labour markets. Section 2 outlined how, since 2009, statisticians implementing and mainstreaming these methods as part of the beyond GDP agenda have encountered limitations which continue to prevent their incorporation into the production boundary and GDP estimates. Section 3 demonstrated how this is creating a more plural and fragmented valuation ecosystem in which new output-based methods of estimation are gaining ground (especially in the UK). These conceptually decouple value and production from wage labour, recognising both the interiority of non-market services to the economy and their otherness from exchange relations, thus constituting a more substantive vision of work, production and value. This further helps us to answer the central question of the thesis, by providing a second case study of the complicated imbrications between 'formalist' and 'substantive' economic imaginaries which characterises the post-GDP accounting landscape.

I have argued that it is not the case that valuing non-market work *necessarily* challenges market-based, formalist assumptions about the economy. Rather, the valuation of these activities constitutes an emerging political field in which different constructions of the relationship between the commodity and non-commodity aspects of labour co-exist. At stake in these competing representations is how we think about the political status of non-commodity work, and the distinct roles it might play in alternative models of economic citizenship and welfare. Nevertheless, a consequence of these reforms is that while the huge scale and economic importance of unpaid activity is now accepted by accountants, simply extending the production boundary to bring more bits of 'society' into 'the economy' has not proved practically possible. Instead, the very idea of a sharp distinction or boundary between unproductive 'society' and productive 'economy', and the role of market exchange in mediating this distinction, is being destabilised by these reforms. It is primarily this dynamic that provides resources for a genuinely 'substantive' re-thinking of non-market work and social provisioning, which could acknowledge *both* its interiority to the economy and its irreducibly non-commodity nature

# 6. Capital after GDP: Sustainability, Comprehensive Wealth and the Limits of the Exchange view of Money

*"Money is a means of exchange." This presumption belongs among the most powerful in the field of modern thought…According to this still current view, the exchange-use to which money can be put is its essential criterion* **- Karl Polanyi**

*By taking the perspective of capital, the challenge of sustainable development is simplified into a question of whether a country's total capital base – or total national wealth – is managed in a way that secures its maintenance over time. To reach its full potential, the capital approach requires measurement of all capital stocks using a common unit. The obvious choice of unit – money – is problematic … it is not possible to observe market values for all capital types directly, so calculating economic wealth by summing just observed values is not possible* **– UN Taskforce on Measuring Sustainable Development**

In 2014, the World Bank estimated that 47% of the total wealth of low-income countries consisted of natural capital; meanwhile, 70% of the wealth of OECD countries was composed of human capital – the embodied knowledge and skills of their population (World Bank 2018). Neither of these stores of wealth have traditionally been included in national accounting balance sheets. Measures of national capital are used to construct important indicators of sustainability and economic performance, such as Net Domestic Product and multi-factor productivity. Extending measures of national wealth to include environmental and ecosystem resources, as well as knowledge and social institutions, has become a major focus of beyond GDP reforms. This has become the dominant approach to measuring sustainability in global governance and accounting discourse, reflected by the Stiglitz commission (Stiglitz et al. 2010), the UN's joint taskforce on measuring sustainable development (UNECE/Eurostat/OECD 2008) and related World Bank/IMF work (World Bank/IMF 2013; World Bank 2017). It also underpins the UN environmental-economic accounting (SEEA) framework, adopted globally in 2012 (UN 2014a). According to this reasoning, if the concept of capital is extended to natural, human and social resources, the externalities of GDP growth could be brought into conventional growth accounting through their effects on the depletion of total capital stocks.

In the first two chapters, we examined how the implementation of beyond GDP reforms to national accounting (to integrate information on inequality and unpaid activities) has impacted the ability to represent the economy as an autonomous and ontologically unified object. This chapter investigates the attempt by national accountants and statisticians to address critiques of the future ecological and social sustainability of GDP growth by extending the asset boundary to include natural and human capital stocks. This accounting agenda raises a central problem: how do we put a monetary value on such complex, vast or intangible resources as the planetary ecosystem, knowledge or social cohesion; resources which share a tenuous and insecure relationship to market transactions? Regarding the central question posed by the thesis, investigating how this issue is dealt with by statisticians and national accountants helps answer the question of whether this agenda threatens or retains the basic assumptions of the formalist vision of economy (in this case, the exchange view of money or 'catallactic fallacy'), that Polanyi saw as essential to overcome in order to re-capture a more realistic and open view of human society (Polanyi 1968, 178-185).

To answer this question, the first section outlines the rise of the 'capital stocks' approach to sustainability in economic theory and global governance. Based on the distinction between income and capital drawn by economists such as Irving Fisher, this approach reconstitutes sustainability as a question of whether the generation of national income (GDP) is net of the depreciation of total national capital stocks. This has emerged as the dominant approach to sustainability measurement in global economic governance over the last decade, displacing indicator-based approaches and adjusted GDP measures which dominated in the 1990s and 2000s. The second section outlines the various problems accountants and statisticians have encountered while trying to operationalise the capital stocks framework in practice. Attempts to isolate the market-relevant components of these resources from the human and natural context in which they are embedded encounter various paradoxes, hindering the development of a purely market-based measure of the economic value of these resources. The third section traces how, in response to these problems, statisticians are exploring the use of politically-set prices and the co-existence of multiple and context-specific values for these wealth stocks. It is argued that these developments amount to the recognition of the need for 'special purpose monies' in global governance, and the acknowledgement that the economic

component of national 'wealth' broadly conceived cannot be isolated from its wider social and ecological functions.

## 6.1 Formalist Reason and Sustainability: The Rise of the Capitals Approach to Sustainable Development

This section traces the theoretical roots of the capital approach to measuring sustainability. It shows how neoclassical capital theory broadened what could be conceptually included in 'capital' beyond business stock to any objects yielding utility ('income'), but simultaneously defined its monetary accounting value narrowly as the market profits it generated for its owner over its lifespan. This reflects, it is argued, a formalist image of capital as monetary value is connected with the market returns on an asset. It then traces how this ambiguity has both allowed for inclusion of ever more of the natural and human world into 'capital', and to problems in determining the economic value of these broader capital stocks. As we saw in chapter 2, recent years have seen a reconstitution of the measurement of 'sustainable development' as a question of the depletion or accumulation of natural and human capital stocks. But many of the benefits of nature and knowledge are not clearly connected with a private monetary return. Reflecting neoclassical theory, the way this has been dealt with is to draw a conceptual line demarcating the 'economic' components of natural and human capital stocks, which can be valued based on their market returns, and broader 'social' or wellbeing aspects, which are left outside of formal accounting frameworks. This, it is argued, reproduces a formalist conflation of the economy and money with exchange processes.

*Capital and Income in Neoclassical Theory: Irving Fisher and the Property Theory of Wealth*

As sociologists such as Weber and Sombart have argued, the development of accounting was fundamental to the emergence of the very notion of capital (see Carruthers and Espeland 1991; Chiapello 2007). The concept emerged in accounting practice and centred around guiding business decisions and investment. Through the 18th and 19th centuries, economic thought attempted to develop a formal definition of capital. However, it remained a vague and contested concept (see Fisher 1896). Reflecting its accounting origins, these early definitions revolved a combination of the concept of durability and the ability to yield future profits. For instance, Smith suggested that: 'when

[a man] possesses stock sufficient to maintain him for months or years, he naturally endeavours to derive a revenue from the greater part of it…That part which, he expects, is to afford him this revenue, is called his capital' (Smith 1993 [1776], 162).[56] At this point, then, 'capital' referred narrowly to the stock of durable objects owned by merchants or enterprises and which could yield exchange value.

After the rise of marginalism, however, capital theory was developed in line with subjective theories of value. As part of this, the definition of capital was generalised beyond its accounting origins to encompass utility-yielding objects. A seminal neoclassical treatment of capital, which highlights these developments, was developed by Irving Fisher. Indeed, Fisher's work is still directly cited in contemporary literature on sustainability and extended wealth accounting – the UN/Eurostat/OECD taskforce on the measurement of sustainable development argued that: 'The intellectual roots of the genuine or adjusted savings approach go back to Fisher who argued that income can be seen as a return to wealth' (UNECE/Eurostat/OECD 2008, 64). Schumpeter argued that Fisher's *Nature of Capital and Income* 'besides presenting the first modern theory of accounting, is (or should be) the basis of modern income analysis' (quoted in Tobin 2005), illustrating the influence the book has had on contemporary accounting theory and practice.

Analogously to the issue of non-market work discussed in the previous chapter, subjective value theory posed the problem of how to define 'capital' and where it stopped. Fisher argued against classical definitions (based on an object's ability to yield revenue or its durability), that he viewed as inconsistent as they attempted to draw a line around some aspects of total wealth and demarcate it as 'capital'. But if income was considered in subjective terms as the generation of satisfactions and utility, then capital potentially encompassed any aspect of the material universe which produced utility or prevented disutility:

> [W]e cannot distinguish capital as that wealth which bears income. All wealth bears income, for income consists simply of the services of wealth. But the idea that some wealth bears income and some not has been persistent from the time of Adam Smith, who, meaning by income only money income, conceived of capital as the wealth that

[56] Smith distinguished further between the circulating and fixed elements of capital.

> produces income in this sense…Equally futile is any attempt definitely to mark off capital as that wealth which is "productive"…all wealth is productive in the sense that it yields services (Fisher 1906, 58).

Crucial to Fisher's definition of capital was therefore not whether the object yielded a monetary return, but rather the temporal distinction between economic *flows* and *stocks* (Tobin 2005). Fisher argued that, instead, 'income' should be understood not as revenue but more broadly the flow of desirable services ('psychic income') consumed over an accounting period, and 'capital' as the stock of material goods that yielded these flows of utility, viewed at a single snapshot in time.

This led to a potentially radical and open conception of capital, that was far broader than the definitions embraced by classical political economy (see Tobin 2005). Fisher argued, for instance, that: 'wealth is wealth only because of its services; and services are services only because of their desirability in the mind of man' (Fisher 1906, 41), and that 'in all cases, the essential fact is that the capital performs service – accomplishes something desired' (ibid, 117). Thus, Fisher developed a very broad definition of capital, extending it to all physical things which yielded desirable events, or prevented undesirable events, including when these were not destined for exchange in the market or where the income they produced was non-monetary.[57] Even an object used up immediately – like bread – was, in the Fisherian sense, capital, as it yielded psychic income (the pleasure of eating it). Capital had been broadened from its narrower origins in business accounting (as business stock that yielded income or interest to the owner), to refer to any parts of the material universe that yield desirable services to humans.[58] However, reflecting a similar anxiety about the proliferation of capital as we saw in the last chapter in relation to neoclassical discussions of labour, Fisher's definition also delimited capital in two significant ways.

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[57] 'The concept of income which is the most common is that of "money-income"…As applied to commercial affairs, this concept is nearly adequate…for the services which a man's business capital yields him usually consist exclusively of bringing him money…[But] as soon as we pass outside of commercial circles, we find cases in which money-receipts are evidently only a part of all receipts and money-costs only a part of all costs. In primitive communities, and even in highly organised communities [sic]…many goods considered as constituting income are not acquired by exchange at all' (Fisher 1906, 1043-4).

[58] Including, foreshadowing the human capital literature, human beings themselves.

Firstly, it made wealth dependent on ownership and property rights, even if not necessarily to exchange of these rights. For instance, he insisted that, while it 'is not necessary that it should continually change hands', 'it is necessary that wealth should be owned', and moreover defined wealth formally as 'all those parts of the material universe which have been *appropriated* to the uses of mankind' (Fisher 1906, 3). Thus, an important caveat to the open-ended conception of capital was added, that made property rights a key criterion to something being considered capital. This move has important contemporary repercussions, especially for the measurement of natural capital as we shall see in later sections. Foreshadowing problems confronted by modern attempts to value natural resources, Fisher argued: 'rain, wind, clouds, the Gulf Stream…are all useful, but are not appropriated, and so are not wealth commonly understood' (Fisher 1906, 3).

Secondly, Fisher linked the money value of capital back to market returns. Fisher drew an important distinction between the physical objects which actually composed wealth ('capital instruments'), and the accounting value of capital stocks in monetary units, or 'capital value' (Fisher 1906, 66-67).[59] He suggested that:

> [E]ach individual kind of wealth may be measured in its own special unit – pounds, gallons, yards; but for most purposes it is more important to measure the value of wealth, and this may be done in dollars and cents, pounds and shillings…this is also a species of physical measurement, *but involves the principle of exchange*…in the explanation which follows, the concept of value is made to depend on that of price; that of price in turn on exchange (Fisher 1906, 9-10, emphasis added).

In this manner, Fisher naturalised the exchange view of money and the conflation of price and value characteristic of neoclassical thought. This is partly because Fisher recognised the difficulty that such a broad treatment of wealth posed for business accounting practice; and indeed, his justification for this move was to conform to 'business usage', arguing '…the business man ordinarily uses the term "capital" in the sense of capital-value, and hereafter…capital will be understood in this sense' (Fisher 1906, 67) Thus, Fisher's definition of what was included in capital was theoretically expansive, but the value of capital stocks was linked to its discounted market returns.

[59] 'Capital-goods being measured in various units appropriate to the various goods…capital-value being measured in a single uniform manner, as in dollars or other convenient units of value'.

Fisher thus naturalised an understanding of exchange use of money as its essential criterion (Graeber 2014), something which for Polanyi was fundamental to the formalist view of economy (Polanyi 1968, 175-203).

Hence, while neoclassical capital theory opened the door to a broader view of capital, it circumscribed this by linking it to property rights, and accepting that the value of a resource can only be established through its impact on market revenues. While the whole physical world had potentially become capital, the economic bits of it were confined to those enclosed by property rights, and its monetary value in accounting terms could only be established through market prices. By adopting a view of the value of capital stocks as rooted in discounted prices of future market income, the value of capital was in practice linked to the market income it can generate. This ambiguity – the coexistence of a theoretically expansive definition of capital, but with its economic value grounded in property rights and discounted market incomes – paved the way both for the proliferation of the concept of capital in the post-war period and contemporary problems encountered in valuing these, given the difficulty of isolating their market components.

*Measuring Extended Capital Stocks: Policing the 'Monetisation Frontier'*

While Fisher had established the concept of capital as the total stock of material wealth held by a society at a moment in time, it was only with the development of national accounting that regular macroeconomic *measurements* of capital emerged.[60] At this point, consideration of natural and human capital was explicitly excluded from the notion of capital consumption. As discussed in chapter 2, the 1953 SNA stated, when defining fixed capital, that: 'charges made for the depletion of exhaustible natural resources are not included in the provisions for the consumption of fixed capital' (UN 1953, 7). Hence the economic value of the natural environment was implicitly placed at zero. Moreover, even by this narrow definition, thinking about capital in macroeconomic terms – as composed of homogeneous units that can be aggregated across an entire economic

[60] This was influenced by neoclassical synthesis growth models (see Solow, 1957), which understood production as a function of homogeneous inputs of capital and labour.

system – caused considerable conceptual difficulties. The Cambridge capital controversy revolved around just this problem (see Harcourt 1972).

As we saw in chapter 2, the rise of ecological critiques of growth as well as theories of human and social capital led to the issue of sustainability measurement being increasingly framed around the issue of measuring extended capital or 'comprehensive wealth'. While the capital approach to measuring sustainability is attractive and theoretically elegant, however, implementing it in practice poses significant conceptual and valuation challenges. As we saw, while Fisher's work had expanded the concept of capital in theoretical terms, its accounting value was tied to the discounted market income which capital goods yielded to their owner. But, as is widely acknowledged, many of these broader extended wealth stocks share an ambiguous relationship to market exchange: they produce collective and public benefits that contribute to market activity but are difficult to isolate, as well as direct benefits to human that are not mediated by the market at all; furthermore, the property rights surround these assets are often ambiguous, fragmented and plural. The welfare generating properties and value the natural world gives to human society extend beyond its ability to generate market income, making monetising the full benefits of 'natural capital' an impossible task. This poses a problem for the accounting valuation of these assets in monetary terms, as money values in the Fisherian neoclassical framework are conflated with prices in the marketplace.

The mainstream response to the monetisation dilemma has been to draw a conceptual and practical line between the 'economic' component of extended capital stocks and their 'non-economic' aspects, with an acceptance that the non-economic benefits of nature cannot be monetised due to the complexity of valuing these effects. The monetised 'economic' component could then be used as a macroeconomic aggregate, to analyse for instance substitution between factors, multi-factor productivity or a full measure of net domestic product (OECD 2011c). In this schema, the economic aspects of capital stocks are those that can be securely ascribed a monetary value; and this value is established through observed prices in markets which approximate the ideals of neoclassical economics (competitive, with full information and so on).

For instance, the 2008 UNECE taskforce's report contained an extended discussion on the problem of monetary valuation of natural capital resources. On the one hand, the taskforce argued that:

> [T]here is good reason to argue that market prices for capital assets come close to theoretically ideal accounting prices. This applies to all financial and produced capital. It also applies to those elements of natural capital and related products that are commonly traded in the market; including, timber, fish, minerals and energy. It applies as well to the output of human capital (labour) insofar as it is used in the market (UNECE/Eurostat/OECD 2008, 59).

On the other hand, it accepted that many aspects of natural capital are crucial to the generation of social wellbeing, yet could not be linked to market transactions. These assets, while acknowledged as important, were clearly designated as falling outside of 'the economy', as their capitalised value cannot be derived from discounted prices in the marketplace:

> It must be recognized that benefits like good companionship or the pleasure of a wilderness experience derived from non-marketed assets are well beyond what is included in economic wealth. Economic wealth measures only the capital base that contributes to market income. While market income is an important contributor to well-being, it is far from alone. Well-being is also created by "consuming" non-market flows of goods and services, such as breath-taking scenery on a smog-free day… [but] economic wealth is equal to the sum of the value of all assets that contribute to market production, including financial, produced, natural, human and social capital. They are called here economic assets (UNECE/Eurostat/OECD 2008, 60).

On this basis the taskforce recommended a dual, parallel set of indicators to measure sustainable development: 'economic wellbeing', understood as the flow of market income, was accompanied by a fully monetised measure of economic wealth reflecting the market-relevant aspects of natural and human capital; 'foundational wellbeing', representing social welfare, was accompanied by a non-monetised indicators of the state of the environment, given in incommensurable physical units. This therefore reproduces the Polanyian economistic fallacy, in that it conflates the economy with its market form and money with its exchange function.

This approach – to handle the valuation problems raised by the measurement of natural capital by isolating its economic components, and linking these to market returns – was subsequently endorsed by the Stiglitz commission. The report opted for the 'pragmatic' compromise of two separate indicators, one monetary value for those natural assets traded on markets and one accompanying set of physical indicators displaying measures of critical natural capital assets (Stiglitz et al. 2010). It has subsequently become the mainstream approach in global measurements of sustainability – in particular, the UN's SEEA framework, the OECD's Green Growth indicators, and the World Bank's adjusted net savings and WAVES programme. For instance, the OECD's Green Growth monitoring framework draws the distinction between 'natural capital', a monetised index representing '[natural] assets that are critical for economic growth' and physical indicators of the 'environmental quality of life', reflecting the direct services people enjoy from nature (OECD 2011c, 2013d).

The distinction between the economic and non-economic components of natural and human capital has even been graphically depicted in some literature through the concept of the 'monetisation possibility frontier' (Radermacher and Steurer 2014, 5). This concept draws a clear boundary (see below) between 'commodity-like' bits of nature, considered amenable to monetary valuation and thus inclusion into the economic component of wealth, and those aspects where the link to markets is more tenuous, or where 'deep ethical/cultural convictions' stand in the way of monetisation. In this way, a line is draw clearly between the economic dimensions of extended wealth stocks, which can be monetised and aggregated, and non-economic components which are kept as incommensurable physical units.

This approach was further consolidated with the adoption of UN SEEA central framework in 2012, which said:

> [T]here is no requirement in physical terms that environmental assets must deliver economic benefits to an economic owner…In physical terms, the measurement scope for each individual component is broad, extending to include all the resources that may provide benefits to humanity. However, in monetary terms, the scope is limited to those individual components that have an economic value based on the valuation principles of the SNA (UN 2014a, 128).

Likewise, the broader 'ecosystem services' rendered by the environment were not even included in the CF but in a separate set of experimental guidelines (UN 2014b). The existence of market exchange and prices is erected as the dividing line separating these two components of wealth.

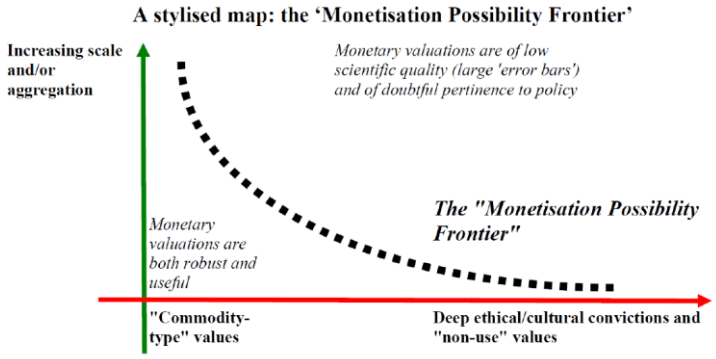


*Figure 4: The 'Monetisation Possibility Frontier' (from: Radermacher and Steurer 2014, 6)*

Such a solution seems, on one level, to conform to Polanyian criteria for a substantive understanding of the economy. It accepts, firstly, that there are important aspects of wellbeing that cannot be included in the sphere of market exchange, and thus there are aspects of wealth that lie beyond exchange relations, and secondly that the value of these assets are fundamentally incommensurable. On the other hand, this solution reproduces the conflation of *the economy* with markets, and of money with its exchange use which is a fundamental tenet of modern formalist economic thought (see Graeber 2014). While 'capital' is conceptually extended to include environmental and ecological resources, knowledge and social institutions and norms, this is kept from threatening the conflation of the economy with the realm of exchange by isolating the economic component of wealth (reflected in observed market prices) from its non-economic component (not observable from market prices). Therefore, the dual-track approach to measuring extended wealth does not in itself threaten the formalist conception of the human economy.

## 6.2 Limits to Formalism in Extended Wealth Accounting: The Embeddedness of Knowledge and Nature in Non-Market Functions

This section examines attempts by statisticians and accountants to practically implement the capital framework to sustainability measurement, focussing on the question of monetary valuation. As we saw in section 1, thinking about nature and knowledge as stocks of capital has presented the problem of how to measure these stocks, and especially whether (and how) to establish their monetary value. Influenced by neoclassical capital theory, the approach taken to this problem has been to isolate the 'economic' component of these capital stocks as the part of them directly connected to ownership and market returns. So far, it appears as if post-GDP accounting practice has been able to diffuse any broader challenge to the conception of the economy as a closed system of markets presented by extending the concept of capital to natural and human resources. In the process of implementing these measurement reforms, however, statisticians are discovering that their commodity-like aspects cannot be neatly disentangled from the social and ecological processes they are embedded in.

*Natural Capital Valuation: Isolating the Commodity-Like Aspects of Nature*

Firstly, we will consider these problems in relation to natural capital and environmental accounting. Here, a central problem with this approach relates to the paradoxes which emerge with regard to treating natural resources subject to property rights as economic, and those held in common as non-economic. This is true even of the apparently straightforward provisioning services nature provides to the market economy, and *a fortiori* the broader regulatory ecological systems that are crucial to the reproduction of economic activity. Even supposing that these stocks of appropriated nature could be neatly identified, however, valuing them using techniques taken from fixed capital accounting (such as net present value) encounter significant limitations when applied to nature.

The Limits of Property Rights

Under the neoclassical understanding of capital developed by Fisher, capital is that part of the physical universe that had been appropriated and was subject to property rights.

This is reflected in the UN SEEA, where '[A] distinction is made between whether the resources are cultivated or natural, based on the extent to which there is active management over the growth of the resource' (UN 2014a, 126). However, when applied to the natural world and natural assets – which are inevitably bound up with the wider biosphere and complex webs of ecological processes – the boundary around the appropriated and managed part of nature has proven hard to uphold in practice.

The problem particularly effects natural resources which are owned and traded in some contexts but held under collective stewardship of not subjects to property rights at all in other contexts, such as fish stocks, animals, forests and mineral resources. As the SEEA states:

> In some cases, the management activity is highly involved, which is the case for battery farming of chickens and the use of greenhouses for horticultural production. In these situations, the unit undertaking the production creates a controlled environment, distinct from the broader biological and physical environment. In other cases, there may be relatively little active management as is the case, for example, with broad-acre cattle farming and the growing of plantation timber. In these cases, the biological resource is exposed constantly to, and interacts as a part of, the broader biological and physical environment. There are also situations in which the cultivation of various areas over hundreds of years has transformed the natural environment. In practice, it may be difficult to distinguish between cultivated and natural biological resources (UN 2014a, 126).

This has proven to be the case, to give two specific examples, in defining which forestry and marine assets should enter the SEEA.

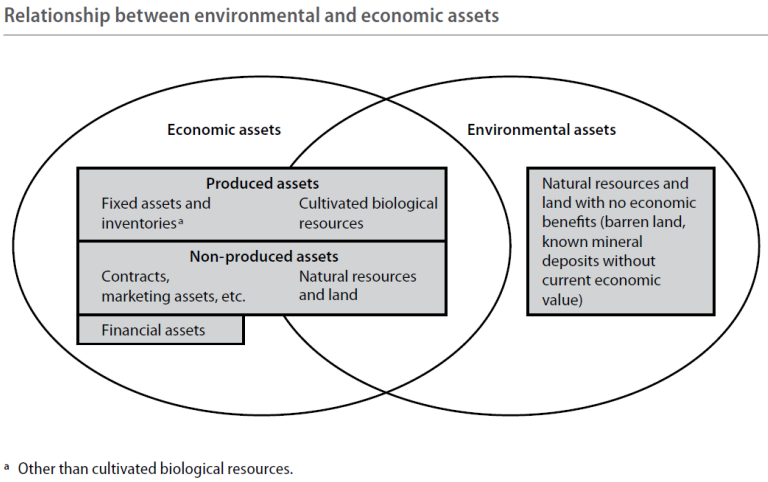


*Figure 5: SEEA Boundary between 'Economic Assets' and 'Environmental Assets' (from: UN 2014a, 128)*

Regarding timber, the SEEA states 'determining whether timber resources are cultivated or natural is important in the application of the appropriate accounting treatment' (UN 2014a, 177). However, a statistician working on the OECD's headline natural resources index – a monetised measure of natural capital based on SEEA concepts – highlighted the problems of disentangling these things in practice as a barrier to the creation of such a measure:

> [F]rom an accounting perspective, it was difficult to distinguish between cultivated forest and natural forest, and that makes a difference in terms of production. The nice thing about forests, at least from the valuation side, is that forest products are quite widely traded. So, you can get data on that, you can get the price of timber. But the problem is the volume of timber trade. We don't know what percent is produced, and what percentage is taken from natural forests. That's a problem, because in national accounts cultivated things – animals like cattle for example – are capital, physical capital. Once it's something you don't cultivate – minerals or oil for instance – then it's different, and you need to account for that (Interview MR).

As this illustrates, accountants find it hard in practice to draw clear distinctions between timber resources that are cultivated and those that are wild, and to trace the various timber goods traded in markets to these distinct sources.[61]

A similar problem occurs with determining which fish stocks are classed as economic capital. Here, the same attempt is made to draw a distinction between farmed fish stocks, that are counted as 'fixed capital,' and wild fish stocks that are considered to lie outside of the production boundary:

> In principle, all aquatic resources are in scope of the asset accounts in the Central Framework; but in practice, the scope is limited to those aquatic resources that are subject to commercial activity…In the case of aquatic resources, the growth of fish in fish farms and other aquaculture facilities is treated as a process of production…Farming implies

[61] Furthermore, this distinction can result in the rather bizarre results. A primary forest, for example, suddenly becomes part of 'economic capital' as soon as one of its trees is chopped down: 'The growth in cultivated timber resources is considered to be a process under the direct control, responsibility and management of institutional units…The growth of natural timber resources, on the other hand, is not considered to take place within the production boundary and is recorded as entering the production boundary only at the time a tree is removed from the forest or other land area.' (UN 2014a, 177).

> some form of intervention in the rearing process…[and] individual or corporate ownership of the stock being cultivated (UN 2014a, 184).

Nevertheless, as with timber this distinction between enclosed or appropriated dimensions of nature is harder to establish in practice. As the SEEA goes on to explain:

> In some cases, the life cycle of aquatic resources may start in an aquaculture establishment before transfer to the wild. In other cases, fish are captured in the wild for further growth in aquaculture facilities…Some aquaculture is undertaken using netted areas in rivers or offshore; hence, there is an interaction between the fish and the aquatic environment in which it is situated...In practice, it may not be possible to distinguish between cultivated aquatic resources on the basis of the farming practice (UN 2014a, 186).

As we can see, even the private 'appropriated' components of natural resources share a porous boundary with the unappropriated ecosystems with which they interact.

Adding to this problem is the complex nature of the legal system of property rights which covers much of the world's environmental resources. Here, an overlapping system of quotas and access rights exists between countries, governed by various international treaties and political agreements, many incompletely monitored and enforced. This is complicated further by migratory animals, as a statistician working on this problem at the OECD explained:

> It's so complicated with fish and fisheries, because there's the additional problem of international ownership ... Property rights are very limited, and, even if the fish was caught in a certain place – was it really from that place? It's another entirely different problem (Interview MR).

Walter Radermacher – head of Eurostat – expressed similar concerns in a discussion paper on natural capital accounting since:

> The use of natural goods and services leads very often to questions related to the (unclear) property rights of public goods. The oceans, global atmosphere, rainforests, ecosystems could be seen as global public goods. Their use and degradation is first and foremost a difficult point for political negotiations at international level (Radermacher and Steurer 2014, 7).

In other words, even for these apparently narrowly economic input and provisioning services that nature provides to the market economy, it is hard to draw a line around that bit of the natural world that is enclosed by the system of property rights and that which falls outside it, as the interactions between them are always complex. This problem is even more starkly evidenced by the issue of the broader regulatory services which are essential to the reproduction of market activity. It is clear that these produce benefits which are appropriated by private economic actors and yield tradeable market incomes. Nevertheless, isolating these effects and disentangling their complex webs of causality has proved to be extremely difficult.

Sometimes, the exclusion of ecosystem accounts from the narrow economic measures of natural capital is justified on the basis that ecosystems are associated with wider 'social' or cultural benefits. While they are accepted as essential to human society and welfare, they do not yield private resource rents to the owners (UN 2014b, 1-2). However, the discussion of the economic benefits of pollination services demonstrates the impossibility of drawing this distinction in any meaningful way in practice.

This is illustrated by a discussion on the development of pollination service accounts in a report on ecosystem service accounting by the European Commission and the EEA:

> The demand for pollination services is generated by the decision of the farmer to plant crops, which profit from pollination. At this point, wild pollinators deliver economic value which can be measured (or modelled) and accounted for…As soon as these insects start foraging, ecosystems that host these insect populations have the potential to increase the yield of adjacent crops that are dependent on insect mediated pollination (European Commission 2015a, 26).

As this makes clear, market yields are themselves directly generated by the services of ecosystems, and thus in a measure of the market income generated by natural capital should be included. This logic could, of course, be extended much further to the reproduction of stable climactic conditions. This illustrates the myriad benefits that market activity gets from nature, which clearly extend well beyond material resource inputs.

Thus, even when attempting to focus purely on the economic benefits of nature as co-extensive with the generation of market profits, it is evident that these activities are embedded in wider ecological processes, and that the effect of these systems on commodified activities is hard to isolate in a narrow measure of economic natural capital. Even understood in this narrow sense – as the assets needed to sustain current levels of market income – natural capital cannot be limited to those resources enclosed by property rights. There is no way to practically sustain the fiction that unenclosed nature merely provides social or cultural services that can be treated as a 'non-economic' component of natural capital.

The Limits of Valuing the Market Returns on Nature

We have seen how the attempt to isolate the economic components of natural capital to those that are subject to ownership and yield private rents to their owner is difficult, as it is impossible in practice to isolate the market-relevant aspects of natural resources. Attempts to value stocks of natural resources based on their discounted future market income run into similar problems. Valuation requires both an assessment of the volume of resources owned, and an estimate of the price that this volume will yield to the owner in the future. Here accountants encounter difficulties in assessing the change in stocks of renewable natural resources, and in valuing the future market returns these will yield in conditions of wider ecological uncertainty.

It might be considered that establishing whether the physical stock of a material resource has been depleted or increased would be straightforward. It is relatively easy in the case of non-renewable resources like minerals and fossil fuels. However, when attempting to assess whether the stock of a renewable biological resource like timber or fish is being depleted, it is necessary to model the broader environmental conditions in which these private resources are cultivated. This, in turn, necessitates an encounter with the conditions of ecosystems in which these resources exist. Again quoting the SEEA, in relation to timber stocks:

> For most populations of natural biological resources, the estimation of sustainable yield is difficult, as the natural processes of growth and death, the relationship to other species (including predators) and the impact of extraction are usually non-linear, variable (e.g., due to variations in climatic conditions) and often not fully understood…The

> measurement of degradation is [also] complicated because the capacity of environmental assets to deliver ecosystem services is not attributable solely to individual assets, and because individual assets may deliver a number of different ecosystem services. Further, while individual environmental assets, such as water and soil resources, may have been degraded over time, separating the degradation of an individual asset from the degradation of the overall ecosystem may not be straightforward…Although separately identifying degradation in physical terms is complex, implicitly, the monetary value of individual environmental assets that have been degraded will be affected by the changing quality of the asset…(UN 2014a, 137-138).

Assessing changes in stocks of biological resources is necessary to establishing whether these assets have been depleted, which is essential to their valuation even in a narrow measure of natural capital. However, as this passage highlights, this requires an understanding of the ecological system they are embedded in, that cannot itself be inferred from information contained in market prices. Thus, even establishing the growth or depletion of the stock of market-relevant natural assets requires information from outside the market system.

Even once accountants have determined the scope of a resource, and estimated changes in its volume, there is then the problem of determining its value. If the asset is itself traded, then the market prices are used, on the basis that: 'Market prices are assessed by investors and producers in relation to their expectations of the flows of income they can derive from the assets' (UN 2014a, 139). However, many natural assets (even those directly related to the generation of market income and fully enclosed by private property rights) are not themselves traded, but rather represent stores of value that have yet to be extracted (such as mineral deposits). Consequently, 'although prices can be found to value the output from extraction or harvest of an environmental asset, no values for the asset itself, *in situ*, are available' (ibid, 140).

In this case, techniques are given in the SEEA to impute a value for these assets based on the Fisherian notion of the discounted future market income it will yield – specifically, the net present value method, based upon estimated discounted returns on the future use of this asset.[62] The idea of the discount rate is central to accounting

[62] 'The net present value (NPV) approach, uses projections of the future rate of extraction of the asset, together with projections of its price, to generate a time series of expected returns. Typically, these

valuation of capital stocks. This concept was developed in the context of conventional business accounting – for example, to model the future returns of investment in a capital asset such as machinery or equipment (Miller 1998; Muniesa et al. 2017). It reflects the fact that owners have a preference for returns in the present than those in the future. The application of net present value techniques is needed even just to construct a core macroeconomic measure of the value of natural capital as the market returns on natural resources, as demanded by the narrow approach to valuing the 'economic' components natural capital (UN 2014a, 33). Moreover, the direct application of discount rates taken from manufactured capital is suggested to ensure consistency with the treatment of produced assets in the SNA (ibid, 144).

However, when applied to the natural world, where resources are embedded in a wider ecological context, the application of net present value and market discount rates is more tenuous. There is a basic problem, for example, in applying the idea of an 'asset life', taken from human-made machinery with a known lifespan and durability, to biological resources. In a methodological annex, the SEEA acknowledges that:

> [E]specially for natural biological resources such as aquatic resources, it is necessary to consider biological models and associated sustainable yields of biological resources such that the impact of changing age and sex structures is taken into account in the determination of the asset life. It may be that, through the use of biological and economic models, optimal extraction paths can be calculated that effectively determine the asset life through alignment between the available stock and rates of extraction. Often implicit in the determination of such extraction paths, particularly for renewable natural resources, are assumptions regarding the sustainability of the resource – for example that future management of fish stocks will ensure extraction does not exceed growth. For the SEEA, making such assumptions regarding sustainability is problematic as it may ignore important environmental information and may imply the adoption of behaviour that may not have been evidenced in the past (UN 2014a, 144)

As such, the guidance suggests that '[T]here is also support for the use of social discount rates in the valuation of environmental assets. The rationale is that environmental assets are of broad and long-term value to society as a whole and should be valued in that light rather than solely in relation to their value to a present-day extractor' (ibid, 145). This

projections are based on the history of returns earned from the use of the environmental asset' (UN 2014a, 140).

represents an acknowledgement that values taken from the market cannot be used in a macroeconomic assessment of the sustainability of market activity, as the information contained in prices reflects the short-term interests of the owners of these assets in generating revenue. These may not represent 'rational' consideration of the future sustainability of economic activity, considering the diverse non-commodity interactions these resources are enmeshed in.

These problems, associated with drawing a boundary around the 'market-like' bits of nature and of valuing these using discount rates taken from the market, highlight how even the quest for a narrowly market-centric macroeconomic indicators of natural capital has proven difficult to operationalise. This is because information relevant even to the reproduction of commodified relationships depends upon information that is outside of the system of market exchange. As the UNECE task force acknowledged:

> By focusing on just the well-being associated with capital assets bought and sold in the market, economic wealth avoids the difficulty of measuring unobservable accounting prices for capital assets. [But] though economic wealth is much less problematic as an indicator than total national wealth, it is not without measurement difficulties…in the work to date, the sources of economic wealth have not been determined with a great deal of precision. The results leave a large share of economic wealth for many countries in a "residual" broadly defined (UNECE/Eurostat/OECD 2008, 84).

Ultimately, as environmental accountants are increasingly discovering, the natural resources on which even private profits depends are impossible to practically isolate from the surrounding ecological systems in which they are entangled.

*Human Capital Valuation: Isolating the Commodity-Like Aspects of Knowledge*

Analogously to the debate over natural capital, accounting methodologies for monetising the value of human capital have focused on isolating the labour market returns to investment in formal education.[63] In the process of developing these methodologies, statisticians and accountants working to develop human capital accounts

[63] For instance, the UNECE guide on measuring human capital argues that its recommendations were 'aimed at producing estimates that are as consistent as possible with national accounting concepts' and 'will thus not consider the inclusion of all kinds of non-economic returns'.

have encountered a similar set of problems in disentangling the appropriable 'commodity-like' aspects of education from its embodied presence in the individual and its wider social functions. Two things stand out about this accounting treatment of human capital in this regard: firstly, the difficulties of focusing on formal qualifications as the locus of human capital 'investment'; secondly, the focus on labour market outcomes as the economic 'return' on this investment.

Isolating the Commodity Aspect of Knowledge

Somewhat ironically, given the Hayekian emphasis on the importance of tacit local knowledge to the superiority of the market mechanism (Hayek 1945; 1948), practical accounting methods developed for valuing human capital have focused on the labour market benefits of formal qualifications. This can be related to the neoclassical definition of capital with its focus on ownership and exchange. While knowledge can in some senses be thought of as the product of investment of an individual in the formation of skills that they then sell on the labour market, this is complicated by the fact that these skills are embodied in the individual and cannot be exchanged or separated from them. Is this knowledge therefore an appropriated asset owned and used by its bearer, or simply an embodied property of this owner? This ambiguity is reflected in the asset boundary of the 2008 SNA, where human capital was excluded on the grounds that it 'become[s] embodied in the persons of the consumers' (UN 2008, 97) and 'is acquired through learning, studying and practicing, activities that cannot be undertaken by anybody else on behalf of the student' (ibid, p. 8).

Recent methodological work has been framed by this accounting definition of an asset, and the need to isolate the transferable, market-like aspects of knowledge acquisition. Discussing the matter, the UNECE guide critiques the narrowness of the SNA asset boundary, but only on the grounds that:

> [I]f one looks upon human capital as a separate, although embodied in a person, entity, it does not seem problematic to view the relevant person owning human capital which clearly brings future economic benefits (UNECE 2016, 20).[64]

[64] The guide also notes the similarity to other accounting assets, such as brand 'goodwill', which are similarly 'fully embodied…in the relevant enterprise' and non-transferrable and yet included in the SNA.

Thus, while the notion of capital is extended to skills and knowledge, there remains a sense that their economic component should be in some way separate from the individual owning and acquiring them, to remain true to the national accounts definition of assets.[65]

Consequently, all the skills, local know-how and talent of a population that cannot be traced to qualifications built up through investment in education are excluded from the valuation of human capital stocks. The scope of human capital in the UNECE guide 'confined to economic returns, formal education and job-related training', while ONS methodological guidance agrees that: 'human capital is measured as the value of the qualifications of those in the labour market…for those individuals in employment' (ONS 2012b, 29). Narrowing the scope of human capital to formal education allows workers' inherent or embodied talent and skills to be separated from the economic component of knowledge acquisition, i.e. the exchangeable units of education invested in and their economic returns. It allows human capital formation to enter the realm of choice (students' choices to delay entry into the workforce to raise earnings potential and over which qualifications to acquire). This step is therefore vital to developing a narrowly 'economic' measure of human capital that could isolate the market returns of investment in education and training.

However, this approach encounters a number of practical and conceptual problems. The first is that distinguishing the asset being invested in from the embodied person it is acquired by (and embodied in) is far from straightforward. For instance, the same unit of 'education' can produce different results in different people. This is referred to in the literature as the 'heterogeneity of human capital'. The main way of dealing with this conceptually is to isolate an underlying genetic component of human capital (that lies outside of the scope of economic valuation), and distinguish this from the 'capital' built up by educational investment. The ONS stated that:

> A drawback which is common to all these approaches is that…formal education and training are not the only determinants of human capital. Some of an individual's capital is

[65] Indeed, the justification for considering only formal qualifications and their market benefits is partly due to 'the consistency with the present framework of national accounts'.

> innate to them and is in some sense, a non-produced asset. Thus, the asset created by education could be regarded as improvements in human capital by education and training (ONS 2012c, 9).[66]

This heterogeneity is used by the UNECE as a basis for rejecting the 'cost of production' approach to valuing human capital, which simply focuses on calculating the inputs into the education system, thereby necessitating the use of labour market outcomes to establish the true 'economic' benefits of this spending.

A wider problem is the size and importance of informal training, knowledge and know-how even to the market economy, and the impossibility of individualising the common pool of knowledge and skills that underpin innovation. The UNECE guidance acknowledges, for instance, that: 'human capital results not only from schooling and training, but also from general experience both at work and in leisure-time activities' (UNECE 2016, 35); while the OECD notes that continued acquisition of skills by adults is 'informal, experiential and interwoven with daily living and working' and therefore difficult to isolate or measure (OECD 2001, 24). Another problem often discussed in human capital literature is 'spill-over effects', a term used to denote the intrinsically social nature of knowledge. The UNECE Guide accepts, for example, that a limitation of valuation methods focused on individual returns on qualifications is that they 'focus on individual's human capital and aggregate them to arrive at the population measure. This ignores spill-overs between workers so that the whole may be more than the sum of the parts' (UNECE 2016, 52).

The scale of the contribution of informal, collective and contextual forms of knowledge even to the market economy is huge. An OECD study, for instance, attempted to capture the full measure of human capital by measuring national capital as a 'residual', rather than bottom-up from valuing the return on formal education (OECD 2013a). Assuming GDP to be a 5% income return on the complete wealth of a society, the study reasoned that the value of overall wealth must be 20 times GDP. But the wealth observed in SNA balance sheets only accounts for between 2.6-6.6 times GDP, even

[66] The UNECE agrees that: 'Workers differ in their human capital skills, suggesting heterogeneity of human capital in the economy.… part of human capital is actually not produced, but for example genetically inherited' (UNECE 2016, 13).

when including natural resources. Adding a measure of human capital based on the lifetime returns to labour still left fully 25% of this 'total' wealth unaccounted for. This was attributed in the report to an 'intangible capital residue' composed of total factor productivity: social knowledge and institutions that could not be captured in private returns to formal education and training (OECD 2013a).

Another problem in this regard is the contextual, non-transferrable nature of much of the skills and experience that support the market economy. Many of the skills gained in employment relate to a specific environment or productive process. This is obviously even more the case regarding soft skills such and the specific inter-personal relationships built up in the process of working with others. It is hard to isolate these, for instance, from generic transferrable skills such as 'team-work' or 'verbal communication skills' – but these are lost as soon as the person moves company or sector. As an OECD report notes: 'individuals are unlikely to be able to extract a full rental value from their organisation-specific skills since their employer is their sole potential purchaser' (OECD 2001). Therefore, the status of these skills as human capital is precarious since they are non-transferrable, and their value cannot be established through exchange on the market; nevertheless, they are crucial to supporting market activity and generating innovation.

Finally, echoing the problem of unpaid labour covered in chapter 4, accountants devising human capital methodologies have encountered the problem of disentangling the 'consumption' aspects of education from its 'productive' or investment-like component. This fundamentally stems from the same problem – that education is embedded in non-economic functions and entangled with the embodied life of the person. Isolating its commodity-relevant aspects is almost impossible in practice. A quote from the UNECE guidance on human capital valuation illustrates this point:

> To the extent that individuals enjoy their courses or have their range of interests, tastes and activities extended, educational expenditures also provide some consumption benefits. Thus, the difficulty lies in determining which part of educational expenditure is investment spending and which part is consumption…In principle, investment is a clearly different concept from consumption. In reality, it is much harder to distinguish between expenditures for consumption and for investment (UNECE 2016, 36).

As this shows, part of the problem lies in the neoclassical assumption that productive work must be a disutility, and so for instance the time spent by student acquiring labour-market skills must be conceptualised as something endured merely for the future enhanced consumption possibilities it renders; unfortunately, for this theory, in reality education provides intrinsic 'utility'.

Furthermore, formal education itself generates benefits to the individual that are not directly related to improving their prospects on the job market but are nevertheless associated with positive labour market outcomes. This is recognised in the human capital literature, but generally these benefits are hived off as 'social' and 'non-economic' returns of education. The UNECE task force states that 'many see the personal and social well-being effects of learning as being as important as the economic ones' (UNECE/Eurostat/OECD 2008, 51). However, this very distinction is hard to sustain. It has been shown, for instance, that higher educational attainment is associated with better health (Fender 2012), and improved social networks and connections (OECD 2001). These, in turn, are correlated with better labour market prospects. This raises the problem of where to stop valuing these less direct forms of market advantage that education provides, and how far these can be seen as a genuine form of public social 'investment' instead of a zero-sum means to access networks of privilege.

Consequently, even narrowing the measurement of human capital down to formal education, which presents a semblance of the characteristics of capital (such as fungibility, transferability and choice), it has not been possible to disentangle the economic elements of these, relevant to the labour market, from its other functions. Fundamentally, this relates to the fact that education is bound up with the social, psychological development of individuals in all their capacities: in Polanyian terms, it is 'embedded' in broader social and cultural processes.

Valuing the Market Returns of Knowledge

A second feature of this approach is that it links the value of human capital entirely to the current labour market status of an individual. As the ONS argues:

> [I]t is difficult to quantify elements of the education process that produce higher output, accordingly it makes sense to use labour market evaluations as representing the worth of an educated individual (ONS 2012c, 9).

Moreover, while several studies attempt to directly assess skills through questionnaires and aptitude tests, valuations based on these are held in suspicion as their economic worth has not been validated by labour markets (ONS 2015b). Consequently, since the value of human capital is coupled to the generation of market wages, if a person becomes unemployed or retires their contribution to the 'human capital' of a nation immediately falls to zero.

A first problem with this approach is that it produces some rather bizarre valuation results. It means, for example, that the appreciation and depreciation in human capital values relates more to the employment and wage conditions in a country than the substantive content of the skills or knowledge its population possesses. To give an example, according to the ONS human capital in UK fell from £19 trillion to £18 trillion, almost entirely due to a rise in unemployment during the aftermath of the financial crisis (ONS 2015b). In other words, a *trillion* pounds worth of human capital wealth had been officially wiped out, not through any loss in the skill base or knowledge of the country, but largely because of cyclical fluctuations in the demand for labour in the market economy.

There are also practical problems with valuing knowledge based upon the lifetime returns it yields to the 'owner', even if only considering those in employment. For this purpose, accountants have devised two central methods: 1) a cost-based approach, adapting the 'perpetual inventory method' used to value fixed capital assets, which depreciates the initial investment in education over the 'lifetime' of an asset, and; 2) and a net present value approach (discussed above regarding natural resource valuation), that estimates the expected value of future labour market benefits of a qualification (ONS 2015b). As with natural resources, there are all sorts of problems with adapting these methods – designed for physical machinery and equipment – to *knowledge* embodied in human beings.

Firstly, cost-based valuation methods require that a measure of depreciation be applied to the knowledge gained in formal education. This method was developed to value a

machine or piece of equipment, often with a second-hand re-sale market, and an obvious physical aging profile over its life-span and deterioration with greater use. One can detect an evident desire within human capital accounting literature to think of knowledge in these terms, indeed often using direct similes. The UNECE states that: 'Like physical capital, human capital depreciates over time', due to 'the wear and tear of skills due to aging' (UNECE 2016, 37).

However, there are obvious problems with trying to apply this idea of depreciation over a lifespan to the knowledge embodied in humans, considered as an asset produced and then owned by that individual. For instance, knowledge and skills may increase with experience and are bound up with the wider development of the individual. The UNECE guidance notes, with apparent surprise, that:

> The value of human capital will decrease by aging, and the consequent shortening of the period up to retirement or death. This has clear similarities with the shortening of the remaining service life of more traditional assets. On the other hand, human capital is different in the sense that more classic "wear and tear" through the use of assets, while eventually evident, often exhibits quite different patterns of change with use. As stated before, embodied knowledge may actually increase as a result of using it in practice, as a result of gaining more experience, etc. Or vice versa, the stock of human capital may depreciate quicker because of non-use, for example as a result of long-term unemployment (UNECE 2016, 28)

Elsewhere the ONS notes that 'the appreciation of human capital is often ignored in the literature, despite some empirical evidence that showed that human capital can appreciate at younger ages' (ONS 2015b, 8). The UNECE guidance ultimately accepts, based on this, that: 'The choice of depreciation for measuring human capital is essentially arbitrary because of a lack of empirical evidence' (UNECE 2016, 37). In other words, because the idea of an asset as something that is steadily worn down through use is so ingrained in the accounting treatment of manufactured capital, depreciation and discount rates developed for machines are applied to the knowledge and skills embodied in humans even though the empirical evidence suggests that this has no bearing on the reality of how skills are acquired and lost.

Likewise, the income-based approach rests upon applying a lifetime discount rate, which rests upon a host of assumptions about future demographic and labour market

conditions. One result of the approach is also that the human capital of older people is much smaller than those of recent graduates, a finding that even statisticians working on human capital valuation find counter-intuitive and problematic. For instance, a member of the ONS team working on human capital measurement said that:

> My difficulty with the way that we do it was that I would think human capital grows with experience, but when you monetise it it's actually the other way around. Those with the greater human capital – or earnings potential – are those who are going to work throughout their working life.… if your human capital leaves the market, which it's likely to when you're 65, then your human capital is then valued at zero. It just felt wrong to me that once they leave the labour market, their human capital goes from something to zero. (Interview DW).

Since human capital assets are valued based on discounting their future flows, the human capital of the elderly and the retired becomes close to zero, with obvious political implications regarding – for example – the value of investing in adult education, lifelong learning policies or re-skilling programmes.

To summarise, neatly isolating the economic value of knowledge within labour market returns to formal qualifications has proved conceptually and practically problematic. Firstly, it has been difficult to disentangle the productive aspects of education from its broader intrinsic value to the student and society; secondly, valuing human capital based on the future labour market returns of the employed generated a number of problematic results. Moreover, the attempt to understand human capital as an investment in a capital stock which then depletes has made it impossible to conceptualise the informal skills acquired outside of formal qualifications, or the various social and cultural factors that are linked with the labour market gains of education.

## 6.3 Substantivism and Extended Capital Valuation: Special Purpose Monies in Natural and Human Capital Accounting

We have seen how the attempt to extend the accounting treatment of capital to nature and knowledge is forcing a recognition of the impossibility of reducing the economic value of these assets to their role in market exchange. This section outlines how, in response to these problems, accountants and statisticians are increasingly accepting the

need, firstly, for a decoupling of money from markets and, secondly, the co-existence of multiple and more contextual monetary values for environmental resources and knowledge. In Polanyian terms, these point to an emergent rejection of the exchange view of money and an embrace of what he referred to as 'special purpose money' (Polanyi 1968, 178) in post-GDP accounting practice, which recognises the distinct and independent role of money as an accounting unit. Thus, the formalist conflation of capital value with market exchange is breaking down, leading to a more political, heterogeneous, contextual and 'substantive' conception of the economic value of people and the natural world.

*Natural Capital*

Regarding natural capital accounting, the issues with establishing a single unitary macroeconomic measure of the market-based component of nature have led to the emergence of multiple values and prices for natural assets, used in different contexts, and to an increasing willingness to derive these prices from non-exchange factors such as political targets or scientific understanding.

Administered Pricing of Pollution: Carbon Pricing beyond Markets

One example which clearly illustrates this shift is the embrace of target-driven prices for carbon in the UK in recent years. There has long been a recognition that market prices fail to price in the effects of the future damage of climate change caused by carbon emissions. This is a problem for attempting to factor emissions reduction into the design of policies and cost-benefit analyses. After initial guidance was issued in 2002, this problem was dealt with in the UK government using a modelling approach known as the 'Social Cost of Carbon' (SCC), which was based upon offsetting the damage caused by a unit of carbon emissions over its lifetime (DEFRA 2002). This approach was further consolidated by the recommendations of the Stern review into the economics of climate change, in 2007 (DEFRA 2005; HMT 2006; DEFRA 2007).

Social Cost of Carbon methods attempt to calculate the price of carbon used in policymaking from the 'bottom up', based upon modelling the price of repairing the harm that a unit of pollution will cause over its lifetime. This meant that carbon's price

was still fundamentally linked to its effects upon utility – the need to compensate for the disutility of carbon emissions. As the government states:

> The social cost of carbon (SCC)…measures the scale of the externality that needs to be incorporated into decisions on policy and investment options in government. The SCC matters because it signals what society should, in theory, be willing to pay now to avoid the future damage caused by incremental carbon emissions (DEFRA 2007, 1-2).

As we can see, the line of authority here runs from 'price' to 'society': the objective price of an additional unit of pollution should, by this method, inform political calculations and policymaking on the environment; they reflect, in the words of the 2009 report, 'how a rational policy-maker with perfect information might approach the problem of optimising an emissions reduction strategy' (DECC 2009, 10).

However, in the late 2000s the UK changed its approach to pricing carbon to a 'target-consistent approach' following a review of the matter (ibid). In these methods, the political targets for emission reduction are taken as a starting point, with the price derived from the reductions 'required to meet a specific emissions reduction target', and the value those targets placed on the emissions of carbon. This move was drive partly be the adoption of legally binding carbon budgets, containing emissions reductions targets. However, it was also related to the scientific uncertainties surrounding the future modelling scenarios which underpinned damage-based SCC pricing methods (ibid).

These models require that the future damages of a unit of emissions must be modelled across the entire duration of their presence in the atmosphere, along with their interactions with wider emissions pathways and the projected harm these do to the environment and human society. Such complexity makes such projections highly sensitive to the parameters and assumptions made. As the 2009 report explains, SCC relies on 'a chain of modelling and assumptions over several layers – both economic and scientific – and a series of complex projections over more than a hundred years' (DECC 2009, 15). These valuations are also impacted by assumptions made about critical climactic thresholds and tipping points, and the complex array of damages these may

produce.[67] As a result of these uncertainties, 'estimates of the social cost of carbon range from zero to over GDP 1000/tC' (DECC 2009, 18). Furthermore, there is no guarantee that prices arrived at through this method would be consistent with meeting national and internationally agreed emissions targets. The report argued that 'as a result of this uncertainty, emissions reductions targets may be informed by a variety of factors not limited to the economic and scientific modelling evidence' (ibid, 11).

The adoption of target-driven pricing of carbon represents a potentially important shift in thinking about the relationship of market exchange to the valuation of nature and political reasoning. Here, rather than objective values informing political calculations over environmental policy, political judgements *drive* the accounting prices assigned to natural resources. As the DECC's 2009 report states:

> Given the significant uncertainties in estimates of the social costs of carbon based on integrated impact assessment modelling, such modelling should only be one input into the target-setting decision-making process. In particular, decisions on targets will also take other scientific information, and the associated uncertainties, into account and will be supplemented by other judgements – e.g. regarding the acceptable level of risk that we wish to bear of potentially catastrophic events owing to extreme temperature rises…[T]he target-consistent approach to policy appraisal outlined above clearly marks a departure from standard social cost-benefit analysis in which, as under previous SPC, the value of an externality is based on estimates of its social cost (DECC 2009, 18; 24).

Price, in other words, will now be derived from political and social judgements over the use of resources, the risks associated with this use, and the levels of caution and error margins we should build into our interactions with the worlds ecosystems, rather than supposedly objective values derived from marginal utility modelling, which then *drive* these judgements (see also Radermacher and Steurer 2014). Along with this is the further acknowledgement that there may be different prices for carbon as a result of this decision: 'the reality is that the existence of different targeting regimes is likely to entail

[67] The DECC report explains: 'its recommendation that future emissions should only allow a very low probability (less than 1%) of a global temperature increase of 4°C was based on the recognition that exceeding 4°C could have potentially catastrophic, but very difficult to value, outcomes. The possibility of such tipping points is one key argument for a move away from marginal damage cost estimates in appraising individual policies, and towards a target-consistent approach' (DECC 2009, 21)

different implied target consistent prices across the economy, at least in the short term' (DECC 2009, 29).

This move to a target-set approach to valuing carbon emissions decouples money from its exchange function, allowing for the possibility of a pure accounting use for monetary values, and for politically-administered prices around key resources such as the biosphere. It also shows the necessity of a political understanding of the economic value of nature as a means of dealing with the sorts of uncertain trade-offs climate change poses. In Polanyian terms, this represents an example of a shift to more substantive mode of reasoning about the natural world than the attempts to generate a macroeconomic measure of sustainability purely based on market returns.

Ecosystem Service Accounting: Multiple and Contextual Valuation of Nature

A second example that evidences this shift to a more complex valuation landscape for natural resources is the development of ecosystem accounting. As noted in the previous section, measuring the economic and social value of ecosystems was considered too complex to be covered by the central SEEA framework, and was dealt with in a set of follow-up experimental guidelines (UN 2014b). However, in the years since there have been significant moves to implement ecosystem accounts, especially within the EU (European Commission 2015a, 2016). A regulation was passed by the Commission in 2011 (updated in 2014), legally requiring member states to 'map and assess the state of ecosystems and their services in their national territory by 2014, assess the economic value of such services and promote the integration of these values into accounting and reporting systems by 2020' (Peterson and Gocheva 2015, 8). Furthermore, the UK government has created a dedicated unit, the Natural Capital Committee, which has done extensive work on ecosystem accounting (ONS 2012a; NCC 2013; ONS 2015c).

Three things are especially interesting about the implementation of ecosystem accounts: firstly, they accept the possibility of monetising the collective and complex services that ecosystems provide, even in the absence of a market price from which these might be derived; secondly, in the process they acknowledge the heterogeneous, multiple and complex interactions between these services, the different functions of ecosystems (including non-use values), and the difficulty of drawing a line around their 'economic'

aspects; thirdly, there are serious moves to embed these valuations in spatial representations and their geographic context, which disrupts the unitary and abstract view of the economy constructed through the national accounts.

Turning to the first of these points, there is an increasing recognition that many of the values ecosystems render to human societies are relevant to 'economic' processes, but their monetary value cannot be derived from market prices (ONS 2012a). As discussed in section 2, in the mainstream view of environmental accounting these broader welfare benefits are hived off as 'social' and left unmonetized. Yet the greater acceptance of monetary valuation, even in contexts where there is no obvious market return or transaction, is potentially breaking down the distinction upheld in the central SEEA accounting framework between the private 'economic' and collective or 'social' benefits of nature. These are now put together in a common analytical and decision-making context in debates over resource use. Consider an answer given by Dieter Helm, chair of the NCC, to the UK parliament's Environmental Audit Committee:

> I don't quite accept your premise that there are several assets that are not economic, and there are several assets that are and we should think about them differently…These all have benefits to people, and those benefits are what we are interested in. Some of them have direct market prices and some of them do not, but from a resource allocation point of view, it is precisely about wanting to make sure that those that do not have prices in markets at the moment are not given, effectively, a value of zero…Many benefits that people derive from having access to forests that are of the kind that you put in your category of almost noneconomic…they should influence the way we make decisions (EAC 2014, 7-8).

In place of an attempt to isolate the economic component of nature, which can be monetised because of prices taken from market transaction, all interactions with the natural world are included in a political decision-making process over the use of these resources. Thus, in the process of implementing ecosystem accounting, the link between money and markets is being destabilised through attempts to value non-market phenomena; this challenges the distinction between the accounting value of nature and the 'social' or political value.

Secondly, this move to monetising the various non-market benefits of ecosystems has been accompanied by an acknowledgement that the complex values of ecosystems are

nevertheless heterogeneous, discrete and incommensurable. Often, these are categorised as 'provisioning' services, the material products appropriated by humans, 'regulating' services, important to the broader stability of the climate and ecological systems, and 'cultural' services such as the recreational, symbolic and spiritual values of nature. The EU natural capital accounting framework explicitly states that the process of establishing their values may be distinctive in each case and that they cannot be meaningfully aggregated into a single macroeconomic figure which could provide a value for ecosystem assets as a whole:

> Most provisioning services are, or will be, valued using market prices. Most regulating services using methodologies based on costs, where possible. Monetary valuation of cultural ecosystem services, which are mainly valued using stated valuation methods, is much more complicated…[we] should not aggregate these different techniques (Peterson and Gocheva 2015, 24).

Radermacher has similarly argued: 'while valuation is useful for assessing an incremental change, the total value of all ecosystems of the planet has no meaning' (Radermacher and Steurer 2014, 8). This challenges a core assumption of national accounting, which is that the economy should be represented as a unitary system of flows and stocks, where every transaction is balanced by another item in the framework, and where one unit of 'money', representing prices established via exchange, is substitutable with any other.

Thirdly, the various non-market and market values of ecosystems are increasingly linked to a specific geographical location and spatially embedded into plural territorial representations of economic value. There are widespread moves to develop 'spatially disaggregated accounts' for ecosystems that can inform decision making processes at different scales, including local and regional. The EU reference document states that:

> Given that the flows of natural capital are not limited to a particular scale, spatially-referenced natural capital accounting needs to allow for multi-scale assessments…Different types of natural capital assets and associated service flows, managers and users of natural capital assets, and the territorial focus of relevant policies, all exist or operate at various spatial scales The ability to use a common spatial reference frame for "multi-scale" assessments and analyses will therefore be an essential issue in the

development of any natural capital accounting approach' (Peterson and Gocheva 2015, 41).[68]

This is partly supported by technological changes to the data infrastructure used to assess ecosystem conditions, which is increasingly draw from satellite imaging and Geospatial Information Systems.

An interesting aspect of this change is how it interacts with the spatiality performed by accounting frameworks. As Timothy Mitchell has argued, cadastral land surveys were crucial to the construction of the nation state as a unified territorial space, a spatial imaginary which later became the locus of macroeconomic management and development thinking (see also Law and Mol 2001; Mitchell 2002). In the EU, however, there are developments which are potentially undermining this link between accounting and the unified territorial construction of the national economy. EU projects such as KIP-INCA (European Commission 2016) and Mapping and Assessing Ecosystem Services (MAES) increasingly draw upon granular land-use classifications and tagging systems, such as LUCAS, COPERNICUS and INSPIRE (European Commission 2015b).[69] Furthermore, the development of ecosystem habitat accounts, which map the economic values associated with cross-cutting ecological zones such as forests or wetlands, also holds potential to disturb the assumption that 'the economy' is an entity contained within the *nation*, naturalised by the SNA and most macroeconomic indicators drawn from it. These developments are permitting newly localised, fragmented and spatially embedded representations of the economic values of nature.

As an example, illustrative of these tendencies, consider the visual representation of the various values associated with forestry in Wales developed by the UK's natural capital committee (NCC 2013). This highlights the effects of the three developments mentioned on the 'formalist' conception of the economy that is emerging through the

[68] An ESSC document on the EU environmental accounting strategy similarly recommends that 'the increasing role of geo-referenced and small area data should help the statistical system provide relevant spatially resolved socio-economic and other data' (ESSC 2014b, 13).

[69] An EU document on the project states: 'at the core of the project is to combine existing geo-spatial data layers related to ecosystems and to generate initial (primarily bio-physical) indicators and accounts on a regular basis and which could then be used to derive estimates of the value of ecosystems and their services' (European Commission 2015b, 3).

development of ecosystem accounting. Firstly, market and non-market values are considered together as equally relevant to the *economic* management of this ecosystem. Secondly, however, these different vectors of value are not aggregated into an aggregate macroeconomic value, but rather displayed as discrete and incommensurable factors which weigh on political calculations over the use of this environment.

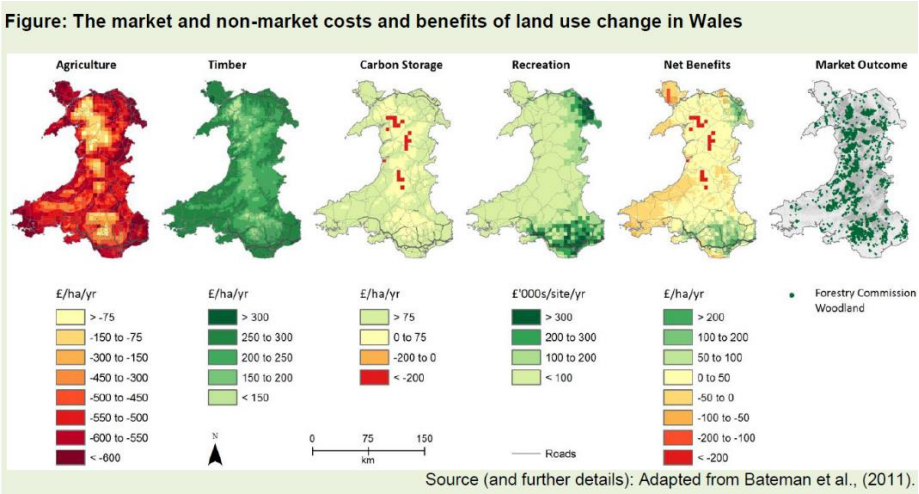


*Figure 6: Spatially Disaggregated Representation of the Multiple Values of Forestry in Wales (from NCC 2013, 37)*

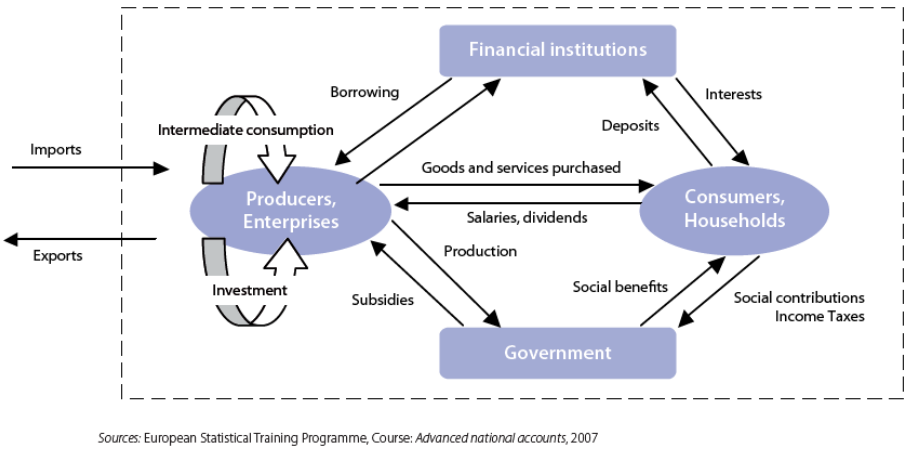


*Figure 7: The Abstract Space of the National Economy as Represented in the SNA (from Eurostat 2014, 22)*

Lastly, we have switched from the abstract mathematical space of the economy in the national accounts to the embedding of heterogeneous values in a specific place, re-rooting economic resources in a territory. In contrast with accounting identities such as GDP or the balance of payments – but also with the macroeconomic extended wealth indicators envisaged in the mainstream approach to sustainability measurement under

the capital stocks approach – these values are placed *somewhere*. They are no longer posited as macroeconomic identities to be factored in as additional variables to existing models; they effect a switch to a more local and disaggregated spatial economic imaginary.

Many critical scholars have critiqued the monetisation of nature in this way. This is usually in the context about fears it may encourage the commodification of nature (Robertson 2006; Lohmann 2009; Gómez-Baggethun and Ruiz-Pérez 2011). Through rendering diverse uses of natural resources commensurate, it is feared valuation may facilitate the development of markets in ecosystem services or biodiversity offsetting. Certainly, this is a very real danger, and in some contexts the development of accounting values may encourage political discourses focusing on ecosystems as a new source of enclosure and marketisation. However, as was argued in chapter 3, the recovery of diverse money uses and 'special purpose monies' (including the recognition of the accounting function of money for political deliberation) was, in Polanyi's work, a necessary corollary of the recovery of a substantive conception of the economy (Polanyi 1968, 175-203). Polanyi's perspective was not that monetisation was a problem *per se*, rather is was how prices were arrived at: 'behind the backs' of people through the market mechanism or via a more conscious political process (Polanyi 2016 [1922]). The development of public ecosystem accounts *potentially* encourages the treatment of money prices as a unit of account, for use in public deliberation over the use of resources. However, whether it achieves this will ultimately depend upon the methods through which non-market values are formed. This is the subject of the next chapter and will not be elaborated on here.

*Human Capital*

Human capital accounting has developed less along this trajectory than natural capital. This is partly because human capital is a less developed field of statistical production, linked less explicitly to international political frameworks than those that govern environmental policy. Nevertheless, it is possible to identify several tendencies that point in a similar direction: a decoupling of the value of human capital from a narrow focus on market returns.

Firstly, we saw in section 2 how valuing education purely based on the labour market status of the individual it is embodied in produces a number of paradoxical results. This narrow focus is partly justified by the policy concerns of governments. Specifically, human capital is often measured in the context of assessing the ability of the working population to support an aging population and the long-term sustainability of welfare systems. It is interesting to note the political implications of this methodology: they naturalise the assumption that more sustainable welfare systems *must* come through the generation of additional employment and jobs. For instance, policies aimed at employing the accumulated knowledge and wisdom of retired people in volunteering, child care or community contexts (Eurofound 2014; Zwickl et al. 2016) would not be able to arrest or offset a decline in human capital that resulted from an economic downturn. Likewise, policies aimed at redistributing work more evenly across the population to make space for unpaid economic activity could only serve to massively depreciate the value of human capital stock. Thus, the means of measuring progress towards sustainability pre-suppose the means by which it is to be achieved: commodified solutions are, by the very way in which the valuation methodology is constructed, the only way to increase the human capital base of a nation and place welfare on a 'sustainable' footing.

However, official human capital accounting practice is increasingly recognising the flaws of this narrow conception of human capital. This has partly come in response to the concerns of those working on these methods, outlined in section 2. But what has ultimately proved decisive has been political resistance. The ONS, for instance, consulted on their valuation methodology and encountered opposition to the restriction of human capital to the employed population:

> Previous estimates have valued the human capital of those people not in employment as zero. This is consistent with the OECD's guidance on the measurement of physical capital which states that, "be counted as part of the capital stock all that is required is that assets are present at production sites and capable of being used in production or that they are available for renting by their owners to producers.". However, following the responses to the consultation on measuring human capital, from the 2013 estimates of human capital, ONS will also produce estimates of 'full' human capital, including the unemployed, which will be published alongside the human capital of those in employment (ONS 2012c, 10).

As a result, what has emerged is a dual set of values for human capital in the UK, published in parallel. These shifts, firstly, allow a decomposition of the extent to which

apparent destruction of human capital may simply represent people dropping out of the labour market due to cyclical fluctuation in the market economy. It also has the effect of decoupling its value from the direct market benefits its owners are receiving, and of accepting that knowledge has multiple values depending on what aspects of its value are being captured.

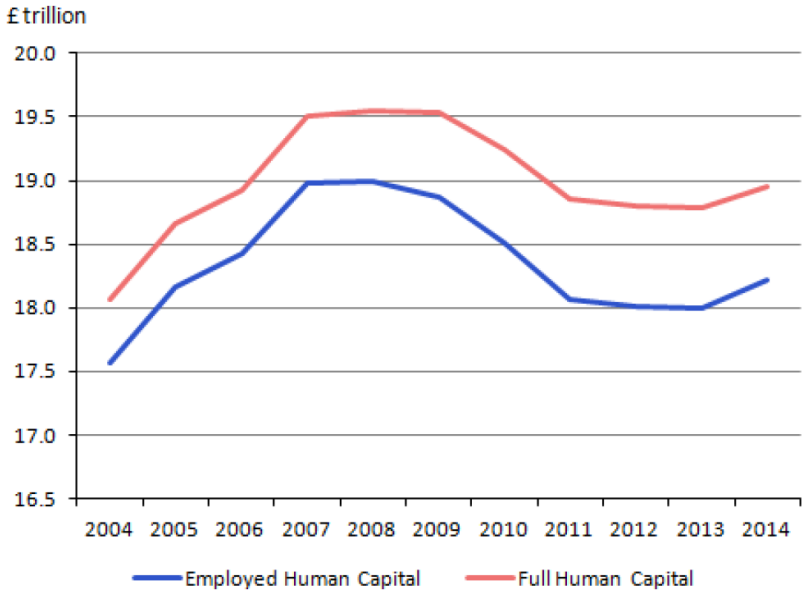


*Figure 8: 'Employed' and 'Full' Human Capital Values (from: ONS 2015b, 3).*

Even in these full human capital measures, however, the value of knowledge is linked purely to labour market returns, which are taken as the ultimate arbiter of its money value. All that has happened is that the skills and qualifications of the unemployed are imputed as having a prospective or potential labour market value and so are included in the estimates.

Nevertheless, some more fundamental methodological changes are being explored by statisticians, both nationally and by international working groups, including the OECD and the UN statistical committee. Firstly, there is some evidence of moves to include on-the-job training as well as formal qualifications. In its 'further work' section, the ONS human capital methodology guidance suggested that 'the discounted lifetime income framework only considers formal education in its estimates …This could be combined with the stock estimates to produce a capital accumulation account' (ONS 2012c, 14).

More radically, it suggested the development of valuations which factor in non-market production as an additional income flow when capitalising the value of human capital:

> These experimental estimates of human capital are calculated using market factors only. Human capital is also important for non-market activity…Future work could incorporate imputations of the value of non-market labour activity, including household production and leisure into the measures of human capital (ibid, 14).

Therefore, the agenda on extended wealth measurement explored in this chapter interacts in important ways with the development of accounts for non-market activity explored in chapter 5. If non-market production is included as an additional measure of income, reflecting the collective value of social reproduction and other non-market services, then the accounting value of knowledge must also be extended to include the skills and attributes that help people perform non-market functions. The political implications for how the economic value of knowledge production is considered are radical: forms of learning that help citizens perform non-market duties effectively would potentially enter monetary valuation processes as an *economic* return on knowledge production.

Finally, in response to criticism of the gendered nature of human capital measures, there have also been attempts to correct them to take account of the gender asymmetries in labour market outcomes. The move to include non-market work would of course itself have a gender dimension, given that women disproportionately contribute to unpaid work and social reproductive labour. But it has also been noted that, due to the gender pay gap in labour market earnings, measures of human capital based on existing and expected labour market returns will undervalue the knowledge and skills embodied by women and their potential economic contribution. If the market incomes paid to employ these skills are undervalued, so will the value of the stock measure of this embodied 'capital', but 'one cannot conclude that male human capital is more "valuable" to society than female human capital' (ibid, 14). A problematic nature of these moves is that they frame the problem in terms of market failures and the sub-optimal pricing of female labour in the marketplace, which arguably naturalise the idea that gender equality merely equates to more rational allocation of economic resources. However, in recognising the existence of power structures within the labour market and accepting the need to correct

asset values to reflect these power symmetries, they potentially reflect a move to a more substantive understanding of the economy.

## Summary

A major component of the beyond GDP statistical agenda is the attempt to better measure the sustainability of current levels of economic growth. As this chapter has shown, increasingly this question has been approached through the lens of capital theory, with sustainability reconstituted as a question of whether current levels of growth are compatible with the maintenance of human, natural and social – as well as produced and financial – capital. Thus, the negative externalities of GDP growth for nature and society will register in accounting frameworks through their impacts on the depletion of total capital stocks, allowing for the assessment of the sustainable levels of growth compatible with preserving these resources for future generations. This chapter has explored how global accounting experts are grappling with the methodological implications of this view of sustainability. Contributing a further case study which helps to answer the central research question, it has provided an assessment of the challenge that integrating nature and knowledge into national accounting methodologies presents to a core aspect of formalist reasoning: the reduction of money to its exchange function.

Firstly, it traced the history of neoclassical capital theory, through the influential work of Irving Fisher. We saw how Fisher defined capital in conceptually expansive terms: as the stream of utilities produced by any physical object subject to property rights. This paved the way for the conceptual proliferation of capital to nature, knowledge and society in the post-war period. However, Fisher's approach to establishing the accounting *value* of capital objects was much narrower, with this derived from the market incomes which the asset yielded its owner. It was argued this represents a 'formalist' understanding of wealth, in that it links the economic value of resources to their use in markets, and in doing so conflates money with its exchange function. As we saw in chapter 3, this was a key tenet of the formalist view of economy as understood by Polanyi, as it does not allow for the heterogeneous functions money may play in political deliberation. Moreover, this has been imported into accounting treatments of natural and human capital, which have revolved around the conceptual separation of the

'economic' components of these assets – relating to the private market services they generate for the owner – from their wider 'social' value in generating collective welfare.

Sections two and three analysed how this formalist understanding of the accounting value of assets has been destabilised by practical attempts to operationalise macroeconomic measures of natural and human capital. These rest upon the ability to disentangle and isolate the commodity-like aspects of these resources from their wider values for individuals, society and the biosphere. However, such separations have proved to be increasingly problematic and difficult to sustain in practice. Knowledge, for instance, is mixed up with intrinsic benefits and the social life of an individual; it appreciates with use and experience; it is acquired through everyday interactions and often context-specific. The bits of nature that yield resource inputs into the market economy are hard to separate from the wider ecological and social processes the market economy is embedded in. As a result, it is increasingly acknowledged that the quest for a macroeconomic measure of extended capital which can be derived purely from market returns is elusive. In place of this, there is an increasing openness to monetising the values associated with these capital goods in the absence of market prices, and a recognition that non-market values cannot be neatly isolated from 'economic' benefits.

This analysis has further helped answer the overall research question: to what extent are beyond GDP reforms challenging market-centric understandings of the economy? It has illustrated how the limitations of implementing this agenda using market-derived values has led to the rejection (by accountants and statisticians) of the idea that the exchange use of money is its essential criteria. Moreover, this is leading to the proliferation of what Polanyi described as 'special purpose monies' in global accounting practice: politically-administered prices for different national resources, which recognise the multiple uses money may serve outside of markets (including as a unit of account) and its intrinsically political character. We can thus identify a similar pattern in attempts to extend the asset boundary as the attempts to extend the production boundary observed in chapter 5. Efforts to implement these reforms using formalist conceptual resources have encountered practical and epistemic limits, prompting accountants and statisticians to move beyond this view of the economy and explore more substantive alternatives. This is leading, as elsewhere in this agenda, to the co-existence of

approaches underpinned by very different assumptions about what the economy is, with potentially very different political and normative implications.

In this chapter we explored how the failure to neatly contain the value of nature and knowledge within markets has led to a decoupling of money from exchange. However, the different methods through which these values are practically arrived at are diverse and construct the concept of 'value' and its relationship to price and utility in very different ways. In the next chapter, we will investigate more closely the specific monetisation methods developed to assign accounting prices to phenomena in the absence of market exchange, exploring the differential challenge these present to the psychological underpinnings of orthodox consumer theory and welfare economics.

# 7. Value after GDP: Monetising Non-Market Goods and the Limits of *Homo Economicus*

> *In a market economy…society is separated by the market into a pre-market process determining prices and a post-market process depending on them – prices themselves being the result of an inscrutable process…Thus, individuals are not only isolated from each other, but they are in a manner also separated from themselves.…The moral value of social organisation depends upon the degree to which it helps individual responsibility to be realised in the social sphere* **– Karl Polanyi**

> *If we want a better society with better wellbeing, governments must have the data on wellbeing, and then use it. And so must individuals…Efficient markets, and lives well led, rest on people making informed decisions. But often this information is not present…wellbeing data should be made widely available to help de-shroud everyday choices* **– Legatum Institute 'Wellbeing and Policy' Report**

In 2008, an economic study found that our friendships are worth £85,000 to us annually (Powdthavee 2008); a 2010 report by the UK's Department for Culture, Media and Sport calculated the value of playing regular sport as equivalent to £11,000 in additional income per household (DCMS 2010, 37); several years later, analysis commissioned by the British Library concluded that its mere continued existence is worth £412.8m to UK citizens every year, even if none of them visit or use its services (Tessler 2013, 46-51). Each of these studies draws upon an emerging suite of valuation methods that attempt to monetise the value of goods which are not exchanged in markets. The refinement of such techniques and their incorporation into economic policy analysis has become a key strand of the wider beyond GDP agenda (Stiglitz et al. 2010, 153-155; Dolan and Metcalfe 2012; Hicks et al. 2013); in particular, data on subjective emotions, which have been standardised and added to official population surveys as part of this agenda, are promoted as a means of valuing and comparing the diverse non-market impacts of policy options, invisible in traditional cost-benefit analysis (CBA) calculations (European Commission 2011; Cabinet Office 2013; OECD 2013c; O'Donnell et al. 2014).

This chapter analyses the growing use of non-market valuation techniques (HMT 2011b), and the different methodologies that underpin them. In keeping with the conceptual framework developed in chapter 3, it evaluates the challenge their growing

use poses to the foundational assumptions of 'formalist' market-centric economic theory. In particular, it assesses how the understanding of value and its relationship to price is being reconfigured by these methods. The aspect of formalist reasoning at stake in this instance is the *homo economicus* vision of human nature underpinning post-neoclassical economic psychology. As shown in chapter 3, Polanyi's critique of formalism was based in part upon its foundational separation of the political and the economic components of human beings. Behaviour within markets was seen to be 'economic', oriented to maximising individual utility by choosing between bundles of goods in response to price signals (Polanyi 1968, 60-77). By contrast, 'politics' was posited as a deliberative exercise conducted in dedicated state institutions and exogenous to price formation – where collective values and ideals were negotiated (Polanyi 2001 [1944], 231-234). Such a conceptual separation meant the economy appeared as an autonomous realm of objective prices, seen as the momentary outcome of the individual pursuit of utility. Market prices therefore stood above individuals, preventing them from gaining internal 'overview' of the economic relationships and processes they were part of, impoverishing the development of ethical and political agency (Polanyi 2016 [1922]).

Assessing this question therefore helps build an answer to the central research question. It is especially relevant given that proponents of wellbeing valuation explicitly emphasise its democratising credentials, presenting it as a radical challenge to revealed preference assumptions which can better inform individuals and governments about the full implications of decisions (OECD 2013c; O'Donnell et al. 2014). Non-monetary valuation, it is argued, thus holds the potential to overcome the reductionist equation of value with markets that characterises orthodox consumer theory. In this chapter I argue that, while often presented as a radical and democratic challenge to economistic thinking, wellbeing valuation retains the *homo economicus* view of human nature popularised by neoclassical theory, even while decoupling price and utility from market exchange. However, the practicalities of implementing these techniques have exposed the shaky image of human nature and psychology which underpin them, stemming as it does from the utilitarian apparatus upon which market-based consumer theory is based.

The first section of the chapter provides a conceptual history of the status of non-market goods in cost-benefit analysis and welfare economics, and the increasing use of valuation methods to price these goods since the 1990s. It shows how the large-scale collection of

official wellbeing data has proliferated as part of the wider Beyond GPD agenda after 2009, highlighting the role of positive psychology theory in formulating and delineating this critique. Section 2 presents a critique of the ability of wellbeing data to provide conceptually meaningful valuations on which political decisions might be grounded, highlighting how they tend to reify the result of historical socialisation processes and present these as universally valid values. It shows how these limitations are increasingly recognised in official policy literature, with their use encountering increasing resistance. The closing section demonstrates how this is leading to the exploration of alternative forms of valuation. Multi-criteria analysis methods, for instance, treat price formation as itself a site of political and ethical deliberation, allowing for the active, critical formation of preferences in a given time and place. Empirical sources are drawn upon to illuminate how these philosophical differences in approach have been reflected in the uptake and use of these methods within UK government departments. It identifies an emergent epistemic politics around whether – and how – non-market goods are turned into monetary prices; different views of human nature are inextricably bound up with these apparently technical or methodological debates.

## 7.1 Formalist Reason and Non-Market Valuation: Positive Psychology and the Partial Critique of Revealed Preference

This section provides a brief history of the problem of pricing non-market goods in cost-benefit analysis, the parallel emergence of positive psychology, and more recent moves to solve the former through valuation techniques based upon the latter, as part of wider beyond GDP accounting reforms. The first section gives a history of the emergence of economic, stated preference and choice modelling techniques to impute non-market values over the course of the 1990s and 2000s. The rise of positive psychology is then reviewed, before a discussion of how survey data based on wellbeing has increasingly been folded into a critique of the revealed preference theory that underpins conventional CBA, as a novel solution to the problem of pricing non-market phenomena.

Cost-benefit analysis originated in the 1840s, in Jules Dupuit's work on the placement of railways (Ekelund 1968; Pearce 1998). It was associated with the development of proto-marginalist analysis and the concept of consumer surplus, as formalised in the work of Alfred Marshall. (Currie et al. 1971; Persky 2001). Over the course of the 20th century CBA was integrated into public planning and decision making– initially by the US Army Corps of Engineers in the interwar years, but spreading in the post-war years to other industrialised states and international organisations (Porter 1996, 148-190). Reflecting its engineering origins, the technique was associated early in its post-war history with the assessment of large infrastructure such as flood control and hydrology projects. As such, from the beginning it persistently ran up against problems associated with the valuation of complex bundles of environmental and market goods and services, issues associated with risk in projects constructed over long time periods, and the problem of distribution, inequality and interpersonal comparison. These were dealt with within the framework of welfare economics and social choice theory using the work of Kaldor and Hicks (Persky 2001, 200-202). Eckstein's work was crucial in this respect, laying the applied welfare economics framework in which later use of CBA in public policy would evolve (Eckstein 1958; Florio 2014).[70]

The use of CBA within the state became both much more expansive and also much more contested throughout the 1980s, as the restructuring of the state along market-based lines and the rise of New Public Management philosophies in government departments (see e.g. Shamir 2008, 6). The Reagan and Thatcher governments saw in CBA a means of constraining an inherently expansionist state, trimming government activity by subjecting it to rigorous economic assessment. CBA allowed these ideological moves to be justified on objective, technical grounds (Porter 1992; Shapiro 2011), and its use was increasingly written into secondary legislation governing public spending decisions. Crucial to its effectiveness in these terms was the exclusion of the sorts of non-market, public goods the provision of which neoliberal statecraft in general viewed

[70] The consequence of Kaldor and Hick's work was to loosen Pareto optimality criteria so as to decouple distributional issues from CBA, as long as at least *hypothetically* the gains to the richest could be used to compensate those left worse off (see Persky 2001) – and thus to expel normative concerns from CBA and reconstitute it as a technical policy tool.

with suspicion, and its professed agnosticism regarding distributional issues. This also furnished the political context in which emergent critiques of CBA were framed: the tool was viewed on the left as having an inherently 'anti-regulation' bias (Shapiro 2011). From the outset this critique was related to exclusion from CBA methods of public goods or externalities not captured in market prices. Ironically, the very expansion of CBA also made these critiques harder to ignore.

Conceptual innovations – such as the concept of option (Weisbrod 1964) and existence or 'non-use' values (Kerry Smith 1987) – to deal with these issues had been around in theoretical discussions of CBA for several decades. But a series of environmental catastrophes in the late 1980s and early 1990s, as well as the broader post-Brundtland sustainable development discourse, prompted methodological responses by leading economists, with the view to actually monetising the value or these goods for use in CBA assessments. This was also influenced by the broader emergence of environmental economics and the ecological critique of orthodox development economics for its exclusion of the natural externalities of market activity (Interview PA). The Exxon Valdez disaster in 1989 was especially important in this respect, providing a striking demonstration of the ecological costs of market activity that suggested the methodological foundations of CBA were in urgent need of updating (Hanley and Spash 1993; OECD 2015a). The disaster led to the Oil Pollution Act of 1990, which required the quantitative assessment of the damages of oil disasters.[71] This prompted the formation of a high level economic panel convened by the National Oceanic and Atmospheric Administration (NOAA), headed by Kenneth Arrow and other leading economists, to review and recommend solutions to the economic valuation of environmental costs (Arrow et al. 1993).

The NOAA commission refined and developed methodologies already developed in academic literature to deal with the destructive costs of disasters such as Exxon Valdez that could not be captured in market prices.[72] The ability to claim for such damages had

[71] Legal developments earlier in the 1980s had paved the way for litigation to claim back damages for these sorts of goods – however these were rarely applied until later due precisely to difficulties in measurement – namely the 'Ohio vs Department of Interior' case of 1986.

[72] The concept of existence values (also called 'non-use values'), as well as the contingent valuation methodology, had been around in academic literature prior to the 1980s. However, they had not been widely applied by public bodies before the 1993 NOAA report, following Exon Valdez.

been incorporated into legislation in the 1986, however before Exxon Valdez they had not been widely used in legal contexts precisely because of the difficulties of estimation (Arrow et al. 1993, 2). How were the sorts of diffuse, multi-faceted destructive consequences associated with vast oil spills – which include those not dependent on individual use of a resource – translated by economists into a methodological paradigm of Marshallian heritage, centred on the concept of consumer surpluses and individual utility functions? The panel suggested that hypothetical markets for such goods could be *simulated* artificially, by requesting them to state their willingness to pay for desirable economic outcomes in monetary units - 'contingent valuation' (CV) – or presenting people with a series of choices between environmental outcomes and a bundle of other traded goods.[73]

These methodological innovations appeared during the 1990s to have partially addressed the omission of non-market goods from CBA, and such techniques were integrated into official guidelines used by government departments to assess the impact of different policy options or projects. In the UK, this shift was reflected in revisions to the Treasury's *Green Book*, which details when and how CBA methods are to be used by central government, to specifically include a section on how to conduct contingent valuation studies (O'Brien 2010). However, over the course of the 2000s, the use of CBA techniques spread to an even wider array of policy areas, leading to contingent valuation methods to be applied outside of the context of environmental damages, for which they were primarily developed. In the UK, the use of these techniques in public policy was gradually 'socialised', as they began to be used firstly by transport ministries, and subsequently in the assessment the public funding of sports, the arts and cultural policy (ibid; Interview SM). This in turn led to additional criticisms of such methods.

On methodological grounds, the criticism remained that the techniques did not sufficiently simulate the behavioural conditions of markets. As they did not represent choices over the disposal of private economic resources under market conditions, but merely the expressed opinions elicited over the disposal of hypothetical money, the valuations were not considered trustworthy or robust. It was also discovered that people may deliver 'protest' valuations in such studies, valuing goods based upon political or ideological beliefs rather than the *real* utility they delivered. The costs of such studies

[73] These techniques are discussed more fully in section 3.

was also subject to criticism (O'Brien 2010; HMT 2011b). Somewhat ironically, given the role of fiscally conservative economists in formulating these methods and advocating their public use in policy assessment, dedicated contingent valuation studies – which involve running costly participatory experiments – proved prohibitive when extended to large or complicated policy issues (Interview SM). Thus, economists themselves increasingly began to call into question both the problematic intrusion of conscious deliberation into price formation and the costs of conducting expensive valuation studies to ascertain monetary values for non-market goods through contingent valuation. But the reality and significance of such goods was by now firmly established. By the late 2000s, non-market impacts had become a political problem in search of novel methodological solutions.

*Positive Psychology in the Beyond GDP Movement*

In parallel to economic discussions of non-market goods and the rise of contingent valuation and choice modelling methods in CBA in the 1990s, an apparently unrelated development was taking place in the psychology discipline: the emergence of the 'positive psychology' school, constructed on neo-Benthamite philosophical underpinnings and focused on directly measuring population-wide subjective mental states using quantitative and self-consciously 'scientific' methods (Seligman and Csikszentmihalyi 2000; Layard 2011). This reformulation of the terms in which personal happiness and wellbeing were understood in the psychological literature is vitally important to contemporary policy discussions on non-market impacts and utility. It is this that both allowed positive psychologists to present themselves as possessing scientific credentials and methodological tools which could help solve the problems associated with valuing non-market goods in CBA (Dolan and White 2007; Dolan and Metcalf 2008) and also, as we will see in greater detail later in the chapter, to conditioning the nature of this challenge and the reception of these methods both within the economics discipline and by policymakers.

The creation myth of positive psychology dates its emergence to a speech delivered by Seligman to the American Psychological Association in 1998 (see e.g. Gable and Haidt 2005; Alex Linley et al. 2006, 4). Seligman declared that psychology had for too long been focused on 'pathology': reflecting its medical roots in psychotherapy, the emphasis

of the discipline had been correcting curing mental illness rather than exploring the sources and drivers of flourishing and happiness (Seligman and Csikszentmihalyi 2000). It was finally time for psychology to pay attention to these more positive phenomena. This was a selective reading of disciplinary history which has had interesting political consequences. For there had in fact been a sustained attempt to understand the sources of positive human development long before the 1990s (Taylor 2001).

After the second world war, humanist psychology had flourished as a 'third force' (Bugental 1964) between Freudian psychoanalysis and the behaviourism of Burrhus Skinner (Skinner 1971) and Ivan Pavlov. The writings of Maslow, Rodgers and Fromm (from the 1940s to the 1960s) had focused on the conditions for self-actualisation and the development of the 'whole individual' (Bugental 1964). But the methods drawn upon within this tradition were hermeneutic and interpretivist (Waterman 2013): influenced by continental philosophical traditions such as phenomenology and existentialism (May 1996), they viewed human nature not as a bundle of directly comparable subjective states, which could be isolated, ranked and measured, but rather as a holistic lifeworld (Rogers 1965).

Crucially, this tradition firmly rejected methodological individualism and positivist epistemology, suggesting that people can reach their potential and find meaningful goals only within social relations (Rogers 1962). Its view of human nature was thus deeply relational, and correspondingly more historicist and political. Since people could only fulfil themselves within the historical social institutions they participated in and which gave their life meaning, these institutions must be changed if a sane and free life is to be made possible for the majority of people (Fromm 2002 [1956]). This was especially emphasised by Fromm's work in his connection with the Frankfurt School and figures such as Marcuse and Adorno (Fromm 2001 [1942]).

In the 1990s, however, positive psychology re-read humanist psychology as a precursor to new age anti-rationalism (Seligman and Csikszentmihalyi 2000) and set out to reconstruct the psychological study of flourishing on avowedly scientific grounds (Bohart and Greening 2001; Vázquez 2013). This gave rise to a more naturalistic and ahistorical approach to human nature and emotions. Abandoning humanist psychology's opposition to behaviourism, these were now seen to originate in

objectively measurable brain signals in response to certain stimuli or drivers in the external world, which could be measured and compared between individuals.[74] Significantly, attempts were made to prove how these objective neural correlates corresponded to self-reports of happiness and wellbeing. If established, it was argued this could underwrite a quantitative, survey-based approach to *measuring* experienced utility at the population level. What had happened in this shift is that subject experience had been reconstituted as: a) cardinal; b) comparable between people; and c) measurable, since they had objective neural correlates which would be reflected in behavioural responses to surveys and self-assessments. This allowed it to be detached of the relational and political baggage of the earlier humanist tradition, and marketed as an individual property (Becker and Marecek 2008) which could be maximised by utilising a body of applied psychological knowledge about the lifestyle correlates and environmental drivers of personal wellbeing (Binkley 2011).

Seligman's dismissal of this earlier tradition as 'unscientific' merits attention, as it was crucial to the latter success of positive psychology and its embrace by business management, the self-help industry and economists during the 2000s (Davies 2015; Cederström and Spicer 2015). It is also these changes which turned happiness into an object of interest to official statistical agencies and governments, as well as the contested embrace of subjective wellbeing by the movement to reform GDP-based measures of socio-economic performance over the course of the 2000s (Interview AS). Population-wide data on subjective states seemed, in the wake of the positive psychology revolution, to be both possible and to contain important policy-relevant insights.

*Wellbeing and the Qualified Critique of Revealed Preference*

As we saw in chapter 2, the beyond GDP agenda has drawn heavily on the work of positive psychologists, and has precipitated the large-scale official collection of well-being data. This data is increasingly used to inform a growing critique of the revealed preference underpinnings of orthodox CBA in public policy. These two trends are increasingly united: the generation of wellbeing data is posited as a potential solution to

[74] This is not to imply that positive psychology doesn't care about inter-personal relations. But these matter instrumentally to the individual, not as a more general structuring of the lifeworld in which individual action is oriented and becomes meaningful in the first place.

the issue of non-market valuation. One consequence of this is that the psychological underpinnings of positive psychology, and the political consequences of its reading of the humanist tradition, frame the terms in which this critique has been staked out in policymaking literature, as well as the substantive valuations which such methods generate.

Critiques of revealed preference by the contemporary positive psychology movement can be situated within the wider behavioural revolution in economics (see also Sen 1977; Mullainathan and Thaler 2000; Kahneman 2003). This movement has in general sought to the challenge the model of the economic agent which underpins neoclassical analysis, by drawing upon psychological and neuroscientific evidence to demonstrate the numerous ways in which cognitive processes in practice diverge from the ideal of the rationalising, optimising *homo economicus* found in economic textbooks.

Kahneman and others have demonstrated how human decision making is characterised by numerous biases, including loss aversion, framing effects, focussing effects and other heuristics. These mean that the rationality of economic decisions is heavily bounded and environmentally constrained. Behavioural economists offer a number of institutional fixes to these irrational cognitive processes, such as 'nudging' (Thaler and Sunstein 2008): the ecological moulding of the 'choice architecture' (Thaler et al. 2012) in which decisions are taken, so as to yield more rational outcomes. This approach has become influential in policymaking, as teams of behavioural economists seeking to apply these insights to the problems of public policy designed have gained a prominent place at the heart of the executive in the UK, US and elsewhere.

Behavioural economics seeks to challenge the rationality postulates found in conventional textbook microeconomics, while preserving the basic methodological individualism and ideal of rationality within which economic analysis is conducted. The influence of positive psychology in framing the critique of GDP runs along similar lines (Frey and Stutzer 2002; Dolan and White 2007). The behavioural revolution has opened the door for economists such as Layard and Dolan to use positive psychology to mount a critique of the revealed preference assumptions underpinning the dominance of GDP as a welfare metric (Dolan and Metcalf 2008; Dolan and Metcalfe 2012; O'Donnell et al. 2014). Using subjective wellbeing data, positive psychologists have pointed out the various ways in which directly measured utility diverges from market outcomes or

incomes. These are posited as hedonic behavioural failures: individuals cannot be trusted to know what *really* makes them happy, and often pursue hedonically sub-optimal behaviour. Consequently, better data on actual hedonic outcomes can help individuals to make better decisions, and governments design policies which would help them to obtain better well-being outcomes (Frey and Gallus 2013b).[75]

This has recently become an influential way of thinking about economic policy, particularly in the UK (Cabinet Office 2013). An all-party parliamentary group was founded to promote the use of wellbeing data in economic policymaking, publishing policy reports and organising regular events and workshops.[76] The approach has gained the support of several influential think tanks – which notably also cut across party and ideological lines. The free market Legatum Institute, for instance, prepared a high profile report edited by Layard in 2014 (O'Donnell et al. 2014), while the left-leaning NEF has also been an influential norm entrepreneur in this field, publishing economic analysis with a wellbeing lens. It has also received buy-in from senior civil servants, most notably the former cabinet secretary Gus O'Donnell (ibid).

More recently, this support led to the creation of a dedicated unit under the auspices of the Cabinet Office in 2015, with the mission to gather policy-relevant evidence on how wellbeing data can better be used to inform policy in several different areas, such as labour market policy (Interview DS).[77] The rationale for this agency is to catalyse the uptake of wellbeing data into the work of policy departments by collecting evidence and data in one place, demonstrating its practical applicability to specific policy areas, actively disseminating it and promoting its use across government and legitimising the underlying scientific base (ibid).

One interesting feature of these valuation methods is the explicit historical critique of economic psychology which its advocates claim for them. The methodological

[75] An EU report suggests that: 'individuals' choices…will not necessarily maximise the utility of life as it is lived', and that 'The rationale for intervention lies in in either mis-prediction (individuals more work will be more pleasurable than it is, or that social activities won't be as much fun as they are), or in some kind of externality' (European Commission 2011, 10; 34).

[76] https://wellbeingeconomics.wordpress.com/.

[77] The 'What Works Wellbeing Centre' (slogan: 'credible evidence for better decisions to improve lives'), https://www.whatworkswellbeing.org/.

documents and policy reports which discuss these methods clearly express the view that assessing wellbeing directly is a fundamental challenge to the psychological underpinning of economic theory (e.g. OECD 2013c; O'Donnell et al. 2014). This is worth discussing, as it suggests that wellbeing valuation represents a radical challenge to formalist economic views of human psychology. It is partly the strength of this claim which the remainder of the chapter assesses, thus helping to address the wider thesis concerns as to potential of the beyond GDP agenda to challenge the 'market mentality'.

Usually, in these accounts, a stylised history of the notion of utility in consumer choice theory is given. In early neoclassical work utility was originally understood as a cardinal property, which could and should be measured in order to provide scientific underpinnings for the marginalist analysis based on it (Moscati 2013). This is evidenced in the work of Jevons on the hedonic calculus, and in Edgeworth's quest for a 'hedonometer' (Backhouse 2002).[78] With the later development of more formal and mathematical approaches to utility, happiness or utility was reconstituted as an ordinal property (Lewin 1996). In this model, all that was needed was the ability of people to rank and order different bundles of consumer goods and to demonstrate transitive preferences between them. This development was later formalised in the work of Samuelson (Samuelson 1938), who argued that it was not even required that these ordinal preferences be directly known. They would be revealed by the behavioural outcomes of market exchanges, and so market prices could be taken as a more or less perfect proxy of utility – now understood not as happiness in any psychological sense but simply as preference satisfaction (Samuelson 1948; Sen 1973). This in turn paved the way for the embrace of GDP as an accurate measure of the utility provided by an economy, and therefore its use as the central welfare metric in the post-war years.

Happiness economists thus commonly present wellbeing valuation returning an *original* neoclassical project of measuring utility, but this time armed with scientific methods which can capture interpersonal psychological states (Layard 2011). Thus, it is argued such data can scientifically re-connect economic theory with its lost psychological foundations. In the process, it can also demonstrate how the behaviour orthodox

[78] However, the standards of legitimate empirical investigation were rather different in the late 19th century, with internal introspection viewed as an adequate way of gathering knowledge as to internal psychological states; thus, interpersonal measurement was not viewed as a major problem (Hands 2009).

economic theory might assume to yield the greatest 'utility' – narrowly understood as behaviour which maximises command over monetary resources – can be counter-productive in hedonic terms. Examples often given are the quest for status goods over experiences or leisure, which Layard and others argue have faster adaptation effects and yield less permanent hedonic benefits to the individual (Di Tella and MacCulloch 2006). What is interesting is where this narrative *begins* the psychological origins of economics: with the hedonic calculus of early marginalism. Left out of such accounts is the even older moral philosophy on which classical political economy was based. Writing before the utilitarians, Smith and others had grounded their account of human nature not upon cardinal utility but on a reflexive, socially embedded moral subject (Smith 2010 [1759]; Watson 2012). Therefore, the contemporary critique of revealed preference staked out by positive psychologists does not return to some foundational psychological starting point or year zero, but rather to a later reformulation – which was in any case often adopted gradually and in qualified terms.

These distinctions may seem of purely academic interest, but they have important practical and political consequences for the sorts of valuations such methods will produce, and the specific recommendations which stem from the growing use of wellbeing measurement as a policy assessment tool. Most significantly, such assumptions result in a reification of the institutional and historical effects of market institutions. They normalise the contingent forms of status appraisal and hedonic outcomes associated with markets, through their transformation into apparently objective values. This fact can perhaps be best appreciated by studying the discourse surrounding the relationship between employment and wellbeing, and the policy recommendations that stem from this in wellbeing literature in beyond GDP documentation. The same finding is reiterated repeatedly in wellbeing economics literature and policy reports based upon it. A good summary of this evidence is found in a 2010 European Commission study on wellbeing data:

> Happiness research consistently finds a very large effect of unemployment, whether income is controlled for or not. In other words, most of the effect of unemployment on well-being is non-pecuniary, reflecting for example the loss of social contacts at work and self-esteem produced by working…[S]hort-term investment in policies to reduce unemployment may well yield substantial long-term wellbeing rewards (European Commission 2011, 34).

Or, elsewhere:

> The largest impact on in the field of work is of course unemployment – this has to be a priority…Although analyses were carried out for a range of factors – being married, volunteering, participation in social activities, and frequent face-to-face contact with family, friends and neighbours – none were significantly protective against the wellbeing impact of being unemployed. This finding in itself has important policy implications*: if there is no way to temper the destructive impact of unemployment on well-being, then minimising unemployment must remain a priority in national and European employment policy* (Eurofound 2013, 59; 79 emphasis added).

Here, the socialisation effects of the commodification of labour and its centrality to citizenship, status and social protection – which Polanyi identifies as historical features of market societies – are reified as trans-historical features of human nature in general. The consequence is policy recommendations which would act on these while retaining (and extending) the commodity fiction in relation to labour. When embedded into price through CBA calculations, this methodology thus precludes any wider strategy of de-commodification as a rational or 'cost-effective' route to a more inclusive developmental model, and instead focusses on the extension of universal access to the historically specific type of work – wage labour – which predominates in market societies (Gorz 1982, 1989). This has potentially debilitating effects on the ability of the beyond GDP agenda to inject a sense of political agency and imagination into the terms in which the discussion of economic governance and post-industrial citizenship can be framed.

Instead, policy recommendations are likely to reflect the hedonic outcomes of the status regimes and socialization effects of market institutions. Elsewhere, for instance, similar conclusions are reached regarding the recipients of welfare benefits, with analogous political implications:

> While market-generated income (labour and property) is positively correlated with happiness, there is no such effect for the transfer component. The latter insignificant effect of transfer income is consistent with the positive consumption effect being cancelled out by a negative social stigma effect (European Commission 2011, 42).

As is apparent from this, such data offers no basis or process through which to challenge the basis of this conclusion, again threatening to reify these institutional effects and embed them into policy thinking and the valuation of different political economic

strategies. This stems directly from the absence of a critical space in which preferences for such institutions can be reflected upon or challenged – in other words the perpetuation of a separation of economic and political aspects of human nature.

Consequently, we see that in the methodological commitments of wellbeing measurement the behaviourist conception of human nature is retained, even while the ordinal and choice-based assumptions about utility are jettisoned. This makes wellbeing measurement unable to provide the fully socialised, rich conception of human nature which could underpin the politicisation of price-formation and the ethical overview of prices that Polanyi envisaged as essential to the emergence of a correspondingly 'substantive' view of the place of the economy in society.

To summarise: wellbeing valuation – grafted onto a modern critique of revealed preference buttressed by the behavioural revolution – is increasingly advocated as a means of addressing critiques of the focus on market growth in public policy within the wider umbrella of the beyond GDP agenda. It has found specific practical application as a solution to the problem of including non-market goods into CBA which appeared in the 1990s and 2000s. But such methods, while framed as a radical democratic critique of revealed preference, seek to delimit this critique by framing it within the basic language of neoclassical utility theory and the 'formalist', hedonic vision of human nature underpinning it.

## 7.2 Non-Market Goods and the Limits to Formalism: Legitimacy Problems with Preference-Elicitation and Wellbeing Valuation

This section analyses how the partial and differential challenge both preference-based and the newer wellbeing approaches (grounded in positive psychology) to escape *homo economicus* views of human nature have undermined their widespread adoption or acceptance. It is argued that they both represent partial departures from the maximising, choosing and behaviourist/automatic understanding of human nature which allows price formation to be severed from politics in modern economic theory. Preference-elicitation and choice modelling methods (Bennett and Blamey 2001) retain the link between price and *choice*, by imposing artificial scarcity constrains in the absence of markets; however, in doing so, they are forced to jettison the notion of un-reflexive

behaviour: they offer 'markets without behaviourism'. Wellbeing valuation has offered a corrective to this, based upon the idea that objective measures of happiness can be elicited free of the corrupting bias of political or ethical deliberation, and in the process jettison the necessity of linking price back to choice or scarcity (Ferreira and Moro 2010): they offer a form of 'behaviourism without markets'.

Thus, both these valuation methods problematise certain aspects of neoclassical *homo economicus* views of the link between human nature, utility and price formation. However, neither can affect the more fundamental shift to a socialised, historical-political understanding of human preferences and values envisaged by Polanyi (see chapter 3). Moreover, these partial commitments to the *homo economicus* paradigm – given that they continue to justify these through the equivalence of individual utility, value and price – means that their claims to scientific robustness are increasingly questioned. Their status within the wider justificatory discourse of scientific-naturalistic approaches to utility and value which they uphold therefore remains precarious.

*Preference-Based Approaches*

There are two main methodologies for assigning value for non-market phenomena developed within economic literature, which centre around the idea of preference-satisfaction: revealed preference and contingent valuation (HMT 2011b, 2016).

Revealed preference techniques use proxy prices found in actual markets – and the robust behavioural information they are held to contain – and attempt to isolate the effects of various non-market phenomena on these prices. A first example is the 'travel cost' method, whereby willingness to pay for a non-exchange good is inferred by data on the transport costs incurred to travel to a particular site or attraction – for instance, how many people travel to a national park per year for the purpose of recreation, from how far, and at what cost (HMT 2011b, 10). A second example is 'hedonic pricing', where effects of environmental or social phenomena on house prices are assessed through statistical regression techniques. For instance, the effect of living next to a large park or a clean river can be inferred by comparing the prices of similar houses which are near or far away from these features (ibid). These methods explicitly retain the revealed preference assumptions on which the use of GDP in CBA is based – in fact, in many

ways they extend claims about the informational content that market prices can contain over other means of eliciting values, holding these as superior even in the *absence* of markets for a certain good. However, these techniques are infrequently used as they are deemed applicable only to very specific phenomena.

CV represents a more serious challenge to the behavioural assumptions underpinning orthodox consumer choice theory. This is because CV methods seek to simulate hypothetical and artificial markets in the absence of actual market behaviour from which utility might be inferred, generally using questionnaires to directly elicit preferences for bundles of goods which are not exchanged (Alpizar et al. 2003). This is not a monolithic set of techniques, however: there are many different ways of conducting contingent valuation, intended to elicit different sorts of results (O'Brien 2010). For instance, one may phrase questions in terms of 'willingness-to-pay' for the production or maintenance of a positive good, or 'willingness-to-accept' the loss or destruction of the good. Questions may be asked in a more open-ended way, by simply asking respondents to assign a price to these goods. But much more commonly, scarcity is enforced through methodological designs which necessitate choosing between different bundles of goods, or impose budgetary constraints through 'bidding game, payment card, [and] dichotomous choice elicitation formats' (HMT 2011b, 11).

One interesting feature of these methods is the paradoxical way in which they interact with the assumptions underpinning revealed preference theory as outlined by Samuelson (1948). In some respects, these techniques represent an effort to salvage basic assumptions of this theory in a context in which they appear to be invalid. In particular, all these techniques are grounded in the formalist notion that *choices* made between alternative use of resources under conditions of *scarcity* represent the best means of getting at the utility a good represents for an individual (Polanyi 1977, 19-25). On the other hand, in trying to extend this notion of choice of use between fungible and scarce resources to goods for which monetary exchange is absent, such methods are forced to introduce these artificially; and since the techniques for doing this cannot simulate the disposal of actual private property, they introduce a problematic element of reflexivity into the valuation process.

This contradictory interaction with consumer theory is the basis of both the success and continued criticism of contingent valuation. It underpinned the embrace of such

methods by governments – starting with the NOAA Panel headed by Arrow, and subsequently the addition of contingent valuation into official CBA guidance by governments from the late 1990s (O'Brien 2010). For these could claim to be based on sound economic principles and rational choice methodology. They therefore appeared to represent a robust economic method for pricing the problematic constellation of goods which had appeared as an increasingly visible problem.

However, the fact that these methods allow scope for individual reflection and consideration, and that they therefore did not represent 'real' behavioural responses to price stimuli, remains the major threat to their legitimacy on the same grounds. For instance, the Panel worried that:

> Respondents in CV surveys may actually be expressing feelings about public spiritedness or the "warm glow" of giving, rather than actual willingness to pay for the program in question (Arrow et al. 1993, 10).

The way in which this problem is approached methodologically are interesting – most of these revolve around the necessity of 'external validation' of such results by comparing to some form of behaviour that reflects assumptions about scarcity and choice. They thus accepted the force of the criticism that in willingness-to-pay studies 'respondents give answers that are inconsistent with the tenets of rational choice' (ibid, 5), but argued:

> One way to evade this difficulty, at least partially, is to construct experiments in which an artificial opportunity is created to pay for environmental goods. The goods in question can perfectly well involve passive use (ibid, 7).

Thus, confronted with having to contribute actual money towards the goods evaluated hypothetically, the results of CV studies could be adjusted for the problematic tendency for people to 'overstate "real" willingness to pay' (ibid, 8). These could alternatively be validated by using the results of similar exercises for goods which are traded in markets – the panel cited studies done on willingness-to-pay for strawberries.

These techniques therefore represent an attempt to solve the problem of non-market goods within the paradigm of consumer choice theory, by artificially extending it. However, this has been only partially successful. The basic tenets of revealed preference theory seem unable to survive in the absence of market institutions – for this was the

basis on which the theory was developed in the first place. Such methods uphold choice theoretical conception of utility as something unmeasurable, and that can only be grasped through choices made between scarce alternatives. They thus reproduce and naturalise an understanding of economics as the study of choice and scarcity (Robbins 2008 [1934]), and the market as the ultimate arbiter of 'real' value through its role as the mechanism which encodes information about these preferences into prices. They remain predicated on a choosing subject, individual utility functions (even where dealing with non-use goods which are often by their nature public), the scarcity postulate, and methodological individualism. However, in breaking the link to behaviourism and injecting conscious, deliberative behaviour, they seem simultaneously inconsistent with the psychological commitments on which revealed preference is based. This is precisely the source of their failure to gain widespread acceptance from economists who embrace these commitments as items of disciplinary faith.

*Subjective Wellbeing Valuation*

Valuation of non-market goods based upon subjective wellbeing data has emerged more recently. As previously discussed, advocates have portrayed it as a more radical challenge to the ordinal and behavioural conception of utility which underpins revealed preference understandings of consumer choice and surplus. This claim is grounded on the notion that subjective wellbeing measurements can directly quantify experienced mental states, and thus avoid the assumptions which underpin ordinal, preference-based notions of utility (O'Donnell et al. 2014, 21-25). Subjective wellbeing valuation is presented as a *mentalist* and *cardinal* approach to utility, replacing the obsolete behaviourist and ordinal conception. Consequently, such methods escape the need to recreate the choice-based conditions of market exchange when valuing goods in the absence of market prices: simply, the only requirement is to directly assess the change in the mental states of individuals exposed to such goods, and to compare this with those produced by additional income (DCMS 2014).

It is important to firstly note that the embrace of mentalism is not such a challenge to the foundations of consumer choice theory as perhaps indicated. As Hands has demonstrated, proponents of the ordinal revolution – such as Robbins – did not abandon the notion that utility must have hedonic psychological underpinnings (Hands

2009). Hence the break is not as sharp as often imagined – economics did not abandon psychology, but rather adopted a more critical attitude to the idea of mental states could be empirically studied through the sorts of introspection considered valid by neoclassical economists in the late nineteenth century.

More fundamentally, if we analyse the official methodological literature on the measurement of subjective wellbeing, it becomes obvious that these claims to mentalism (in opposition to the behaviourism of revealed preference) at the ontological level have not translated into any wider embrace of a fully historicised or reflexive view of the economic subject, which Polanyi saw as essential to overcoming formalist ideas about human nature (see chapter 3). While this literature does accept empirically observed mental states, rather than preferences or market choices, as the source of value, there is no rich conception of preference *formation* or of the institutional and historical conditions which generate such hedonic outcomes (see Watson 2005). Their claims to scientific validity and informational content, in the absence of the scarcity conditions of market exchange, rest upon the elicitation of un-reflexive, automatic responses which will reflect objective hedonic states and can therefore form the basis of valuations. There are several senses in which this becomes clear.

Firstly, mental states are frequently presented as an underlying pre-social property within the beyond GDP literature on wellbeing measurement. This precludes an understanding of preferences as formed and changed within historically specific economic institutions. An EU report on the application of wellbeing policy tellingly fretted that:

> Subjective wellbeing answers may be driven by cultural norms and "moral visions" may constrain individuals' feasible answers. Thus measures may only reflect subjective wellbeing within a certain range (European Commission 2011, 14).

Mental states are here posited as objective properties and the purpose of measurement techniques is understood as editing *out* the specific social and cultural conditions which inform these, often in quite explicit terms. A Eurofound report worried: 'do these results represent genuine differences in the patterns of various aspects of wellbeing, or are they cultural biases?' (Eurofound 2013, 26). Culture is here seen as an extraneous polluting influence, distorting the measurement of *real* (i.e. instinctual) emotions.

The purpose of valuation methods is consequently understood to be eliciting such emotions from the individual as accurately and objectively as possible: 'with sound questionnaire design, bias due to priming and context effects can be significantly reduced' (O'Donnell et al. 2014, 36). Methodological techniques deployed to edit out these polluting 'moral visions', which could detract from a true appreciation of pre-social mental experiences and thus distort valuations based upon them, include: question sequencing or randomisation, repeating surveys constantly, carefully standardising the impression given in the words used in questions across languages, and capturing concepts by using multiple survey items and aggregating the scores rather than asking a single question. These methods are reflective of what Gadamer identified as the 'prejudice against prejudice' (Gadamer 2013 [1975], 283) in post-Enlightenment thinking more generally.

Secondly, this underpins a marked suspicion of conscious reflection or deliberation, and a frequent lapse back into behaviouristic conceptions of human nature – at the methodological level if not as an ontological commitment. Mental states and hedonic outcomes are seen to occur mechanically as response to different external 'drivers' combined with an identifiable genetic component (sometimes even assigned an exact percentage) – and are also themselves drivers of predictable and observable patterns of behaviour (Van Hoorn 2018). The European Commission observes that:

> Perhaps the evidence that is most persuasive to economists [sic] is that respondents seem to act on what they say, i.e. they behave as if they were maximising their subjective wellbeing. Many panel data studies have found that SWB at time *T* predicts future behaviour, in that people discontinue activities associated with low levels of wellbeing…[L]abour market studies have shown that job satisfaction is a strong predictor of job quits (European Commission 2011, 16).

Great pains have consequently been taken to validate subjective wellbeing data either in relation to 'objective' physical outcomes such as neurological processes, blood pressure readings or facial expressions and other supposedly universal and transcultural external features.[79] For instance the EU report, in a discussion of the validity of wellbeing data, reassures the sceptical reader that:

[79] For a critique see Marsh et al. (2003).

> People's wellbeing scores can be examined in relation to various physiological and neurological phenomena. It is known that there is a strong positive correlation between emotional expressions like smiling and frowning, and answers to wellbeing questions. A recent literature has looked at the relationships between positive and mental states, on the one hand, and physical measures of brain activity, in particular pre-frontal brain asymmetry…more recently [this] has been explored using techniques to measure localised brain activity, such as electrodes on the scalp in Electro-encephalography or scanner in Magnetic Resonance Imaging (European Commission 2011, 15).

This is also confirmed by interviewees as crucial to establishing their legitimacy in policymaking. A senior statistician working in the OECD's statistical directorate explained that, to better disseminate the wellbeing paradigm, they were actively seeking to draw upon forms of research which could penetrate past moral and ethical norms to people's supposedly more real, instinctive feelings – to:

> Essentially try to elicit prejudices. It's not socially acceptable to say on a survey "I think the government is corrupt", or "I distrust people of this race" … Where there's a strong social norm pushing you to respond to a survey in a certain way, are there other techniques that enable you to get under the surface of that? … So, it's not requiring somebody to give a scale of one to ten, it's actually about things that you're not under conscious control of…I think partly it comes down to this sense that to understand what's going on you have to look at behaviours rather than just attitudes. So it comes back to the old kind of classical economics, in the sense that rather than trying to capture utility we're going to see how people spend money, because of course that's going to – so I think it is partly tapping into still that traditional mind-set, of "you can't trust what people say, we want to see how they behave", and I think big data is also part of this. You know, "tracking people's mobile phone habits is more reliable than just asking them what's important." (Interview CE).

As we can see, both in the methodological literature and in the legitimation strategies of those working to promote the beyond GDP more widely in governance thinking, the implicitly behaviourist (though ostensibly 'mentalist') notion of utility which such methods make use of telescopes critical space in which social and moral questioning of institutions, values and preferences can take place. This works to ground the scientific credentials of wellbeing valuation approaches for economists committed to the utility paradigm as a way of thinking about value and its relationship to price.

It must be stressed, however, that the very fact that wellbeing valuation attempts to ground its claims to robustness and validity through appeals to behaviourist and

hedonistic conception of human psychology is also the source of their continued marginality and lack of widespread adoption. Interestingly, in interviews statisticians themselves seemed somewhat bashful when pressed about the need to justify wellbeing data in scientistic and behaviourist terms as a route to uncovering an objective standard of utility. Despite the talk of neural and physiological correlates and experimental calibration, those interviewed highlighted were often uneasy with naturalistic and behaviourist bent of such research (Interview KS; Interview PA; Interview CE). Mostly, interviewees discursively diffuse this sense of cognitive dissonance by stressing the need for a plurality of approaches, ecumenical and interdisciplinary thinking, or stating for instance that there are 'room for both approaches' (Interview CE).

Because they seek to return, not to the sort of socialised human nature that prevailed in the work of classical political economists such as Smith (2010 [1759]), but rather to the neoclassical view of utility as cardinal and measurable, they are hostage to all the immanent critiques which led to the emergence of ordinal, choice-theoretic revealed preference theory in the first place. For instance, the EU commissions' review of the use of wellbeing in policy mentioned precisely the arguments of Arrow and other welfare economists as to the impossibility of inter-personal comparisons of utility and its cardinality, to suggest wellbeing can only ever be used in ad hoc contexts as a complement to other analysis. The report suggested that, consequently:

> The hope of the neo-Benthamites that use of subjective measures would provide the long sought after and elusive social welfare function…seems utopian, at least at this point. Identifying a single notion of social well-being is not, unfortunately, going to get significantly easier as a consequence of our ability to collect information on subjective wellbeing (European Commission 2011, 143).

The UK's *Green Book* expresses similar doubts, further illustrating the ambivalent status that wellbeing valuation continues to occupy in discussions of non-market goods:

> Because it is difficult to observe utility directly, it has traditionally been inferred by observing the choices that people make within related or hypothetical markets. More recently, economists have attempted to measure directly the impact of non-market goods on life satisfaction…[but] subjective wellbeing measurement remains an evolving methodology and existing valuations are not sufficiently accepted as robust enough for use in Social CBA (HMT 2016, 57).

Thus, in official guidance documents, the use of wellbeing as a monetisation technique is far from unqualified and remains marginal due to doubts about the direct measurement and cardinality of utility, echoing welfare economists in the mid-20th century.[80]

Both techniques discussed in this section rely upon a notion of value as something discovered through gaining objective knowledge of the utility that goods render. In preference-based models, this is seen to require market-like choices and scarcity conditions, which must be simulated in the absence of markets. In wellbeing approaches, this is seen as measured directly through surveys and compared to the utility provided my monetary income. Neither of these offers a route to the more political, social or historical understanding of price formation which, as discussed in chapter 3, Polanyi saw as crucial to gaining the sort of social 'oversight' which can inform ethical action in complex market societies. Moreover, both techniques are facing legitimacy problems and limitations, stemming from this partial and *incomplete* exit from the formalist *homo economicus* paradigm of human nature and its connection to value and price.

## 7.3 Substantivism and Non-Market Valuation: Multi-Criteria Analysis and the Politics of Social Cost-Benefit Analysis

The limitations of preference-based and wellbeing valuation methods have created space for a more fundamental shift in thinking about value beyond markets. This section explores the rise of alternative valuation methods that have been emerging in recent years, partly in response to the doubts outlined above and the precariousness of their claims to scientific credibility. In particular, it examines the rise of Multi-Criteria Analysis (MCA) methods, using a case study of their development and use within UK government departments in recent years. I firstly review the development of these methods, arguing that, in jettisoning both the choice theoretic assumptions on which orthodox market analysis is predicated and the behavioural view of utility naturalised in

[80] Another limitation which hinders the use of wellbeing valuation for this purpose is that, in breaking with the possibility of deliberation and choice which characterises preference-based approaches, they are by their very nature unable to offer valuations of non-use or existence goods, which were – as we saw in section 1 – fundamental to the original formulation of the problem of non-market goods in cost-benefit analysis in the first place.

wellbeing data, they offer a more 'substantive' view of non-market price formation. The use of MCA techniques offers a more radical escape from *homo economicus* understandings of human psychology and its relationship to price than the methods discussed in the previous sections, as they open space for the critical reflection on preferences as a historical social process. However, these prospects are hindered by the epistemic politics prevailing in UK government. The status of non-market goods in the economic analysis of public policy remains ambiguous and contested.

*Multi-criteria Analysis: A Substantive Alternative to Wellbeing Valuation*

A consequence of the limitations of both central methodological approaches to monetising non-market goods is an increasing acceptance that many incommensurable factors weigh upon any policy decision. There are two responses to this problem – firstly, monetary figures could themselves be arrived at via a deliberative process that takes all these various forms of evidence into account; alternatively, the goal of monetisation could itself be abandoned and decisions made via assigning weights to different objectives and incommensurable forms of (quantitative or qualitative) evidence which might reflect these (DCLG 2009; DEFRA 2011). Such responses overcome the limitations of the approaches discussed above by fully abandoning the notion that value is something rooted in an objective standard of utility, either revealed by choices under scarcity conditions or measured directly using wellbeing surveys.

The radical nature of the shift in thinking about value implied by such methods can be seen in the official documentation surrounding their development. Here I will concentrate on the exploration of such methods in the context of the UK government's work on non-market valuation, and especially its Social Impacts Taskforce (SIT). The SIT was an inter-departmental body created following the 2010 a recommendation on sustainable development by the central research division – the Government Economic Service (GES) – that 'social impact assessment should be more systematic and consistent across government' (DEFRA/GES 2010, 60). It was co-ordinated by a secretariat from DEFRA (SIT 2011). This reflects that fact that, as discussed in section 1, environmental impacts and the valuation of ecosystem services is the area in which these problems have the longest history.

The SIT was set up specifically with the aim of creating a framework for UK central government departments to take diverse forms of non-market goods into account when assessing social and environmental policies. Its mandate was to translate the broader beyond GDP work on measuring national wellbeing, catalysed by the Stiglitz report, into the analysis of specific policies:

> To improve social cost-benefit analysis; to embed social impacts more firmly into government decision-making; and to interpret the policy implications of the aggregate measures of wellbeing being developed by the UK's national statistician (SIT 2011, 1).

This work is attracting increasing interest, due to several developments. As discussed in section 1, the methods used to value environmental effects are increasingly applied to social and cultural policy outcomes, as departments are under increasing pressure to demonstrate value for money in a context of fiscal austerity. Furthermore, even in the sphere of environmental policy the focus is increasingly placed on the cultural, social and recreational value of the natural environment (DEFRA/GES 2010). This is especially the case within the framework of the UK's 20-year biodiversity strategy.

The SIT engaged with HMT's work on the preference-based and wellbeing approaches discussed above, but determined that these were insufficient. They therefore explored an MCA framework for approaching non-market goods in cost-benefit analysis. This refers generally to more deliberative modes of assessing diverse and incommensurable non-monetary impacts and considering them in the analysis of policy options. What becomes clear from reading the SIT's work on MCA is the stark difference in philosophical outlook on the nature of value, compared with the techniques discussed in section 2 (DEFRA 2011). They start from the assumption that values may be fundamentally uncertain, that they are incommensurable, and that they cannot be determined through a technocratic process of modelling the objective, fungible units of utility that each supply. Nevertheless, MCA emphasises how these values remain as important in evaluating a decision as market factors.

Consequently, they embrace an explicitly political, social and deliberative approach to establishing the weight and value that different outcomes should be given. While the language of inaccuracy and bias is occasionally mobilised – 'the manual acknowledges

that the subjective nature of this process including scoring can cause concern' (DEFRA 2011, 28) – SIT guidance nevertheless stresses how:

> Deliberation can help participants improve their understanding of the issues and evidence before assessing the performance of different options…participation and deliberation can therefore help produce a more complete and accurate valuation (ibid, 30).

If we compare this to the language used in wellbeing methodological literature, where conscious thought and deliberation represent the distorting noise which biases accurate measurement of utility, it is clear we are working with an entirely different view of human nature, preferences and value. In these approaches the conscious world of politics becomes part of the valuation process *itself* – and *value* is understood in MCA as something to be created through deliberation and negotiation, rather than discovered through inferring objective utility. Furthermore, preferences in MCA are not considered to be pre-social or already formed *ex nihilo* in the minds of individual, of which value and price are reflections: they are held to be something developed in the process of valuation itself, through a confrontation of existing beliefs with diverse forms of evidence, expertise and the views of others (Wilson 2010).

Referring to the discussion on Polanyi's view of price as a site for the realisation of ethical and social 'overview' in market societies (Polanyi 2016 [1922] see chapter 3), we can therefore say that MCA techniques represent the possibility of a substantive solution to the dilemma of non-market goods. As Polanyi argued, price-formation was not in itself the problem – as money could serve diverse functions in society, including acting as a unit of account. The institutional and political conditions in which prices were arrived at were what was important – and particularly that this was seen as an explicitly normative and political process. MCA appears to offer the possibility that the price formation process itself is made into a sight of conscious negotiation of different forms of evidence and values between individuals – the very criteria Polanyi saw as essential for escaping from the formalist view of utility and value. Rather than stemming from an ideological position, however, these techniques are gaining ground mainly due to the practical failure of methods working within the formalist, ahistorical understanding of human psychology to adequately deal with non-market phenomena (Spangenberg and Settele 2010).

MCA in fact encompasses two central approaches, which themselves contain a diverse array of different variants (DCLG 2009). These are both interested in reaching decisions on issues whose impact is likely to be complicated and encompass many market and non-market effects, but approach this problem in different ways. The first method is to achieve this by weighing different outcomes or goals, with no attempt made to reduce these to a single commensurable unit (price of otherwise). This is achieved via the setting of weights for metrics representing these outcomes, assigning a relative importance, and either trying to predict the impact on these (if performing a *ex ante* appraisal of policy options) or collating evidence of actual effects (if performing an *ex post* evaluation of a policy's actual impact). Deliberation can take place in the selection of the goals themselves, or the type of evidence to be used and weights assigned (DEFRA 2011; Kenter et al. 2016). The second method produces monetary values for these phenomena; however, it does so via an open process of discussion and debate. Within this set of methods, there is a further distinction between processes designed to elicit *individual* values as a result of the deliberative process and then aggregate these to reach an overall figure, and those which perform the valuation as a collective process (ibid).

Assessing the challenge of these various methods to the formalist view of the economy is a complicated issue. The first instinct of many scholars sympathetic to Polanyian ideas might be to celebrate the refusal of non-monetary weighting methods to reduce the complexity of social and economic life to a single monetary figure, highlighting their uniqueness and incommensurability (Aldred 2006; Gómez-Baggethun and Ruiz-Pérez 2011). This tends to be the reflex critical position on the whole question of monetisation – as discussed more thoroughly in chapter 7. However, this position itself risks reproducing the fallacy of assuming money and price to always be a market or exchange phenomena. It is on this basis that we fear monetisation, as it contains the threat of rendering uniquely precious or irreplaceable goods appear as fungible, tradeable and subject to the whims of market exchange.

However, as was shown in chapter 3 the Polanyian position on accounting values is more complicated than this suggests. His interventions into the socialist calculation debate show a thinker that sees price formation as an essential *site* of political deliberation over what is valuable to us, that can provide us with the basis for a socialist accounting that can reveal to us 'what we must pay for our ideals' (Polanyi 2016 [1922], 389). This

suggests that in fact the second of these methods, which seeks to monetise through deliberative methods, is closer to the Polanyian ideal. Assigning a price to things gives them a weight that can enter economic calculation on equal terms as market goods. Furthermore, Polanyi's functionalist notion of how the price formation process might work would tend to suggest that the individual formation of prices – either by individuals in their different roles in the relation to the good or issue in question, or collectively by distinct interest groups – and their confrontation might be closer to the system he had in mind, which he took from Cole's guild socialism (Cole 1920).

This is not to imply that MCA is a single magic bullet towards a substantive and enriched view of valuation and human nature. It has been subjected to various criticisms, which largely focus around the time and expense needed to conduct MCA and deliberative exercises, and also the way in which stakeholders are identified and the power this may hand to special interest groups in the process of deciding policy decisions (Dobes and Bennett 2009). What these criticisms highlight, however, is not so much inherent epistemic flaws in the MCA approach, but rather the radical implications of thinking about value and price in this way. Democratic and participatory institutions would indeed need substantial reform for MCA to become in any way mainstream business-as-usual (Bunse et al. 2015; Bartkowski and Lienhoop 2018). In this respect, there is much fruitful work to be done on the connection between deliberative democratic theory and the problem of non-market valuation– as hinted at by experiments with citizen juries to inform valuations (DEFRA, 2011, p. 76).

What the emergence of MCA and the failure of wellbeing approaches show, however, is that the logic implicit in valuing non-market goods implies a more fundamental shift in thinking about the relationship between human nature, value and price than implied by preference-based valuation of wellbeing methods provide: it implies a radical shift to a political and historical understanding of value as a social process. Of course, these methods currently focus on decision making by the state. But they could foreshadow, and provide a catalyst for, the greater use of democratic mechanisms within firms as part of a broader democratisation of the economy (see e.g. Cole 1920; Yeoman 2014).

Even though the failure of subjective wellbeing and choice-based approaches to non-market values has prised open space for the rise of MCA methods, there nevertheless remains resistance to this more fundamental – if philosophically consistent – approach to managing non-market goods. One worry is simply that these will prove a fad, and governments will ultimately lapse back into GDP-centric traditional CBA. However, it appears that the genie is out of the bottle – especially given the ever more pressing need for analytical tools which can comprehend and confront the ecological and environmental challenges faced by contemporary societies, and the growing popular awareness of these issues. Nevertheless, it has far from been the case that these methods have simply displaced or overturned those discussed above. What is in fact emerging is a complex valuation ecosystem in which the 'formalist' approaches discussed in section 2, that continue to rely on objective notions of value grounded in a utilitarian and hedonistic view of human nature, co-exist with the deliberative MCA approaches discussed above. This is resulting in an intricate political ecosystem around the subject of non-market goods, which plays out both institutionally – between different departments informed by different forms of expertise and policy concerns – and temporally, whereby different techniques are assigned specific functions in the policymaking cycle so as to diffuse potential conflict between them.

Regarding the first of these, there is emerging a divide between hard economic departments and those with a greater prevalence of economic training and expertise within their staff, and those with social or 'non-economic' policy competencies and a greater diversity of training and expertise. The Treasury, for example, publishes the *Green Book*, which is the standard set of cross-government guidelines on cost-benefit analysis (HMT 2016). The *Green Book* has evolved over the years to include non-market goods, however the recent additions have focused on choice-based methods and, to a more limited extent, wellbeing (HMT 2011b). On the other hand, departments such as the DCLG and DMCS, concerned with 'social' policy, have been more open, firstly, to the non-monetised use of wellbeing, and more significantly to MCA (Interview SM; Interview, DS).

It is in this context that SIT was significant, as it brought together Government Social Research (GSR) with GES, and contained staff seconded from DWP and other social policy departments (Interview SM). This is not just a matter of the attitude of entire institutions, but the backgrounds of those within those departments. As a DEFRA staff member seconded to the SIT observed:

> [I]t's not just Treasury. In my view its economists more broadly, economists in DEFRA too, many of them are not particularly keen, to be perfectly honest, on some of the MCA techniques. So I know that some of the economists who produced that supplementary guidance on SWB approaches – understandably, they very much favour the techniques that they were developing, and were not that keen on these wider MCA techniques (Interview SM).

This is further complicated by the fact that departments with a greater natural science blend are often closer to economic ways of thinking about value (EAC 2014). It is thus significant that the use of non-market valuation techniques has moved increasingly beyond environmental policy contexts – where natural scientists (biologists, climate scientists etc.) form the majority of analysts – and diffused into social policy realms where more social scientific expertise exists. DEFRA plays an interesting position in this, sitting at the intersection of natural science, social science and economics – with neither enjoying an overwhelming majority (Interview, SM).

These preferences cannot simply be ascribed to the neutral effects of divergent departmental mandates and competencies. Copious scholarship has outlined the privileged place that the Treasury plays in agenda-setting within the British state (Ingham 1984; Burn 1999). Thus, the continued marginality of MCA within the Treasury is likely to be significant, despite its growing support within social policy departments (DEFRA 2011; SIT 2011). Institutions which mediate between these two constituencies (such as DEFRA) and cross-government taskforces and agencies (such as the What Works Centre) are likely to be especially important in determining how the epistemic politics around non-market valuation plays out. It is likely to determine the extent to which MCA penetrates mainstream government thinking, and what functions and roles it is ascribed. The *Green Book* is an especially important institution in this regard (HMT 2016), and Treasury gatekeeping of this centralised guidance manual (and its approach towards MCA) may prove vital to its influence in coming years.

Another way in which the epistemic politics of non-market valuation is managed is temporally: by assigning discrete phases of the policymaking cycles at which each is permissible and legitimate. Centrally, this has involved a close shielding of economic monetisation techniques from deliberative methodologies at the policy *appraisal* and decision-making stage – where CBA has traditionally been used to determine the cost-effectiveness and impact profile of competing policy options – while policy *evaluation* has proved more open to MCA methods. This is policed partly through the use of separate guidelines and processes for each of these phases: the Green Book (HMT 2016), concerning policy appraisal (although also discussing elements of the entire policymaking cycle), and the Magenta Book (HMT 2011a) which concerns the retrospective evaluation of policy decisions. Quoting the same DEFRA source:

> The Magenta Book is guidance on evaluation, whereas the Green Book is appraisal guidance. I think this is a big issue in government, and I don't fully know the reason for this, but evaluation and some of the wider techniques that are used in evaluation – I don't see why they can't be used at appraisal stage, and vice versa; but as I say, for reasons that I don't fully understand, government economists tend to lead at appraisal stage and social researchers and other disciplines tend to lead at evaluation stage. So what you have is the Magenta Book methods not really being used to the extent that they could be at appraisal stage (Interview SM).

As this suggests, there is a temporal as well as institutional dimension to the way in which deliberative MCA methods are positioned and their role carefully prescribed – and this again is related explicitly by civil servants to differences in disciplinary training and epistemic hierarchies.

An interesting aspect of this temporal diffusion of the challenge to economic analysis represented by the valuation of non-market goods is the way in which it relates to the core formalist definition of what economics is about, and the epistemic niche it has carved out for itself in governance. Following Robbins, economics is the science of choice between alternative uses of scarce resources (Robbins 2008 [1934]) – exactly what Polanyi criticised as an inexcusable narrowing of the subject field (Polanyi 1977, 19). The placement of the deliberative assessment of non-market impacts *after* the decision-making over how to spend scarce money ensures that these techniques are placed away from the proper function of *economic* analysis, which is to decide upon the optimal allocation of scarce resources. MCA is allowed to exist in the overall policymaking cycle,

but only as a means to assess what the fuller 'social' impacts of a policy has in fact produced, after the point at which economics can safely step off the stage. 'Politics' and 'society' come in at this stage, as this is where policymakers reflect on the broader value and desirability of an event or phenomena. These are not, however, permitted to impinge upon *economic* analysis which allocates fungible monetary resources *ex ante*. This part of the process should remain predicated upon un-reflexive behaviour.

As this section has outlined, MCA has emerged as an alternative to choice-modelling and wellbeing approaches to non-market valuation. Its tolerance of political deliberation in the price formation process reflects a more truly 'substantive' understanding of human nature, and thus provide a valuable resource promoting a more socially and historically embedded sense of the economic subject. However, the epistemic and institutional lines of authority within the UK government policy process have helped to frame its incorporation into mainstream policy analysis in carefully circumscribed ways: institutionally, as penetrating only certain 'social' policy departments; and temporally, via a delimitation of its proper role within the policymaking cycle to the evaluation phase.

## Summary

The beyond GDP agenda has created new demands for techniques which can monetise non-market outcomes and bring these values into economic analysis. The rise of positive psychology and the large-scale, standardised collection of wellbeing data has produced new valuation methodologies based on direct measurement of the utility generated by non-market phenomena. Theses techniques appear to offer the promise of a truly substantive conception of economy, through incorporating a diverse array of non-market goods into the heart of economic analysis. Moreover, they are heralded by advocates as offering a radically democratic alternative to traditional GDP-based cost-benefit analysis. In valuing goods independently of market exchange, these valuation techniques appear to offer an anti-economistic challenge to market-centric views of value and welfare.

In this context, this chapter has analysed how fundamentally non-market valuation techniques challenge and re-work the *homo economicus* conception of human nature and which underpin Polanyi's critique of formalist reasoning. It has argued that CV methods

continue to rely upon the notion of choice and scarcity which underpins revealed preference theory. Starting from a critique of revealed preference, wellbeing methodologies instead seek to directly measure utility experienced by individuals and correlate this with various non-market experiences and phenomena. However, in doing so they fall back upon an atomistic, behavioural and ahistorical conception of the subject and display the same hostility to conscious deliberation and thought that Polanyi saw as the basis of the exchange-centric understanding of value in complex societies. Consequently, they produce valuations that reflect the hedonic effects of existing economic institutions and socialisation regimes. They constitute a 'formalist' attempt to bring non-market goods into economic analysis, whereby value is decoupled from 'price' but without necessitating a wider shift to a historicised or sociologically rich conception of human nature. Moreover, as they work within a theoretical paradigm that links prices with objective utility (even if decoupling this from preference-satisfaction in markets), they have failed to establish themselves as credible or 'robust'.

Nevertheless, these developments offer promising political resources, in that they have prised open the relationship between markets and prices. As shown in the final section, the limitations of these valuation techniques are prompting the rise of deliberative approaches to valuation, such as multi-criteria analysis. Adopting a more political and conscious approach to price formation and the trade-offs between complicated, incommensurable forms of evidence, these offer a more fundamental challenge to the *homo economicus* paradigm and the notion of value and price it underpins. This is further evidence that we cannot simplistically assume that beyond GDP is necessarily leading to a 'substantive' vision of economy replacing the formalist view of market-based cost-benefit analysis. Rather, a complex ecosystem is emerging over different valuation approaches which offer a differential challenge to the psychological commitments of formalism. The proper role of these methods in the economic analysis of public policy remains contested and ambiguous: at stake in these apparently technical methodological debates are fundamentally different conceptions of the economic subject and the relationship of politics to value.

# 8. Conclusion: Accounting against the Economy

This thesis has developed a novel, empirically grounded assessment of the ideational politics surrounding beyond GDP reforms to global statistical systems. In doing so, it has advanced understandings of the changing relationship between national accounting practice and economic theory in the governance of contemporary affluent societies. It has shown how statistical agencies and national accountants have attempted to reconcile this measurement agenda with the theoretical view of the economy as a system of inter-locking market transactions, which was developed by the UN SNA framework in the mid-20th century and was informed by the economic theory of the neoclassical synthesis. However, it has demonstrated how the practical demands of implementing these measurement reforms are leading accountants to qualify this market-centric vision of the economy in significant ways. It has explored how this is leading to an increasingly complicated relationship between accounting practice and the theoretical vision of the economy inherited from industrial society. Accountants and statisticians are discovering that moving beyond GDP involves more than challenging the priority placed upon particular objectives in policy-making – rather, it necessitates the problematisation of a whole way of thinking about 'the economy' that grew up with market society.

These findings contribute to answering bigger questions about the changing role of economic expertise in the politics of affluent, post-industrial societies, and the role of accounting and measurement systems in mediating this. In doing so, they also advance prevailing understandings in the literature. As was shown in chapter 2, two central perspectives on this statistical agenda and its relationship to economic theory can be distinguished. The first ('managerialism') assumes that measuring non-market phenomena is, in itself, sufficient to overcome the growth paradigm, by adjusting the incentives placed on non-economic (social, political and environmental) dimensions of progress and development; the second ('de-growth') advocates a wider re-thinking of what the economy *is*, beyond its conflation with exchange relations, but assumes the translation of beyond GDP concepts into accounting frameworks necessarily neutralises its challenge to market-based understandings of the economy. Against this, I have shown the numerous practical and conceptual difficulties which statisticians and accountants face in reconciling beyond GDP reforms with market-centric understandings of the economy and human nature. The analysis presented thus makes a novel contribution to

understanding the precise nature of the challenge that moving beyond market growth might entail to the exchange-based conceptions of the economy and its place in human society.

In this brief concluding chapter, I summarise the central theoretical and empirical contributions of the thesis, offer some reflections on the wider implications of these findings and suggest future directions for research into the relationship between statistical reform and economic theory in contemporary political economic governance.

## Problem, Question and Theoretical Approach

In the introduction, the central research question of the thesis was posed:

- *How significant is the challenge posed by the beyond GDP agenda to market-centric understandings of the economy?*

In the second chapter, this problem was clarified through a review of historical critiques of GDP, the central planks of the accounting agenda that has emerged since the Stiglitz commission in 2009, and a review of existing literature on this agenda. It showed how the beyond GDP agenda has emerged as a prominent global movement, in response to widespread critiques of the political prominence of GDP and its limitations as a metric of welfare and development. These include initiatives to embed inequality into national accounting frameworks, to estimate the economic value of unpaid work, to measure the sustainability of current levels of growth and the human and natural capital stocks on which it is based, and to estimate accounting values for non-market goods.

It was shown how these reforms pose a challenge to the constitution of 'the economy' as a discrete statistical object as constructed in national accounting systems. However, in the existing literature there have been no sustained empirical investigations of the tension between the implementation of these accounting reforms and the theoretical assumptions that underpin this representation of the economy in practice. Thus, the precise nature of the challenge to economic theory that is posed by this measurement agenda, and how this challenge is managed by statisticians and accountants, previously remained unexamined.

To develop an answer to this question, the third chapter outlined a novel theoretical approach to researching the impact of beyond GDP statistical reforms on the theoretical vision of the economy inherited from the industrial era. To do this, it drew upon the work of mid-20th century political economist Karl Polanyi. Polanyi provides a sophisticated account of how the idea of the economy, and thus economic growth, was bound up with the emergence of a mode of economic thinking that equated the economy with a self-regulating and autonomous system of markets. Moreover, he argued that, while this theoretical construct was a historical response to the contingent conditions of early industrial capitalism, it had pathological consequences for societies in their attempts to solve the various problems that the commodity treatment of people, nature and money produces.

I thus interpreted Polanyi specifically as a critic of market-based thinking and ideology, emphasising this aspect of his work over the historical argument about the dis-embedding of the market economy and the protective double movement over the course of the 18th and 19th centuries. Specifically, I introduced the key distinction Polanyi drew between 'formalist' approaches to analysing and understanding the economy – which reduce it to means-end calculations in response to scarcity within markets – and 'substantive' understandings of the economy, which understand the economy in open-ended terms, as the way in which the provision of wants is instituted and co-ordinated in different places and times. Polanyi's critique of formalism, we saw, was based upon the way in which it forced societies to understand their economic and social problems through the procrustean straitjacket of the market, and thus impoverished their political imagination in finding institutional solutions.

The normative implication of Polanyi's work is that if this 'market mentality', a historical mode of thinking inherited from industrial civilisation, is retained in our efforts to re-thinking progress beyond the market-based growth paradigm, this is likely to foreclose and condition the potential this movement offers for a substantive re-construction of economic policy and citizenship. Moreover, recovering a 'substantive' vision of the place of economy in society implies more than simply measuring non-market phenomena; it means challenging the conflation of exchange relations with the economy as a whole, and thus problematising the very idea of a distinctively 'economic' dimension to

progress. A further empirical implication of this perspective is that efforts to measure and understand non-market economic phenomena using the conceptual apparatus of exchange-based formalist economics are likely to encounter limitations.

## Summary of Empirical Findings

The remainder of the thesis applied this framework to assess the scale of the challenges this agenda presents to the foundational epistemic and ontological assumptions of market-centric ('formalist') economic thought, exploring how these challenges have been managed during the methodological implementation of this agenda by national accountants and statisticians. The central argument was that attempts have been made to implement these measurement reforms by translating beyond GDP issues into conceptual terms and categories derived from the market-based view of economy; however, the nature of these phenomena (inequality, sustainability, social reproduction, non-market goods) means that persistent practical and methodological problems have been encountered in reconciling their accounting treatment with formalist theoretical constructs.

In chapter 4, we saw how initiatives to embed inequality into national accounting have been driven by the failure of macroeconomic modelling to forecast the financial crisis, which derives in part from absence of 'agent heterogeneity' (or inequality) from standard DSGE models. This was related to the post-war project to 'micro-found' macroeconomics and thus provide a single, overarching theoretical description of the economy. Thus, the measurement agenda on inequality has been framed in relation to the formalist macroeconomic ontology of the national accounts: it has come to be understood as a matter of reconciling the 'micro' and 'macro' statistical pictures of the economy so that distributional questions can be brought into macroeconomic analysis. However, as we saw, this agenda has in practice revealed how 'the economy' as experienced by households is not the same object as that described by national accounts frameworks. This is because the economic experiences of households overflow the market system observed by banks, corporations and governments. Hence, the practical and technical demands of measuring inequality have revealed the problematic ontological assumptions underpinning macroeconomics and have led to a recognition

of the essential heterogeneity, multiplicity and context-dependency of accounting concepts like 'income' or 'wealth'.

In chapter 5, we saw how national accountants have approached the issue of estimating the value of unpaid activity outside formal labour markets. We saw how, since the emergence of neoclassical value theory, there has been an anxiety about where properly 'economic' activity stops and 'leisure' and 'society' begins. Specifically, modern accounting theory draws upon the third-party criterion, developed by Margaret Reid in the 1930s, to distinguish 'economic' from 'non-economic' activity. This project is 'formalist' in that it conflates the economic with the realm of scarcity and exchange. Practically, however, we saw how operationalising this framework involves measuring non-market time in ways which allow comparison with wage rates in labour markets. This results in a number of conceptual paradoxes and technical problems, which have exposed the fundamentally different logics by which non-market modes of economic integration operate. The response to these problems has been a growing recognition by national accountants of both the economic significance of such activity, and the impossibility of establishing its value with reference to the labour market. Consequently, a more heterogeneous and social sense of economic value is emerging in national accounting methodology, with moves to value the overall provisioning needs of society independently of 'labour' inputs.

In chapter 6, we saw how the issue of sustainability measurement has been increasingly conceived of through the accounting concept of capital. Specifically, sustainability has come to mean the preservation of an extended stock of national capitals, including natural resources and knowledge. Drawing on the neoclassical conception of the accounting value of capital, rooted in the influential work of Irving Fisher, beyond GDP accounting methodologies have focussed on drawing a precarious distinction between the component of these assets which yield market revenues – which is considered 'economic' and subject to robust monetary valuation – and the 'non-economic' components, which do not yield market income and are to be left outside of the accounting valuations. However, in attempting to construct these valuations accountants have had to confront the essential embeddedness of nature and knowledge in wider social and ecological processes. Isolating the economic aspects of 'capital' from its non-economic dimensions has proved a treacherous endeavour in practice. In consequence,

there have been moves to decouple the monetary value of these resources from the market returns they yield, and to embrace the independent social function money plays as a pure unit of account.

Finally, chapter 7 explored the cross-cutting issue of establishing monetary accounting values for goods which are not traded on markets. We saw how methods used to value such goods historically rely on artificially simulating market-like conditions with choice-based methods (such as contingent valuation), or deriving their values through indirect effects on market prices. Newer methods draw on the generation of large-scale subjective wellbeing surveys, which have proliferated as part of the beyond GDP agenda. While these methods are presented as a radical democratic challenge to the revealed preference underpinning of orthodox consumer theory, I showed how subjective well-being methods re-inscribe the asocial, individualistic and hedonic model of human nature on which post-neoclassical economics has been constructed and which was a key target for Polanyi's critique of formalist reasoning. However, valuations based on wellbeing data have been widely critiqued for their unrealistic epistemological and psychological underpinnings. One consequence of this is that more political and deliberative approaches to non-market valuation are emerging, which reflect a more social and historical approach to value, and the possibility of establishing accounting values for goods independently of modelling their objective effects on 'utility'.

Thus, these case studies have all revealed how the beyond GDP agenda is exposing the practical and empirical limitations of both the macroeconomic ontological assumptions of formalist economic theory and its microeconomic underpinnings. Across these various issues, the agenda is problematising, destabilising and undermining key ontological and epistemological underpinnings of the 'formalist' conception of the economy. This is happening as statisticians and national accountants grapple with the practical implications of post-GDP concepts and the paradoxes which emerge from trying to frame them using the conceptual language of exchange. A more substantive accounting representation of the economy is therefore emerging *despite* attempts to plug beyond GDP reforms into the market-based vision of economy. In the practical process of implementing these reforms, statisticians are having to confront the problems of dealing with non-commodity aspects of economic development. In this process,

statisticians and accountants are increasingly discovering and reaching limits of market theory to comprehend these values.

As has also been demonstrated in these case studies, however, this is far from a linear or straightforward process. These more substantive accounting descriptions of the economy are emerging partially, gradually, in incomplete or submerged ways. They often represent pragmatic solutions to the problems of comprehending these issues through the lens of market-based theoretical concepts, rather than a positive embrace of more plural or heterogeneous ways of representing economic relations. The chapters have all revealed how what is emerging from these accounting reforms is thus a complex and fragmented accounting and valuation ecosystem, in which 'formalist' understandings of beyond GDP issues co-exist with more substantive renderings. Awareness of the epistemic politics of statistical reform is important, both to understanding the theoretical and political significance of this agenda and to using the valuations and measurements that it is yielding in a reflexive and politically sophisticated way.

These findings allow us to provide a clear answer to the central research question: across these key measurement initiatives, the beyond GDP agenda is increasingly *incompatible* with market-centric economic theory. But this has not led to the simple displacement of this vision with a more substantive one, but rather a complex valuation landscape in which accommodations to market-based theory co-exist with more fully 'substantive' and open-ended accounting treatment of non-market economic phenomena. This growing tension between accounting practice and economic theory is likely to condition in important ways the politics of beyond GDP reform in the coming years.

## Wider Implications and Themes

Beyond the immediate empirical and theoretical contributions of the thesis, the arguments touch on several wider themes relating to the place of economic theory in democratic life. These have been woven in throughout the substantive analysis. Here, I merely reflect on two which strike me as being of especial significance. The first concerns the sort of economic reasoning that *could* align more closely with the logic of beyond GDP accounting practice; the second concerns possible shifts in the relationship between democratic politics and accounting that is implicit in many of these reforms.

An important outcome of beyond GDP statistical reforms has been the emergence of a more plural and heterogeneous conception of many core accounting concepts (for instance, context-specific and hybrid definitions of income and wealth; or the rise of satellite accounts for the household sector which accept the economic value of these activities and their distinctiveness from values observed in the market sector). This recognition of heterogeneity and incommensurability of accounting values is at odds with core tenets of market-centric economic theory that considers monetary values as substitutable and rendered commensurate through the process of exchange. There are two main ways in which an economic theory, which has been built on a unitary notion of exchange values, might respond to these developments in accounting practice.

Firstly, we could imagine a more circumscribed role for economic theory in economic policymaking and political deliberation. In this scenario, there would be a humbler recognition on the part of economists that the theoretical toolkit drawn upon describes only a small sub-species of the genus 'economy'. Consequently, the idea of a discrete 'economic' dimension of policymaking that can be neatly isolated from (say) social or environmental policy could be jettisoned, and economics as it has been traditionally understood (as the science of choice and exchange) could occupy a more circumscribed and clearly delimited place in discussions of political economic phenomena.

Secondly, we could imagine the rise to greater prominence of forms of economic analysis that can better tolerate heterogeneity and incommensurability. These forms of reasoning would have to find theoretical tools which can accommodate the co-existence of values which are at once understood as 'economic', but which also cannot be reduced to commensurate and fungible exchange values. There are already numerous developments in economics which point in this direction – complexity economics is a prominent example (Colander et al. 2004; Holt et al. 2011), along with the greater prominence given to heterodox schools of thought in some degree courses (see Fisher et al. 2018). Such theoretical developments might gradually align the mainstream of the economics discipline more closely with the grain of changes in accounting and statistical practice, helping to ease the growing tensions between the two.

These two developments could bring economic reasoning back into closer alignment with emerging accounting representations of the economy: either mainstream economic theory could evolve so as to better tolerate the multiplicity and incommensurability of non-market values; or its authority to speak about economic issues might be qualified and relativized so that it is understood as relevant only to the abstract description of hypothetical markets rather the economy in its substantive sense. If neither of these tendencies emerge, a third possibility seems likely: this is that the authority of market-based economic theory will prevail *despite* the developments in accounting practice outlined in the thesis, and the accounting agenda could supress the methodological tendencies that beyond GDP reforms have unleashed. This is a very possible outcome and will depend on the institutional and ideational dynamics which shape the agenda in future years. These changes may thus hint at bigger shifts in the role of economic analysis in the governance of post-industrial societies that deserve more attention and study. This would allow a better understanding of how similar challenges manifest themselves in other fields and practices, and the response of economists – both academic and 'in the wild' (Callon et al. 2002, 196) – to such shifts.

Turning to the second point, another key theme of the beyond GDP agenda has been the recognition of the economic significance of phenomena that are not traded on markets. One response to this problem is to (conceptually and discursively) exclude these values from 'the economy' proper, and thus shore up the conflation of money and markets. A second response (see chapter 7 in particular) is to develop technocratic methods for modelling the objective utility that such goods render, and thus to compute accounting valuations for these goods. Against perspectives which seek to banish non-monetary values as external to 'the economy' proper and those which seek to ground non-monetary values in the objective modelling of the utility they render, we can perhaps glimpse a third possible option latent in many of the reforms discussed in the thesis. This could be grounded in a more deliberative and political understanding of price formation itself, in which the negotiation of prices for various goods and resources is seen as a *site* for the active negotiation and reconciliation of incommensurable values.

This points to the second theme that the thesis raises: the relationship between democratic politics and accounting systems. Generally, the liberal model of the role of accounting systems in democratic life is to provide an objective source of facts and

valuations which can mediate democratic debates. In this scenario, the compilation of accounting values (representing the private market sector) *precedes* the process of political deliberation about economic policy (which takes place in the public sphere), and is used to referee the claims of the various parties about the effectiveness of different economic policy settings. But many contemporary developments in accounting theory potentially open the prospect of a reversal of this relationship. In this model, statistical and accounting systems could be a *taker* of values negotiated through democratic deliberation and engagement. These valuations could then inform political analyses of the trade-offs between different policies or investment decisions.

Of course, this would be dependent on a much wider transformation in economic citizenship which would embed deliberating and democratic structures into the economic system itself. While this currently seems a distant prospect, this highlights how the problem of monetary valuation in the absence of markets – that lies at the heart of many of the most interesting problems of the beyond GDP agenda – could fruitfully connect with theories of deliberative democracy to advance more participatory forms of economic citizenship. This intersection between theories of economic and deliberative democracy and the accounting and valuation issues raised by the beyond GDP agenda may well be one of the most fruitful theoretical lines of enquiry going forward.

## Future Research Directions

This thesis assessed the first decade of beyond GDP reforms – however, this is still an agenda in its infancy. In the process of conducting this research, it became clear that many of the most interesting developments in this field have yet to be fully operationalised, and yet are set to radically change the statistical representation of the economy constructed by statistical agencies. Further research efforts will be needed to understand these dynamics and map their significance for political economic governance.

Firstly, much more work is needed to understand the challenge posed by the information economy and 'big data' on national accounting representations of the economy. There are two dimensions to this problem. The first is the substantive changes to economic institutions and working life brought about by the rise of information as a key factor of

production, and how these changes challenge established national accounting concepts (Bean 2016; OECD 2016). This was touched on in chapter 5, which explored the implications of the increasing blurring of work and life, and the decoupling of productivity from wage labour. However, these trends are set to continue with the rise of platform-mediated work, the sharing economy, and the continued shift to immaterial and information-based assets (ONS 2016a).

Secondly, these changes more directly impact the data architecture from which the national accounts itself are constructed. Data sources such as business surveys increasingly seem outdated, and many strategy documents from statistical and accounting agencies emphasise the need to integrate transactional data sources and digital databases to supplement national accounts data sources (ESSC 2014a). However, this raises several key problems for the unity of the national accounts. For instance, bringing ever more data sources into the construction of the statistical picture of the economy brings with it the challenge of reconciling the disagreements and discrepancies between them (ESS 2015). Moreover, doing so raises questions about the reliability and epistemic authority of different forms of data, many of which were produced for private purposes. Resolving these issues will be vital to holding 'the economy' together as a statistical object in the coming years.

Another way in which ongoing technological change is impacting upon statistical production and accounting is the growing use of Geospatial Information Systems. This was explored briefly in chapter 6, where the emergence of spatially localised representations of the value of ecosystem services was explored. However, ambitious plans for the further development of ecosystem service accounting in the EU and UK contexts both place a great deal of emphasis on expanded use of GIS, involving the spatial tagging of economic and environmental data and the disaggregation of economic and environmental data at different scales (Peterson and Gocheva 2015; European Commission 2016). This has the capacity to significantly alter the spatial representation of 'the economy' as an accounting object, embedding the abstract and de-territorialised vision of the national economic system constructed by the SNA in specific places. This re-territorialisation of accounting data has the capacity to inform new forms of political contestation and political economic mobilisation; it will require future research to

understand the impact and significance of these changes to the data infrastructure of national accounting systems and how these interact with economic analysis.

Finally, further research could explore the temporal politics of socio-economic statistics and national accounts production. As indicated in chapter 5, in relation to the problem of time-use data and the valuation of non-market services, a significant barrier to greater adoption of beyond GDP measures is often the time it takes to produce data on non-market issues. This can rarely match the quarterly production timescale of national accounting data and GDP estimates. To address this, one prominent trend in statistical agencies is towards the greater use of virtual simulation (or 'nowcasting') of social indicators, using computer modelling technologies (European Commission 2014). This creates new temporal interactions between social and economic phenomena – for instance, it allows statistical agencies to produce estimates of changes in poverty or social deprivation at the same time as data is released on the performance of the market economy. But these technologies create a complex politics around the issue of the 'reliability' and robustness of such models, as well as raising issues about the performativity of virtual representations of the social on policymaking and political discourse.

The image of the economy as it has been understood by economic theory is becoming increasingly difficult to sustain under the pressure of new statistical and accounting projects and an increasingly complex information and valuation ecosystem. Yet this understanding of the economy as a unitary system of markets remains the dominant theoretical paradigm through which economic issues are analysed and discussed and continues to exercise considerable authority over democratic debate. Exploring how this tension manifests itself in the years ahead, as technological changes further interfere with the constitution of the economy as a statistical object, represents a major research agenda, vital to understanding the changing influence of economic ideas in the governance of the global political economy. As this thesis suggests, economic theory is encountering emerging practical limits to re-making the contemporary world in its image. Whether economics or the world gives first will define how the burning questions of the 21st century – climate change, inequality, automation and welfare – are understood. Moreover, it will determine which political and ethical responses to these problems are possible to imagine.

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# Appendix I: List of Interviews

## Meeting Transcripts

Expert Group on Disparities in National Accounting (EG DNA), 2016 Meeting, *Organisation of Economic Cooperation and Development*

Working Party on Financial Statistics (WPFS), 2016 Meeting, *Organisation of Economic Cooperation and Development*

Working Party on National Accounts (WPNA), 2016 Meeting, *Organisation of Economic Cooperation and Development*

## Interviews

*United Kingdom*

Paul Allin, *Office for National Statistics* (National Wellbeing; Former Director)

Richard Tonkin, *Office for National Statistics* (Economic Wellbeing; Head of Economy and Environment)

Abi Self, *Office for National Statistics* (National Wellbeing)

Damian Whittard, *Office for National Statistics* (National Accounts; Human Capital)

Chris Payne, *Office for National Statistics* (Economic Wellbeing; Household Satellite Accounts)

Dominic Webber, *Office for National Statistics* (Economic Wellbeing; Household Satellite Accounts)

Rachel O'Brien, *Office for National Statistics* (Economic Wellbeing; Social Capital)

Dawn Snape, *What Works Centre for Wellbeing*

Simon Maxwell, *Department for Environment, Food and Rural Affairs* (Environment Analysis Unit; Secondee to the Social Impacts Taskforce)

Members of the Independent Review of UK Economic Statistics, *HM Treasury* (Anonymity Requested)

*OECD*

Alex Hjizen, *Organisation for Economic Cooperation and Development* (Economics Directorate; Employment Quality)

Carrie Exton, *Organisation for Economic Cooperation and Development* (Statistics Directorate; Wellbeing Division)

Kate Scrivens, *Organisation for Economic Cooperation and Development* (Statistics Directorate; Wellbeing Division)

Peter van de Ven, *Organisation for Economic Cooperation and Development* (Statistics Directorate; Head of National Accounting Division)

Jorrit Zwijnenburg, *Organisation for Economic Cooperation and Development* (Statistics Directorate; National Accounting Division)

Fabrice Murtin, *Organisation for Economic Cooperation and Development* (Statistics Directorate; Inclusive Growth)

Miguel Rodriguez, *Organisation for Economic Cooperation and Development* (Environment Directorate; Green Growth Indicators)

Paul Schreyer, *Organisation for Economic Cooperation and Development* (Statistics Directorate; Deputy Head)

Paulo Veneri, *Organisation for Economic Cooperation and Development* (Governance Directorate; Regional Development Policy)

Jan Rielaender, *Organisation for Economic Cooperation and Development* (Development Centre; Policy Analyst)

Carine Viac, *Organisation for Economic Cooperation and Development* (Development Centre; Policy Analyst)

*European Union*

Juha Honkilla, *European Central Bank* (Expert Group on Linking Micro and Macro Wealth Data; Household Finance and Consumption Network)

Pierre LaMarche, *Eurostat and INSEE* (National Accounts; Income, Consumption and Wealth Inequalities)

Nicola Masserelli, *Eurostat* (Europe 2020 Indicators and Sustainable Development Indicators; Team Leader)

Jeroen Jutte, *Directorate-General for Employment, Social Affairs and Inclusion* (Head of Unit; Employment and Social Aspects of the European Semester)

Kornelia Kozovska, *Directorate-General for Employment, Social Affairs and Inclusion* (Economic and Social Policy Analysis; Member of Social Protection Committee)

Jon Hyde, *Department of Work and Pensions* (UK Representative to Eurostat Social Protection Committee Indicators Sub-Group)

Francis Green, *University College London* (Consultant for European Commission on Job Quality Measurement)

Christian Stolk, *RAND Europe* (Consultant for European Union on Wellbeing in the Workplace)

Katrin Gasior, *University of Exeter* (Consultant for Nowcasting of Poverty Indicators for Eurostat)

# Appendix II: Description of Research Methods

*Research Design and Case Selection*

The research design and methodology of the study was informed both by the nature of the problem and by the underlying theoretical and philosophical orientations adopted. The puzzle it is seeking to explain is the apparent incompatibility or the aspirations of beyond GDP reforms with market-based forms of economic expertise and analysis. The answer it develops is grounded in a historicised, institutional and performative understanding of economic knowledge, grounded in a constructivist reading of Polanyi. This pointed towards a research strategy that was qualitative, inductive and interpretivist (Silverman 2016).

The data drawn upon was necessarily qualitative, in that the research was interested in understandings the technical and methodological practices through which this agenda has been operationalised. Furthermore, it was interested in understanding how these played out in the elite institutional environments of official statistical agencies. It was not interested in generating rigid causal explanations or generalizable laws. Therefore a large-N quantitative study involving survey data or similar would not have been appropriate to answering the sorts of questions being investigated (Marsh & Stoker 2010, pp. 255-257). Therefore, in-depth interviews with a few key experts was chosen as a key source of information underpinning the thesis. The study was also inductive in the sense that it did not set out to test a series of theoretical propositions built up from pre-existing bodies of theory or first principles (Clift 2014, 286-314). Rather, it sought to investigate an empirical puzzle which seemed insufficiently well understood, in an open-minded way. The categories and concepts used emerged tentatively from the process of data analysis and collection, and were then reflexively tested against further findings.

The data in the thesis is drawn from fieldwork at three sites: the OECD, the EU and the UK state. The primary focus was on the statistical organs of these institutions – the OECD's statistics directorate; Eurostat; and the Office for National Statistics, and this was where most of the interviews were conducted. However, these bodies do not have exclusive ownership of the agenda and occasionally the links with other bodies and

departments were explored where this seemed particularly relevant. These cases were selected based on preparatory desk research, which flagged these up as particularly active and influential in shaping the implementation of the beyond GDP agenda after the Stiglitz report.

These cases also provided a lens through which to compare the interaction and interplay between different levels of economic governance: the nation state, regional supranational governance, and international standard setting bodies such as the OECD. In practice, however, in the course of my research I have also been struck by how inter-connected, mobile and transnational the statistical and national accounting community is – in many ways it forms a discrete 'epistemic community' within wider governance networks (Haas 1989; Adler and Haas 1992). Frequently, I encountered people who had worked at both the OECD and either Eurostat or the ONS, and had worked on many joint projects between the organisations. Furthermore, the OECD, as an international standard setting body, borrows or seconds staff and expertise from both the ONS and Eurostat/ECB, and members of these bodies sit on its various taskforces and working groups. Important documents were produced as collaborations between institutions – for instance the UNECE/Eurostat/OECD joint taskforce on measuring sustainable development. Therefore, while these case studies were conducted as separate bodies of research at discrete stages in the project, there were myriad points of overlap between them.

*Data Collection and Source Material*

These research orientations informed the data collection strategy pursued and the source material drawn upon to develop the central arguments. The sources on which the arguments in this thesis are based fall into three main categories: semi-structured interviews; documentary analysis of statistical reports, methodological literature and working papers; and attendance of statistical working parties and expert groups.

Analysis of documentary sources was conducted prior to interviewing – to help guide the questions asked and identify points specifically relevant to the research question. These were identified through a desk-based literature search in the first year of the project, in which relevant documents were identified until saturation point was reached,

where different searches online and the following up of references within the documents themselves began to return few new documents. Sometimes, if additional more technical or internal documents were flagged up by interviewees or reports were released after the initial search, these were fed back into the documentary base. After working through these and filtering several out which had limited relevance, a database of 140 documentary sources were analysed. Notes were taken and quotes recorded from these documents. These were grouped into themes in the same way as the interviews.

Overall, 30 semi-structured interviews were conducted (Baker et al. 2012). An initial long list of targets were identified using the document authorship and online searches. From this list, an appropriate number of initial targets were contacted via an introductory email detailing the project. The interviewees contacted were selected to provide a variety of seniority and job role and even distribution between different internal units and divisions of these agencies. A balance of expertise and disciplinary background was sought between economists, statisticians, national accountants and other social scientists. In practice, there was a fairly high level of non-response to introductory emails, and so not all targets selected could be interviewed. Snowball sampling played an important role in the selection of interviewees after the initial round had been conducted – as is necessary when studying a relatively discrete yet densely connected institutional network, such as the national accounting community (Noy 2008). Interviews were divided roughly equally between those conducted in person and those conducted via phone, but this heavily skewed between the cases: all OECD interviews were conducted in person during fieldwork, whereas 9 of the 10 EU interviews were conducted via telephone. All interviews were recorded in full on a Dictaphone, with the interviewee's consent, and later transcribed verbatim.

I deliberately resist any claim that the methodology adopted aims at producing interview data that is 'representative' of some wider totality or provides an unbiased window onto underlying organisational 'reality' or the internal motives and beliefs of interviewees (Roulston 2010). Indeed, the explicit aim was not in some way to edit context out, to reach generalizable conclusions, but rather to understand and recreate the specific dynamics of this reform agenda as it has been implemented, and how these are narrated by those tasked with enacting them (Halfpenny 1979, 802-803). I have therefore adopted what Alvesson has described as a 'reflexive pragmatism' (Alvesson 2003, 14; 25); in

relation to interviews, in which interviewing is understood as 'a complex social event…existing in a field of tensions between different logics' (ibid). This necessitates 'conscious and consistent efforts to view the subject matter from different angles and avoid or strongly *a priori* privilege a single, favoured angle and vocabulary'. It also involves 'balancing endless reflexivity with a sense of direction and purpose', prioritising 'epistemological awareness rather than philosophical rigour' (ibid).

All the interviews followed a similar structure and sequence. Firstly, which factors participants understood to be driving the moves to develop and implement the various beyond GDP reforms under discussion – where the pressure for reform originated from, who was felt to be pushing for them and for what reasons, how was their purpose and necessity understood. Secondly, the main methodological, technical and conceptual issues confronted, and various tensions or challenges raised by their implementation. Thirdly, interviewees' understanding of how these were being confronted or resolved, the uptake and use of the new measures in policy analysis, as well as future priorities and expected developments. Thus, while the specific content of the questions asked varied considerably depending on the specific issue which the interviewee worked on – with plenty of scope allowed to follow up answers, clarify interesting issues which arose or push interviewees to provide further information on certain observations (Rubin and Rubin 2011) – the interviews all followed a broadly similar structure and sequence.

Lastly, I was fortunate enough during my fieldwork to be invited to attend several expert statistical working parties at the OECD and observe their working practices first hand – specifically, the Expert Group on Disparities in National Accounting, the Working Party on Financial Statistics, and the Working Party on National Accounts. This was a largely unplanned source of data, which grew out of interviewing staff in the OECD's Statistics Directorate. However, observing these meetings proved to be an invaluable source for understanding the nature of the technical accounting discussions on key issues relating to the beyond GDP agenda – particularly on the issues of inequality measurement and unpaid work in the national accounts, as well as attitudes towards the capitalisation of non-monetary assets. This adds a certain asymmetry to my data across the three case studies developed: while interviews and documentary analysis was carried out to a similar extent for all the cases, participant observation was only conducted at the OECD.

*Data Analysis*

Following data collection, interviews were coded inductively into themes, which were then mapped onto the topics dealt with in the chapters. Themes were identified by working through the interview transcripts and the quotes copied from documentary sources (Roulston and Flick 2014). These banks of quotes, both confirmatory and contradictory, were used alongside notes from documents to develop the lines of analysis presented in the thematic chapters. While the case studies have an equal weighting in the thesis, individual chapters draw more or less upon each one. This is the result of the inductive nature of the analysis – in certain cases, certain themes had greater saliency.