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TIM JACKSON
OCTOBER 2016

BEYOND CONSUMER CAPITALISM

FOUNDATIONS FOR SUSTAINABLE PROSPERITY

CUSP WORKING PAPER | NO 2 | CUSP.AC.UK

E·S·R·C ECONOMIC & SOCIAL RESEARCH COUNCIL

CUSP
An ESRC Research Centre
Working Paper Series
ISSN: 2397-8341

The **Centre for the Understanding of Sustainable Prosperity** is funded by the UK's Economic and Social Research Council (ESRC). The overall research question is: What can prosperity possibly mean in a world of environmental, social and economic limits?—We work with people, policy and business to address this question, developing pragmatic steps towards a shared and lasting prosperity. For more information, please visit: **cusp.ac.uk**.

Publication

Jackson, T 2016: Beyond Consumer Capitalism—Foundations for a Sustainable Prosperity. CUSP Working Paper No 2. Guildford: University of Surrey.
Online at: www.cusp.ac.uk/publications.

Acknowledgements

The financial support of the Economic and Social Research Council for the Centre for the Understanding of Sustanable Prosperity (ESRC grant no: ES/M010163/1) is gratefully acknowledged. *A revised version of this working paper is included in Victor, P and B Dolter 2017. Handbook on Growth and Sustainability. Cheltenham: Edward Elgar.*

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Abstract

Consumer capitalism is unsustainable in environmental, social and even in financial terms. This paper explores the ramifications of the combined crises now faced by the prevailing growth-based model of economics. It traces briefly the evolution of western notions of progress and in particular it critiques the very narrow view of human nature on which these notions were built. A wider and more realistic view of human nature allows us to recover more robust meanings of prosperity and to establish the foundations for a different kind of economy. The paper explores these foundations. It pays a particular attention to the nature of enterprise, the quality of work, the structure of investment and the role of money. It develops the conceptual basis for social innovation in each of these areas, and provides empirical examples of such innovations. The aim is to demonstrate that the transition from an unsustainable consumerism to a sustainable prosperity is a precise, meaningful, definable and pragmatic task.

Introduction

Almost a decade on from the onset of the financial crisis, the fault lines within modern capitalism are widening. What once seemed tiny fissures, barely visible to the Western eye, have now become deep chasms threatening to engulf entire nations. No exploration of the relationship between growth and sustainability can be complete without addressing the fate of capitalism itself.

Between the fall of the Berlin Wall in November 1989 and the breaking of the financial crisis in September 2008, capitalism's star had never seemed brighter. There was, to echo Margaret Thatcher, no alternative. Debates about the variations of capitalism were more or less academic. The Anglo-centric nations trumpeted the virtues of 'liberalised markets'. Germany and France championed the 'social market economy'. Communist China even developed its own particular brand of centrally planned capitalism, triggering a strange mixture of anxiety and quiet satisfaction in the Western mind (Hall and Soskice 2001; Baumol et al 2007).

All of these capitalisms rely inherently on the assumed insatiability of human needs: confident expectations of a relentless growth in consumer spending. Across the world, capitalism advances by seeking out new consumer markets for new consumer products. The continual throwing over of the old in favour of the new. The intrusion of the market into ever more personal areas of our lives (Schumpeter 1975, Perez 2003).

In the beginning, this process can be immensely productive, leading to manifest improvements in our standard of living. But to keep the process going in perpetuity as the system requires, we need people resolutely hooked on stuff, prepared to borrow and spend – even to mortgage their own financial future if necessary – to carry on shopping (Booth 2004, Jackson 2016).

It's easy enough to find these people. Novelty matters to us. Through novelty, for instance, we tell each other stories about how important we are. Status is just one of the social dynamics that thrives on novelty. Novelty also signals progress. It offers hope. A brighter shinier world for our children and their children. And if we're ever inclined to forget or forgo that desire, there is a host of canny advertisers, marketers, investors and politicians on hand to help us remember it. To persuade us, in very simple terms, to spend 'money we don't have, on things we don't need, to create impressions that won't last, on people we don't care about'(Jackson 2010).

In short, there appears at first sight to be an uncanny fit between the demands of capital and the restless soul of the consumer. Armed with this rationale, and with economic growth as its mantra, capitalism itself seems unstoppable. 'Accumulate, accumulate, that is Moses and the prophets', as Marx (1867) once put it.

Global economic output is now almost ten times bigger than it was in 1950. The default assumption is that – financial crises aside – growth will continue indefinitely. Not just for the poorest countries, where a better quality of life is desperately needed, but even for the richest nations where the cornucopia of material wealth is beginning to threaten the foundations of our wellbeing. If it continues to expand at the same average rate, the world economy in 2100 would be more than 20 times bigger than it is today: a staggering 200-fold increase in economic scale in the space of just a few generations (Jackson 2016, Ch 1).

This unprecedented ramping up of economic activity is without historical precedent. It is totally at odds with our scientific knowledge of the finite

resource base and the fragile ecology on which we depend for survival. And it has already been accompanied by the degradation of an estimated 60% of the world's ecosystems (TEEB 2012; MEA 2005).

For the most part we tend to ignore the stark reality of these numbers. The reasons for this 'collective blindness' are easy enough to find. Expanding demand is the default mechanism for achieving economic stability. When demand falters, bad things happen. Businesses struggle to survive. People lose their jobs and sometimes their homes. A spiral of recession looms. And in these circumstances, questioning growth is deemed to be the act of lunatics, idealists and revolutionaries. But question it we must. The collapse of Lehman Brothers on 15th September 2008 signalled more than the onset of a cyclical liquidity crisis. The pallid light of recession illuminated crack after crack in the shiny surface of capitalism. It is now apparent that these cracks run right to the heart of the system.

Nowhere is this more evident than in the lessons from the crisis itself. The financial crisis was not the result of rogue behaviour or unfortunate circumstance. It was a disaster waiting to happen. An economy reliant for its stability on an endless stimulation of consumer demand resorts inevitably to monetary expansion to keep growth going. The burgeoning of credit creates fragile balance sheets. Complex financial instruments are used to disguise unsavoury debt. But when the debts eventually become toxic, the system crashes (Barwell and Burrows 2011; Turner 2015; Wolf 2015).

Since 2008, Governments have committed trillions of dollars to bail out the banks and re-stimulate the global economy. But heavy fiscal borrowing has only precipitated a further crisis. Across the Eurozone, for instance, country after country has faced rising budget deficits, unwieldy sovereign debt and downgraded credit ratings. Austerity policies, brought in to protect these ratings, have failed to solve the underlying issues. Worse, they have created new social problems of their own. The withdrawal of social investment has caused deepening inequalities, rising unemployment, worsening health outcomes and an increasingly agitated public (Stuckler and Basu 2014). The injustice of bailing out the architects of the crisis at the expense of its victims has become plain for all to see. The conditions for wider social unrest remain palpable.

Numerous responses are to be found to this existential crisis of capitalism. One set of responses aims to retain the principal dimensions of consumer

capitalism (including the growth imperative), and to solve capitalism's dilemmas through ever newer, better and more productive technologies (Breakthrough Institute 2015; Ralf 2015). Another aims to overthrow the existing constructions (including the growth imperative) entirely and replace them with something different (Harvey 2014; d'Alessa et al 2015; Kallis 2015).

Some responses focus on the failure of institutions; others on disparities of power and class and others again on the avarice, greed and short-sightedness inherent in human nature. These latter approaches sometimes cast a deterministic, almost fatalistic outlook on the prospects for sustainability, in which there is little if any room for manoeuvre and the prospects for human survival are themselves vanishingly small.

To ignore the evolutionary roots of greed and selfishness is to invite renewed institutional failure. But to assume their unrivalled dominance in human society is both unnecessarily fatalistic and equally flawed. Indeed it neglects some of the most important insights of evolutionary theory. As Rees (this volume) points out, human behaviour is conditioned by social institutions. Our evolutionary predispositions find widely differing expression under different social and institutional conditions. It is in this gap (small though it may be) between the fixity of human nature and the variability of society that we must pursue pragmatic avenues for change.

Intellectual ideas are paramount here. Consumer capitalism is in part at least a product of ideas: ideas about the nature of progress, about the power of technology, about human nature itself. Getting beyond its failings requires us first to understand this history of ideas; second to identify its shortcomings; and finally to establish credible and robust alternatives that merit exploration. These are my aims in this paper.

Ultimately, I argue, the task of defining a sustainable prosperity is precise, definable and meaningful. Moreover, the strategy of engaging in this task offers us a compelling and pragmatic alternative to the debilitating choice between an oppressive status quo and a naïve technological optimism.

Chasing progress

The modern idea of progress can be traced to the Enlightenment – a period of intense intellectual and philosophical creativity concentrated mainly in

Northern Europe during the sixteenth and seventeenth Centuries. This period in its turn gave rise to enormous technological creativity and provided many of the foundations for the industrial revolution. It was also accompanied by new moral and prudential speculations about the nature of the 'good life' – ideas about how individuals and societies can and should thrive. Some of these ideas provided the foundations for classical and later neo-classical economics. Perhaps most notable amongst these were concepts of utilitarianism (Mill 1863) and libertarianism (Locke 1690, Mill 1869, Godwin 1793; see also Hamowy 2008).

Utilitarianism held that progress consists in ensuring the greatest happiness for the greatest number. Libertarianism suggested that this could best be achieved by delivering people the freedom with which to pursue their own happiness. The libertarian focus on individual freedoms was adopted by the classical economists as an organising principle of the market economy.

Over the next two centuries these two broadly democratising philosophies slowly began to dissolve conventional hierarchical divisions in the societies of emerging industrialised countries, a process that was accelerated by industrialisation itself. Improved access to natural resources, more efficient conversion technologies with which to manufacture material goods, and the rising incomes associated with industrial livelihoods: all of these contributed to a profound technical and societal transformation.

There were critics of this transformation, even at the time (Luxemburg 1913). It was argued that the industrial revolution was built on an access to material resources that was secured only by an expansion of military power (Douthwaite 1999). Britain, France, Germany, Japan, Portugal and Spain all developed strong imperialist ambitions, competing for the rich resources and cheap labour to be found in the still-undeveloped nations around the world. Colonisation and slavery, it was claimed, provided the energy and material resources that powered the new industrial economies. Some even suggested that it was the clash of imperial ambitions amongst the emerging superpowers that led directly to the 1st and indirectly to the 2nd World War (Hobsbawm 1968; Deléage et al 1991).

There were also criticisms of the impact that the process of industrialisation was having on the working populations of the newly-industrialised countries. Working conditions in the early mill-towns were

often harsh. Life-expectancy was sometimes brutally short. There was evidence that health outcomes actually worsened over the early years of industrialisation. Rather than improving the lives of everyone, industrialisation bettered the lives of some at the expense of others. There were certainly huge divisions still between the rich – the owners of land and capital – and the poor who still struggled for livelihoods, land, food, health and a share of the political voice (Marx 1867).

A particular criticism of these new arrangements was that the emerging capitalist economy had 'disembedded' economic activities from social relations, simultaneously undermining community and social capital, and leading to a loss of accountability in economic relationships (Polanyi 1944). This erosion was thought to flow in part from the underlying philosophical idea that individual self-interest should be the driver of social progress. Critics suggested that this philosophy had shifted the balance between self-regarding and other-regarding behaviours. As individual identity became a stronger and stronger force in modern society, the strength of social identities and social ties began to diminish, threatening social cohesion (Durkheim 1903).

In spite of these criticisms – and the disruptions of two World Wars and the Depression – the emerging, predominantly capitalist, form of social organisation had dramatically improved the lives of many ordinary people in the industrialised nations by the middle of the 20th century. The prevailing, increasingly global, notion of economic progress was one which assumed that these advances would continue in much the same way into the future.

The setting up of the UN System of National Accounts (SNA) in the early post-war years provided the institutional bedrock for this view, and through it the Gross Domestic Product (GDP) became the single most important arbiter and indicator of progress. Growth in the GDP emerged as the key political priority in all the advanced Western nations. With the collapse of the Soviet Union and the opening out of trade with South East Asia, by the end of the 20th Century, the paradigm of economic growth achieved near global significance (Philipsen 2015).

In short, modern society is now organised around a particular model of how to pursue human well-being. Baldly stated, this model contends that increasing economic output – growth in the gross domestic product (GDP) – leads to improved well-being. Rising GDP traditionally symbolises a

thriving economy, more spending power, richer and fuller lives, increased family security, greater choice, and more public spending. And at the heart of this model, lies a very particular vision of human nature.

The Evolution of Selfishness

The idea that human beings are primarily selfish and ultimately insatiable has a long and convoluted history. But it achieved a particularly powerful incarnation in the model of human nature which informs and sustains modern economics. Not only are people inherently selfish, according to this conception, but it is precisely this self-interest which leads society towards the greater good.

One of the earliest articulations of this idea was a satirical poem, first published in 1705, called the Fable of the Bees. Its author, Bernard de Mandeville was a Dutch physician living in London. His poem told the story of a thriving and successful beehive, in which the bees suddenly become honest and virtuous. The effect, in de Mandeville's poem, is disastrous. The bees lose all motivation to succeed, the hive collapses and the remaining bees go off to live empty lives in a hollow tree (de Mandeville 1989).

De Mandeville's intention was to satirise those complaining of corruption in the politics of the day. Self-interest, claims de Mandeville, is the principal driver of economic vitality and consequently serves the best interests of society. It should not be railed against or reined in because it's the source of our wealth and our wellbeing, argues the Fable of the Bees.

The poem was particularly influential on the Scottish moral philosopher, Adam Smith, the man widely regarded as the father of economics. Everyone is continually exerting himself in his own self-interest, said Smith (1776). 'It is his own advantage, indeed and not that of the society, which he has in view', but 'he is in this, as in many other cases, led by an invisible hand to promote an end which was no part of his intention'.

Smith himself wrote passionately about the dangers of corporate interests and the indispensable role for government in curbing these and indeed in delivering services that the private sector would not. But the metaphor of the invisible hand inspired a lengthy and ferocious defence of the virtues

of an unbridled 'free market' in which self-interest is given full rein. 'The great merit of the capitalist system,' wrote the economist Edward Robinson, is that it succeeds in using the nastiest motives of nasty people for the ultimate benefit of society' (Robinson 1948).

The conflation of self-interest with human nature was certainly opportune because it conferred simplicity on the mathematical models which economics was busy developing to explore the dynamics of the market. But the supposed centrality of self-interest to the human psyche also gained support from one of the most powerful intellectual developments of the 19th Century, the theory of evolution.

In its simplest terms, Darwin's theory of natural selection has two key components: the idea of spontaneous variation in the characteristics of plants and animals; and the process through which these variations are selected. This selection process was, broadly speaking, one of competitive struggle, in which the fittest survive and the weakest perish.

In an autobiographical essay published after his death, Darwin described the process through which he arrived at the theory of evolution, in the following way. 'In October 1838, that is fifteen months after I had begun my systematic enquiry, I happened to read for amusement "Malthus on Population" [Malthus 1798], and being well prepared to appreciate the struggle for existence which everywhere goes on from long-continued observation of the habits of animals and plants, it at once struck me that under these circumstances favourable variations would tend to be preserved, and unfavourable ones to be destroyed. The result of this would be the formation of new species'. 'Here then,' he wrote, 'I had at last got a theory by which to work'. (Darwin 1892, 68).

In this account, natural selection appears to give selfishness an unassailable importance in the evolution of the human species. If selection takes place at the level of the individual it should, in the long run, favour the evolution of individuals who exhibit mainly selfish (ie self-preserving) behaviour. Selfishness attained not just a legendary but an evolutionary status.

Just as the self-interest of economic agents is supposed to lead 'as if by an invisible hand' to the most favourable outcome for society, so the self-interest of individuals is supposed to lead through 'the survival of the fittest' to the most favourable outcome for species. Economics has continued to 'borrow' credibility for the centrality of self-interest from the

theory of evolution ever since (Mirowski 1989). But this credibility is critically, perhaps fatally, flawed.

Beyond the selfish gene

Human behaviour is self-evidently not entirely selfish. Nor is it exclusively hedonistic. The existence of genuinely altruistic behaviour is a fact of biology. Darwin himself at first believed this fact was 'insuperable, and actually fatal to my whole theory' (Darwin 1968, 257). His own attempt to solve the problem was to suggest that selection operates not only on individuals but also on families or groups, a proposal that has never been definitively settled (Ridley 1996; Wright 1994).

It was to be almost another century before the 'problem of altruism' achieved a more satisfactory solution. In 1963, the British biologist William Hamilton published a landmark paper in which he proposed that selection operated not at the level of the individual but at the level of the gene. This proposal (now widely accepted) provided a mechanism for the evolution of altruism, without recourse to the idea of group selection. Though the individual may perish, the genes that he or she shares with other members of the species have a better chance of survival as a result of the sacrifice (Hamilton 1963, 1964).

Hamilton's work laid the foundation for a long-awaited continuation of Darwin's project to provide an evolutionary basis for human psychology. During the following decades, this foundation was strengthened and broadened, first through the work of evolutionary biologists and later through the emergence of a sophisticated neuroscience of human behaviour (Whybrow 2015, Sterling 2016).

These ideas might have remained within the confines of biology, had it not been for the publication in the mid-1970s of two ground-breaking popular books. In 1975, the biologist Edward Wilson published a landmark volume on Sociobiology, a new science of human behaviour. It was grounded solidly in the emerging evolutionary insights into human behaviour (Wilson 1975).

A year later, a young Oxford scientist named Richard Dawkins published a book called The Selfish Gene in which he pursued the implications of

Hamilton's insight that the fundamental unit of evolutionary selection is the gene (Dawkins 1976). Together these two books brought the new evolutionary theories about human behaviour to a wide and diverse audience. They caused a furore of interest, and not a little controversy (Rose and Rose 2002).

Some of the controversy arose from Dawkins' provocative but potentially misleading title. What many people took from the title (and Dawkins himself sometimes implied) is that the selfishness of the human species is indelibly written in our genes and there is nothing much to do about it. But even on a strict biological reading of the evidence this doesn't quite stack up. It is only true to the extent that another completely different sentences is also true: namely, that our altruism is also indelibly written in our genes and there is not much we can do about it.

What Hamilton and others had shown was that the 'selfishness' of the gene is entirely consistent with the unselfishness of human beings. Even if the primary 'aim' of the gene is its own genetic continuance – which by the way is a highly anthropomorphic interpretation of gene selection – it is entirely mistaken to assume that human motivations are all selfish. Evolution doesn't preclude moral, social and altruistic behaviours. On the contrary, social behaviours evolved in humans precisely because they offer selective advantages to the species (Ridley 1996; Wright 1994).

This simple insight leads to a much more nuanced view of what it means to be human. Selfishness clearly exists. But so, undeniably, does altruism. Both kinds of behaviours are genetically possible in us. Both had evolutionary advantages to our species over long periods of time. Selfishness served us well under conditions of fight or flight. But altruism was fundamental to our evolution as social beings.

All of us are to a greater or lesser extent torn between the two. Neither has absolute reign over the other. Evolutionary psychology describes a tension in the human psyche between self-regarding and other-regarding values. Equally interesting, from the perspective of understanding consumerism, it also recognises another tension: between novelty-seeking values and conservative or traditional values. The first is adaptive in fast-changing conditions. But the second is absolutely vital in providing the stability needed to raise families and form cohesive social groups.

The psychologist Shalom Schwartz and his colleagues have formalised these insights into a theory of underlying human values. Using a scale that

has now been tested in over 50 countries, Schwartz suggests that our values are structured around two distinct tensions (Figure 1) in our psychological make-up: between selfishness (self-enhancement, in Schwartz's scheme) and altruism (self-transcendence) on the one hand; and between novelty (or openness to change) and tradition (or conservation) on the other (Schwarz 2006, 1999).

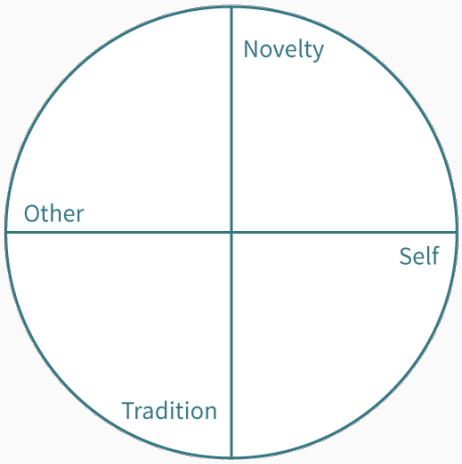

Figure 1: Evolutionary tensions in the human psyche
Source: author's depiction of the Schwartz (1999) circumplex

This evolutionary map of the human psyche is revealing about the challenge of achieving a sustainable prosperity. What we've created in consumer capitalism is an economy which privileges, indeed systematically encourages, one specific aspect of human behaviour, characterised by the upper right quadrant in Figure 1. We've done this in part, as a result of a massive misconception, arising from a very particular set of intellectual ideas. But this misconception has given rise to an economy which is itself best served by selfish, novelty seeking behaviour. When consumption falters, disaster beckons.

This combination of intellectual conceit and structural weakness has created a self-fulfilling prophecy. As the game theorist Robert Axelrod once demonstrated, the balance of behaviours in a society depends on how that society is structured (Axelrod 1984). When technologies, infrastructures, institutions, and social norms all reward self-enhancement and novelty, then selfish sensation-seeking behaviours prevail over more

conservative, altruistic ones. But where social structures favour altruism, self-transcending behaviours are rewarded and selfish ones are penalised.

Each society strikes this balance between altruism and selfishness (and between novelty and tradition) in different places. And where this balance is struck depends crucially on social structure. In the normal course of events, social conditions determine the rules by which ordinary people seek to live. Culture shapes and constrains our lives. When things are working well, social structures are properly aligned with collective values and provide a cultural framework within which people can flourish, allowing us to live meaningful, purposive lives. When things go badly, institutional structures wage war on human values, undermining prosperity and damaging society.

This, I would argue, is precisely where we find ourselves. It explains the restless dissatisfactions of consumerism. It motivates the rise of a value-led simplicity. And it chimes with a long succession of insights into the human condition from religion, from philosophers, from wisdom traditions, from poetry, from literature and from art: we are not and never were entirely the selfish hedonists that consumer capitalism expects and needs us to be.

A simple and yet ferociously destructive misconception of human nature lies at the heart of consumer capitalism. Correcting that misconception opens out new avenues for change, offers an alternative vision of prosperity, and suggests clear directions for the transformation of our economies.

Foundations for the economy of tomorrow

Prosperity transcends material concerns. Of course the good life has undeniable material dimensions. It is perverse to talk about things going well when there is inadequate food and shelter. But it is also plain to see that the simple equation of prosperity with abundance is false even when it comes to these simple material requirements. Even when it comes to questions of sustenance, more is not always better. Quality is not the same as quantity.

Prosperity has vital social and psychological dimensions. To do well is in part about our ability to give and receive love, to enjoy the respect of our peers, to contribute useful work, to feel secure in the face of uncertainty, to have a sense of belonging and trust in our community. In short, an important component of prosperity is the ability to participate meaningfully in the life of society. Prosperity consists in the capabilities we have to flourish as human beings on a finite planet (Jackson 2016).

The economy must deliver these capabilities (Jackson and Victor 2013). Beyond the production and delivery of goods and services, this task involves enhancing social wellbeing and protecting environmental integrity. Stability in markets, security in employment, ecological integrity, sustainability in supply chains, fairness: these are some of the conditions on which present and future prosperity depends.

In the second half of this paper, I develop briefly the economic dimensions of sustainable prosperity: the role of enterprise, the quality of work, the structure of investment and the role of the money supply. Taken together, I argue, these four elements hold the potential for a radical transformation of consumer capitalism and offer solid foundations for the economy of tomorrow.

The role of enterprise

Economic activities need to provide the capabilities for people to flourish in their community, socially and psychologically as well as materially. At the same time, these activities must provide decent, satisfying livelihoods for people. Employment matters in any economy. Finally, of course, economic activity must be low in carbon, efficient in resource use and 'tread lightly' on the earth. Enterprise must provide the capabilities for flourishing without destroying the ecological conditions on which our future prosperity depends.

These few characteristics provide the basis for a new vision of enterprise: not as a speculative, profit-maximising, resource-intensive division of labour, but as a form of social organisation embedded in the community, engaged in delivering services that improve our quality of life.

The idea of 'enterprise as service' has a surprising pedigree. The concept of energy services is already a familiar way of looking at the energy system

(Jackson 1992). The same broad idea can be applied to housing, to transport, to nutrition (Jackson 1996). Beyond these material needs, prosperity is as much about social and psychological functioning – identity, affiliation, participation, creativity and experience – as it is about material stuff.

Often of course, we try to employ material products and services to satisfy these needs, with higher and lower degrees of success. But the needs themselves are not inherently material and it is mistaken to cast enterprise solely in terms of the throughput of material stuff. Consumer capitalism also recognises a variety of different kinds of service-based enterprise. Digital and electronic services, for example, are often supposed to offer hope for a highly-dematerialised world (Füchs 2015). The evidence for this tends not to be as strong as we might like it to be (Hogg and Jackson 2009).

But there is very definitely a subset of service-based activities which offer multiple dividends for a sustainable prosperity. These activities tend to focus on 'human services' such as health, education, and social care. Or to be located in the sectors of craft and culture. Taken together with the 'servicisation' of material sectors such as energy or housing, these activities offer a real potential for transforming the economy, in ways which reduce material throughput, increase employment and contribute positively to the quality of our lives (Jackson 2016).

Not all of these activities have to be delivered through formal private sector enterprise. Some will require public sector involvement. Many of them flourish best in the form of local, community-based social enterprise: community energy projects, local farmer's markets, slow food cooperatives, sports clubs, libraries, community health and fitness centres, local repair and maintenance services, craft workshops, writing centres, outdoor pursuits, music and drama, yoga, martial arts, meditation, hairdressing, gardening, the restoration of parks and open spaces.

People often achieve a greater sense of well-being and fulfilment, both as producers and as consumers of these activities, than they do in the time-poor, materialistic, supermarket economy in which much of our lives is spent (Castell et al 2011). Nor is it simply the outputs from these activities that make a positive contribution to flourishing. The form and organisation of our systems of provision also matters. Economic organisation needs to work with the grain of community and the long-term

social good, rather than against it (Alperovitz 2014; Jackson and Victor 2013).

In summary, this vision of enterprise offers a kind of blueprint for a different kind of economy. It provides for our ability to flourish. It offers the means to a livelihood and to participation in the life of society. It promises security, a sense of belonging, the ability to share in a common endeavour and yet to pursue our potential as individual human beings. And at the same time it offers a decent chance of remaining within ecological scale.

The quality of work

Work is more than just the means to a livelihood. It is also a vital ingredient in our connection to each other – part of the 'glue' of society. Good work offers respect, motivation, fulfilment, involvement in community and in the best case a sense of meaning and purpose in life.

The conventional economic view sees work as a sacrifice of our time, leisure and comfort, and wages as a 'compensation' for that sacrifice. This leads to perverse outcomes for both workers and entrepreneurs. As Schumacher points out, 'the ideal from the point of view of the employer is to have output without employees, and the ideal from the point of view of the employee is to have income without employment' (Schumacher 1973).

This perverse dynamic is internalised in the modern economy through the pursuit of labour productivity: the desire continually to increase the output delivered by each hour of working time. Rising labour productivity is often viewed as the engine of progress in modern capitalist economies. But the relentless pursuit of increased labour productivity also presents society with a profound dilemma. As each hour of working time becomes more 'productive', fewer and fewer people are needed to deliver any given level of economic output.

At the macroeconomic level this dynamic is punishing. If our economies fail continually to expand, we risk putting people out of work. Higher unemployment reduces spending power in the economy and generates rising welfare costs. Higher welfare costs lead to unwieldy levels of government debt. Higher sovereign debt tends to reduce public spending, depressing demand still further. When economic growth is hard to come by,

for whatever reason, the dynamic of rising labour productivity is a harsh mistress (Jackson 2016, Ch 6).

There are broadly speaking, two avenues of intervention through which to escape from this 'productivity trap' (Jackson and Victor 2011). One is to accept productivity growth in the economy and reap the rewards in terms of reduced hours worked per employee – or in other words to share the available work amongst the workforce (Victor 2008, Hayden 1999). The second strategy is to ease up on the gas pedal of ever-increasing productivity: or in other words, to shift economic activity to more labour intensive sectors.

Interestingly, both these avenues have some precedence in economic thought. Proposals to shorten the working week are enjoying something of a revival as a way of maintaining full employment with declining output (NEF 2013). But the idea has a surprisingly long pedigree. In an essay entitled Economic possibilities for our grandchildren, John Maynard Keynes (1930) foresaw a time when we would all work less and spend more time with our family, our friends and our community.

A telling example of the success of this strategy is the case of Trumpf, a machine-tool maker in the south German city of Ditzingen. The company managed to get through the financial crisis without laying off any of its 4,000 German workers, while the same company laid off 90 of 650 workers in the United States. The difference was that in Germany Trumpf could take advantage of government incentives to reduce worker hours rather than lay off people (NY Times 2010).

Reining in the relentless increase in labour productivity offers a compelling alternative to a reduction in working hours. If labour productivity is no longer continually increasing, and possibly even declining, then the pressure on jobs is considerably lower. By shifting to a lower productivity economy we have within our grasp the means to maintain or increase employment, even as the growth in the output of the economy slows down.

If this option sounds perverse at first, it is probably because we have become so conditioned by the language of efficiency. Output is everything. Time is money. The drive for increased labour productivity occupies reams of academic literature and haunts the waking hours of CEOs and Finance Ministers across the world. Quite apart from this ideological tenacity, our ability to generate more output with fewer people has lifted our lives out of

drudgery. Who nowadays would prefer to keep their accounts in longhand, wash hotel sheets by hand, or mix concrete with a spade?

But there are places where chasing labour productivity growth makes much less sense. Certain kinds of tasks rely inherently on the allocation of people's time and attention. The care and concern of one human being for another, for instance, is a peculiar 'commodity'. It cannot be stockpiled. It is not deliverable by machines. Its quality rests primarily on the attention paid by one person to another. Compassion fatigue is a rising scourge in a health sector hounded by meaningless productivity targets.

Craft is another example. It is the accuracy and detail inherent in crafted goods that endows them with lasting value. It is the attention paid by the carpenter, the tailor and the designer that makes this detail possible. Likewise it is the time spent practicing, rehearsing and performing that gives art its enduring appeal. What – aside from meaningless noise – is to be gained by asking the New York Philharmonic to reduce their rehearsal time and play Beethoven's 9th Symphony faster and faster each year (Jackson 2012)?

Fascinatingly, these sectors of the economy – care, craft, culture – are among the 'human services' that stand at the heart of the vision of enterprise set out above. In short, achieving full employment may have less to do with chasing after endless productivity growth and more to do with building local economies based around care, craft and culture; and in doing so, restoring the value of decent work to its rightful place at the heart of society.

The structure of investment

Investment embodies one of the most important relationships in economics: the relationship between the present and the future. The fact that people set aside a proportion of their income for investment at all reflects a fundamentally prudential aspect of human nature. We care not just about our present happiness but also about our future well-being. Prosperity today means little if it undermines prosperity tomorrow. Investment is the vehicle through which we build, protect and maintain the assets on which tomorrow's prosperity depends.

In the conventional economy, private investment is directed towards three main objectives. Firstly, it aims to maintain (and where necessary replace or expand) the existing stock of fixed assets. Secondly, it attempts to improve the productivity of those assets – most often, as we have noted, through the pursuit of increased labour productivity. Finally, investment is directed towards the creation and re-creation of new markets for new consumer products – Schumpeter's 'creative destruction'. The result is a portfolio of investments dominated by resource extractive industries and environmentally damaging material flows.

Beyond these physical or 'real' investments, of course, much of the investment activity in consumer capitalism takes the form of speculation in property, commodities or asset prices. The financial crisis bore witness to a kind of casino capitalism, gambling on the future, at the expense of financial and social stability.

A robust investment strategy must have a different focus. The provision of our basic material needs is of course still the baseline for investment. But beyond this baseline we need investment in health, in education, in social care, in leisure and recreation; in green spaces, lakes and rivers, parks and gardens; in community halls, concert halls, theatres, museums and libraries. The broad aim of this portfolio is to build and maintain the physical assets through which individuals can flourish and communities can thrive – with as little in the way of material throughput as possible.

Needless to say, very few – one is tempted to say not a single one – of the services on which prosperity depends can do away with material and energy inputs completely. Healthcare requires medicines and life-saving equipment. Education needs books and computers. Musicians need instruments. Gardeners need tools and fertilisers. Even the lightest recreation activities – dance, yoga, tai chi, martial arts – require an appropriately maintained space for interaction. More obviously, people need homes, clothes, nutrition and mobility.

In other words, there is an irreducible material element within even the most dematerialised vision of enterprise. But it's also clear that dramatic improvements in the material and energy efficiency of economic activity are possible (EMF 2015, Füchs 2016). Technological improvements in resource productivity, enhancements in energy efficiency, and the substitution of renewable energy for fossil-fuelled energy: these

conventional 'green' investments are an essential component of the economy of tomorrow.

There are numerous examples of this kind of investment in practice (Capital Institute 2011, UNEP 2012; UNEP 2016). Triodos Bank – an innovative ethical bank founded in the Netherlands in 1980 – was one of the pioneers in this space. The bank currently finances over 300 local renewable energy projects in Europe generating over 1600 megawatts of electricity (Triodos 2016). In a sense, these low-carbon initiatives are not just investments in the physical infrastructure of energy services, we could accurately say that they are also investments in the ecological asset provided by the climate itself.

More generally, maintaining ecological assets requires ecological investment. Forests, grasslands, wetlands, lakes, oceans, soils and the atmosphere itself are all essential in providing the services on which life itself depends (TEEB 2012). The economic value of these services is difficult to calculate, but the integrity of the underlying ecology is vital to human prosperity.

In summary, a robust portfolio of investment needs to be focused on the protection and maintenance of the assets on which future prosperity depends. Interestingly, however, simplistic prescriptions in which investment contributes to future productivity may not work here. Investment in long-term, public goods will have to be judged against criteria other than financial market success. This may also mean rethinking the ownership of assets and the distribution of surpluses from them. Perhaps the biggest challenge for this new portfolio of investment is the question of financing. It is to this subject that we now turn.

The role of money

So far, I have focussed mainly on what is called the 'real economy' – the patterns of production, consumption, employment government spending and investment in the economy. The 'money economy' is a term used to describe the wider set of financial flows on which the real economy depends. This wider set of financial accounts includes the flow of money into and out of different economic sectors, the processes of borrowing, lending, creating money (the money supply), and the changes in the

financial assets and liabilities of different economic actors. These money flows are essential to the financing of investments in the real economy.

Few economists foresaw that the massive expansion of commercial debt-based money could destabilise the money system as a whole. To most non-economists, the nature of the money system often comes as a complete surprise. We tend to think of money as something printed (or brought into existence electronically) by the Central Bank more or less under the control of the government. The reality is that only a small proportion of the money supply (less than 5% in most western economies) is created in this way. Most money circulating in the economy today is created by commercial banks, almost literally 'out of nothing'. When a bank agrees to create a loan to a business or a household it simply enters the amount as a loan on the asset side of its balance sheet and the same amount as a deposit on the liability side of its balance sheet. This deposit is then available to spend on goods and services in the economy. Banks create money by making loans (Jackson and Dyson 2013; Wray 2012).

The crisis was a direct result of this money system. In the preceding decade, the banks had extended increasing levels of credit to people who could increasingly not afford to repay it. They failed to maintain enough resilience in their balance sheet to protect themselves. In the language of financial markets, they were 'over-leveraged'. When households began to default on loans, a rapid decline in the asset value of the banks in relation to their liabilities triggered a massive loss of confidence in the market. One after another, the most vulnerable banks found their balance sheets 'under water', with liabilities vastly exceeding assets (Wolf 2015, Turner 2015).

It became apparent through the crisis that sustainability – indeed, basic economic security – depends on a healthy financial system. Prosperity itself depends on a properly functioning money system. Transforming the financial system is a clear priority. Though it's beyond the scope of this paper to expand on that task in detail, it is worth highlighting three particularly important social innovations which are supported strongly by the analysis here.

The first is impact investing – the reinvestment of private net savings into the economy. The second is community banking and credit unions – the implementation of local savings and investment vehicles that plough benefits directly back into the community. The third is the reconfiguring of the money supply itself, reclaiming control of the money supply from

commercial interests and returning it to either the public sector (government) or the community.

There are positive examples in support of each of these innovations. Impact investing – the channelling of investment funds towards ethical, social and sustainable companies, technologies and processes – is an increasingly important element in the architecture of the economy. This kind of investment was in the past seen more as a form of philanthropy. But as the Capital Institute remarked, it should be seen as a vital complement both to philanthropy and to government funding: 'a way to leverage secure philanthropic and public sector dollars, while harnessing the power of social entrepreneurs and market-based solutions to solve some of the world's most intractable problems'. The Patient Capital Collaborative is an innovative United States-based initiative to help 'angel investors' nurture and fund start-up companies aiming to have a positive social and environmental impact in the world (Capital Institute 2012).

At the very local level, this kind of initiative merges with the second innovation. Community banking is about mobilising the savings of ordinary people at community level to provide investment funds for social or environmental finance. Community banks allow people to invest in their own community – for example in low-carbon energy, or in community amenities, and at the same time ensure that the returns from those investments remain within the community. Credit unions are typically smaller, more local and often designed specifically to be non-profit making institutions. They therefore offer a particularly appropriate vehicle for investment at community-scale and are beginning to be adopted for this purpose.

The third avenue for steering finance towards sustainable investment concerns the money supply itself. There are some rather strong arguments in favour of changing the existing debt-based money system and returning a greater degree of control over the money supply to government (Jackson and Victor 2015). Some of these arguments have a surprising pedigree.

The so-called Chicago plan – in which calls for 100% backing of deposits with government-issued money – was first put forward in the 1930s and supported most notably by the Nobel laureate Irving Fisher. The idea has been revived recently in a working paper from the International Monetary Fund which points to several advantages of the plan including its ability to better control credit cycles, eliminate bank runs, and dramatically reduce

both government debt and private debt. In addition, returning control of the money supply to the state would allow governments to invest directly in the green economy without punitive interest payments (Benes and Kumhof 2012).

In summary, the economy of tomorrow demands a different financial landscape from the one that led to the financial crisis of 2008/9. Long-term security has to be prioritised over short-term gain. Social and ecological returns must be factored into investment decisions alongside conventional financial returns. Improving the ability of people to invest their savings locally, to the benefit of their own community, is paramount. In short, reforming capital markets is not just the most obvious response to the financial crisis, it is also an essential foundation for sustainable prosperity.

Towards a sustainable prosperity

The boom-and-bust, growth-obsessed economics of the last century has created financial instability, increased social inequality and led to unsustainable environmental damage. Austerity has exacerbated these dangers. In chasing prosperity through relentless material consumption, modern capitalism has sown the seeds of its own collapse.

None of this is inevitable. As I have argued in this paper, the dimensions of a different kind of economy can be derived from simple first principles. Sustainable prosperity is consistent with a more robust view of human nature. Four distinct economic innovations – the nature of enterprise, the value of work, the structure of investment and the role of money – provide solid foundations for the economy of tomorrow. All of these considerations flow from a simple understanding that the economy is not an end in itself but a means towards prosperity. The transition from unfettered consumerism to sustainable prosperity is a precise, definable and meaningful task.

In understanding prosperity as a social and psychological condition, as much as a material one, we have opened up an intriguing possibility: that material limits do not in themselves constrain prosperity. With appropriate attention to these limits, it may be possible to improve the quality of our lives even as we reduce their impact on the environment. To live better while consuming less. To have more fun, with less stuff.

The idea that humans can flourish and at the same time consume less is tantalising. It would be foolish to think that it is easy to achieve. But equally, it should not be given up lightly. It may well offer the best prospect we have for a meaningful and lasting prosperity. It is at least a guiding vision to take us beyond a reckless and unsatisfying consumer capitalism. The challenge for the economy is to create the conditions under which this transformation is possible.

Prosperity, ultimately, is the art of living well on a finite planet. It is about the quality of our lives and relationships, about the resilience of our communities, and about our sense of individual and collective meaning. As the word itself suggests, prosperity is about hope. Fulfilling that hope remains a task worth engaging in.

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