



Sustainable economics

Introduction

It is clear that the present rate of consumption of natural resources is unsustainable. Even so called 'renewable resources' are only renewable at the rate at which they are naturally replenished and there is an overwhelming amount of scientific data to show that the present level of human activity is having a massively deleterious effect on the environment. In particular, greenhouse gas emissions will lead to potentially catastrophic levels of **climate change** unless urgent action is taken. If humanity and other species are to flourish, the ongoing consumption of resources and impact on the environment must be constrained within the limits of a finite planet as soon as possible.

Unfortunately, both conventional economics, and most people's expectations, are locked into an unsustainable requirement for endless growth. A new paradigm is required to guide human economic activity in a manner that preserves ecosystems and allows successive generations to prosper.

This paper outlines some key issues.

Unsustainable economics

The conventional approach considers economic activity in terms of money, human labour and human-generated wealth. Fostering growth, in the form of never-ending cycles of production and consumption, is seen as a primary objective. The environment is usually either ignored or treated as a limitless source of natural resources and a bottomless sink for waste.

Depreciation of natural capital is seldom taken into account.

The predominant measure of economic success is Gross Domestic Product (GDP). On the one hand this ignores important non-monetary activities, eg voluntary work. On the other, perversely, it includes such activities as the cost of clearing up pollution, which many would feel represent economic *failures*. Various alternative economic indicators have been developed, for example the Measure of Economic Welfare (MEW),¹ the Index of Sustainable Economic Welfare (ISEW)² and more recently the Genuine Progress Indicator (GPI).³ These aim to relate more closely to people's sense of wellbeing and real prosperity,⁴ but as yet nothing has displaced GDP as the mainstream indicator of economic 'progress'.

As presently practised, market capitalism is highly susceptible to boom and bust instability. The requirement to be competitive drives companies to minimise costs, including ongoing pressure to increase labour productivity. Reduced labour intensity in the economy means there must either be more production or less labour. In other words, it is usually only achievable in conjunction with growth in output, or reduction in employment. The former implies increasing demand for energy and other resources. The latter leads to unemployment; the consequent reduction in wages reduces purchasing power in the economy and precipitates further contraction. Thus the system is intrinsically locked-in to growth in order to minimise unemployment and the threat of

recession. Governments are therefore under pressure to stimulate growth.

There is an inherent conflict between the need to limit growth in order to conserve resources and protect the ecosystems on which we depend, versus encouraging growth to avoid recession and consequent social collapse. Tackling these two demons simultaneously has not yet received sufficient attention.

Consumerism

The profit motive and consumer demand also drive economic growth. The economic 'machine' promotes consumption. Ongoing assault by commercial advertising reinforces people's association of more and/or new goods with a better quality of life, whether or not this is borne out in practice. In many cases it is the symbolic or social, rather than physical, value which is appealed to in encouraging people to purchase goods or services. These factors further contribute to the difficulty of breaking out of the present economic paradigm. To the extent that consumer demand and the profit motive are positive drivers for change they need to be harnessed into sustainable production to the benefit of consumer, provider and the environment.

Decoupling

Improved technology can reduce the natural resource demand and environmental impact of the economic activity needed to provide goods and services. Known as decoupling, this is a necessary but far from sufficient prerequisite for sustainable prosperity. There is undoubtedly still an opportunity for further relative decoupling, ie ongoing reduction in impact per unit of economic output. However, the extent that this is possible is ultimately limited by the laws of physics. Historically, relative decoupling has tended to be more than outweighed by growth in economic output. Absolute decoupling is needed to meet natural resource and environmental constraints. Recent absolute reductions in greenhouse gas emissions from some developed countries give limited cause for optimism but global emissions are

still rising, albeit more slowly than the average over the past 50 years. To put this in perspective, it is estimated that a 50% *absolute* reduction in carbon emissions within approximately 25 years will be required in order to avoid dangerous levels of climate change.⁵

Prosperity and flourishing

There is a widespread tacit assumption that increased human wellbeing is inseparable from ongoing consumption growth. It is undoubtedly true that a certain throughput of material resources is required for people to flourish. On the other hand, there is good evidence that, as material living standards increase, people's happiness and life-satisfaction are less strongly correlated with increases in income.⁶ There is an ongoing challenge to ensure that material consumption genuinely enhances the lives of those involved and is provided on a sustainable basis.

There is also evidence that relative affluence and perceived status can be as important to people's objective sense of wellbeing as their absolute level of wealth or income.⁷

Many other factors contribute to a sense of wellbeing, including participation in society, sense of belonging, level of security, etc; most of these depend as much or more on the type of community in which people live as on their material wealth and income as such.

Inequality

There is evidence that, other things being equal, subjective wellbeing is lower in countries with high levels of income inequality, though there are exceptions to this rule.⁸ Over the 30 years to 2013, income distribution (as measured by the Gini coefficient) has become more unequal in most, though not all, OECD and European states.⁹ This may be another factor contributing to growing levels of dissatisfaction through a period when total GDP incomes have generally been rising.

It is also apparent that austerity policies, often put in place by governments at times of economic

downturn, can have a disproportionately adverse effect on the least well-off members of society.

This is not to say that some inequality in income or life style is necessarily undesirable or without positive public spin-off. The challenge for sustainable economics is to ensure that it remains below the level that leads to unnecessary poverty, poor health and resentment.

Ageing populations

In an era where the average age in many countries is increasing, economic growth is widely viewed as essential to support ageing populations.

Unfortunately, this is often also interpreted as a reason deliberately to increase the number of young people, ignoring the fact that the extra young people will themselves age. In effect it solves a problem for one generation at the expense of those to come.

What will sustainable economics entail?

It is clear that a significantly different economic environment is needed, one that ensures ecological limits are respected whilst fostering the right kind of economic activity for people to flourish.

The effect of humanity on the planet can be summarised by what is known as the **Ehrlich or IPAT Equation**. This states that the demands people place on natural resources and the environment depend on population size, affluence levels and the type of technology used to provide goods and services. This perspective suggests that incentives to keep all three factors within sustainable limits need to be hard-wired into the way any future sustainable economic system works. Once established, it isn't unreasonable to hope that such a system could endure.

Transition

It is, however, more difficult to visualise how the transition to a new sustainable economic paradigm could be implemented. What are the prerequisites for it to take place, which features could realistically be implemented independently and which are dependent on others? Are any 'catalysts' available to

overcome the more problematic steps in the overall journey?

On the positive side, work to shed light on what might be required is ongoing, for example by the Campaign for Understanding Sustainable Prosperity. CUSP's vision statement includes "... attention to pragmatic steps that need to be taken by enterprise, government and civil society in order to achieve a sustainable prosperity."¹⁰

Some key features of a sustainable economy:

- Universal acknowledgement of planetary and thermodynamic constraints on economic activity.
- Embedded respect for human rights, global and intergenerational justice, ecosystems and non-human lifeforms.
- Stable local and global human populations with numbers consistent with sustainable prosperity.
- Reduced emphasis on material possessions as a means for participation in society.
- More fun with less stuff.
- Shared prosperity - less inequality between haves and have nots.
- Economic metrics and decision criteria to internalise environmental factors and the value of natural resources.
- Low material and energy throughputs.
- Production of economic 'goods' largely decoupled from material impacts - but a technofix-based panacea is an illusion.
- Emphasis on quality and durability rather than quantity of goods.
- Investment focused on sustainable infrastructure and long-term prosperity rather than short-term gain.
- An economic system inherently resistant to the twin demons of unemployment and ecological crisis.

It's unlikely that many of the changes required will take place spontaneously; to a greater or lesser extent government will need to provide incentives. It is clear that Government will also need to take a major role in facilitating and stabilising any sustainable economy.

Obtaining democratic consent will require widespread discussion. As well as explaining the new order, the dialogue will have to demolish convincingly a number of unhelpful but commonly held false economic 'truths' which continue to stop people accepting the need for change.

Measures already 'on the table' to encourage transition to sustainable economy include:

- Phase out perverse incentives, especially for consumption of non-sustainable fossil fuels.
- Tax the use of natural resources and pollution rather than employment.
- Meaningful support for long term investment in renewable energy, more efficient technology and infrastructure.
- Incentives to shift attitudes and behaviour towards resource-lean consumption.
- Putting in place alternative(s) to GDP as aspirational measures of economic performance.
- Encouraging smaller families in order to reduce the number of future consumers.
- Counter-cyclical government-spending designed to reduce economic fluctuations and thereby contribute to the stability of any materially steady-state economy.
- Changes to the money supply and additional measures beyond the scope of this paper.

More detailed discussion of sustainable economics can be found in various references. Recent books by Jackson¹¹ and Maxton & Randers¹² are recommended.

Conclusions

Environmentalists and forward-thinking economists seek to change the prevalent economic paradigm to one based on sustainability.

A framework needs to be put in place for human economic activity consistent with the resource constraints of a finite planet and conservation of the **ecosystems** on which humans and other species depend. Future human activity must recognise that economic development is bound by the laws of physics and the behaviour of natural systems.

Once the need for greater emphasis on sustainability and preservation of natural capital is widely accepted, it is hoped that economic activity will become more focused on social 'goods' rather than endless growth of consumer materialism.

With such a change of direction, it should become more widely accepted that endless growth of human economic activity is physically impossible on a finite planet. It is then only a small step to realise that an endless increase in human numbers is equally unsustainable. Hopefully it will be increasingly recognised that the higher the level of individual consumption, the fewer the number of people that can enjoy it. An alternative perspective is that the smaller the number of people on the planet the higher the sustainable material living standard they can aspire to.

Even with the need for change generally understood and the economics of a prosperous sustainable economy worked out in principle, it is likely to be a significant challenge to kick-start and manage the transition.

References

Internet references accessed 01/02/2017

¹ http://www.economicsonline.co.uk/Global_economics/Measure_of_economic_welfare_MEW.html

² Ibid

³ <http://rprogress.org/publications/2007/GPI%202006.pdf>

⁴ www.anielski.com/Documents/Sustainability%20of%20Nations.pdf

⁵ The Carbon Budget. World Resources Institute infographic <http://www.wri.org/ipcc-infographics>

⁶ Jackson T 2006. Beyond the Wellbeing Paradox. *CES Working Paper 06/06* (ISSN: 1464-8083)

https://www.surrey.ac.uk/ces/files/pdf/0606_WP_Wellbeing_and_SD.pdf

⁷ Ibid

⁸ Ferrer-i-Carbonell A and Ramos X 2012. Inequality and Happiness: *GINI Discussion Paper 38*: http://www.gini-research.org/system/uploads/374/original/DP_38_-_Ferrer-i-Carbonell_Ramos.pdf?1344347681

⁹ Gini policy paper 3: www.gini-research.org/system/uploads/566/original/GINI_Policy_Paper_3.pdf

¹⁰ <http://www.cusp.ac.uk/about/>

¹¹ Jackson, Tim 2016, *Prosperity without Growth: Foundations for the Economy of Tomorrow*, second edition. Routledge

¹² Maxton, Graeme and Randers, Jorgen 2016, *Reinventing Prosperity: Managing Economic Growth to Reduce Unemployment, Inequality and Climate Change*. Club of Rome