

The Virtuous Circle? Sustainable Economics and Taxation in a Time of Austerity

Walter R. Stahel

In association with:



Summary

- Today's states are confronted with the challenge of promoting sustainable energies to mitigate rising Sovereign debt, high youth and long-term under-employment, ageing populations, and climate change to name but a few.
- Industrial economies are being confronted with saturated markets for many goods, rising resource prices for materials and energies, a lack of qualified young people and the challenge of competitors in the emerging economies such as China.
- This article promotes a circular economy focused on maintaining the performance, value and quality of exiting stock, in synergy with manufacturing innovative new systems. It is about making the best use of human labour and of a non-taxation of all renewable resources including work.
- A circular economy is a low-carbon, low-resource alternative to the industrial throughput economy, based on the smart management of existing stocks of physical assets with a focus on the utilisation (performance) of goods and infrastructure, in a regional economy of value-preserving loops.
- For the financial services industries, this means paying as much attention to the operation and maintenance of physical assets (stock) through re-use and service-life extension strategies. For example, reflecting added value from manufacturing, and to properly value such life-cycle investment opportunities as Private Finance Initiatives with respect to income guarantee and resource security.
- Such a strategy means new opportunities in the preservation of physical assets over longer periods of time and in loss prevention, as well as new challenges in insuring the utilisation value of goods instead of the residual value. It is about exploiting the chances of the circular economy, one that for example in loss settlements embraces "repair" instead of "replace".

Walter R. Stahel is Vice Secretary-General and Head of Risk Management Research at The Geneva Association.

The Chartered Insurance Institute is the world's largest professional body for insurance and financial services and is the leader in awarding qualifications to industry practitioners. Our Thinkpieces are a key part of our ongoing commitment to promoting innovative thinking and debate within the insurance and financial sectors.

The views expressed within the article are those of the author and should not be interpreted as those of the Chartered Insurance Institute, or its members. Walter Stahel reserves his right under the Copyright, Designs and Patents Act 1988 to be identified as the original author and copyright owner of the text of this work, and has granted the CII worldwide perpetual licence to reproduce and distribute it in whole and in part. We welcome suggestions from potential contributors, but we are also seeking feedback from our readers. We urge you to get involved—especially as we intend some of our articles to be open to rebuttals for publication.

CII Introduction: In the current landscape where governments across the industrialised world are juggling fiscal austerity with supporting welfare, the idea of reducing taxes to favour an environmentally sustainable circular economy might seem less relevant. However as Walter Stahel of The Geneva Association demonstrates in this article, sustainable taxation is in fact most relevant to the present situation. He argues that we might be in a once in a generation opportunity to fundamentally re-examine our taxation policies to promote an economy that supports its most important resource: its labour.

Sustainability is built on economic, ecologic, social and cultural pillars and constitutes a dynamic balancing by society in exploiting the environment, creating economic wealth and fulfilling social needs.

Most political actions to increase sustainability in industrial countries have focused on isolated issues linked to health and safety, international development, or the environment, such as the prevention of accidents, the conservation of natural capital, or the reduction of greenhouse gas emissions.

This paper proposes a solution which creates synergies between the social, economic and environmental pillars of sustainability. The suggested policy change—exempting all renewable resources from taxation—represents a huge lever for a holistic change towards a more sustainable economy.

The intelligent use of human labour has traditionally been discouraged through taxation, whereas the waste of it has been encouraged through welfare.

The result will be a circular economy for physical goods and human labour. It is focused on maintaining the performance, value and quality of existing stock, in synergy with manufacturing innovative new systems. It also involves the best use of human labour and of a non-taxation of all renewable resources including work. The impact will be higher resource efficiencies in producing wealth and welfare.

In reading such ideas, one should avoid mental filters like ‘we have never done things this way’ in favour of a more common sense approach that considers future generations. ‘Eating people is wrong’ is a statement which most people will support and adhere to; and

‘taxing renewable energies is wrong’ will sound equally right for most people.

However, many governments subsidise such renewable resources as biomass, solar and wind energy. Yet the efficient use of human labour has traditionally been discouraged through taxation; whereas the waste of it has been encouraged through subsidy (such as the welfare state). A policy change to appropriate sustainable taxation is the logical next step.

A need for a policy change to appropriate sustainable taxation

Taxation should reward desired developments and discourage unwanted effects of activities. The principles of sustainable taxation should be simple and convincing, such as the following proposal.

In a sustainable economy, taxes on *renewable* resources including work—human labour—are in fact counterproductive and should be re-thought. The resulting loss of state revenue could be compensated by taxing the consumption of *non-renewable* resources in the form of materials and energies, and of undesired wastes and emissions. Such a shift in taxation would promote and reward a circular economy with its local low-carbon and low-resource solutions. These are inherently more labour-intensive than manufacturing, because economies of scale in a circular economy are limited.

A circular economy increases employment because less than a quarter of the labour input to produce a physical good is engaged in the fabrication of basic raw materials such as cement, steel, glass and resins, while more than three quarter are in the manufacturing phase. The reverse is true for energy inputs: three times as much energy is used to extract virgin or primary materials as is used to manufacture products from these materials. The reuse of components and goods (through remarketing, repair, remanufacturing, technologic upgrading) instead of manufacturing new ones therefore uses considerably less energy and provides more jobs to fulfil a given need.¹

¹ Walter R. Stahel, and Genevieve Reday-Mulvey, *The Potential for Substituting Manpower for Energy*. Report to the Commission of the European Communities, Brussels, 1976.

The new policy needs new metrics, comparing resource consumption, value creation and labour input, to monitor its success.² Value per weight and labour input per weight.

The policy change in taxation will result in a circular economy

Changing the tax focus will in itself foster the transition to a more sustainable economy in terms of both energy and materials:

- Energy: taxing non-renewable energy consumption instead of labour would promote a circular regional economy over a linear global one. Reuse activity is less energy consuming than manufacturing, and requires considerably less transport distances.
- Material: taxing the consumption of non-renewable materials instead of labour promotes local reuse of goods, components and molecules and reduces end-of-life waste volumes. The competitiveness of material-preserving business models would thus increase automatically.

To summarise, a shift in taxation from labour to non-renewable resources would reinforce the emerging trend towards a circular economy based on stock management instead of throughput.

To summarise, a shift in taxation from labour to non-renewable resources will reinforce the emerging trend towards a circular economy based on stock management instead of throughput. This is especially with regard to the material (physical) part of the economy, without hindering the development of a knowledge economy.

Such a trend is already fuelled by developments in markets, legislation and resource scarcity:

Market saturation:

With consumer goods markets such as cars, mobile phones and electronics moving from scarcity to abundance in industrial economies, rates of production and scrapping are equalising. More production no longer increases welfare.

² Value per weight (€/kg) and labour input-per weight (manhour/kg) are the absolute indicators which the author proposes in his book the Performance Economy.

Re-marketing:

The last decade has seen the development of a new industry of re-selling goods through web-based second-hand markets. Some companies have also started doing this, for example Lufthansa advertises used aircraft seats for sale in its in-flight magazines. “Caring” increasingly influences producer and consumer attitudes in the circular economy, partly replacing “Fashion” as the driver of the consumer society.

Business models to exploit the potential of locally available resources, both human work and skills and such physical assets as buildings and equipment will boost local economic opportunities, many of which are already competitive with global manufacturing activities.

Capital Goods:

Retrofitting (technological updating) of existing plants and infrastructure is cheaper and quicker than building new ones, and promoted by many manufacturers.

Legislation:

The 2008 European waste directive has reconfirmed waste prevention as first priority, and has defined the re-use and service-life extension of goods (i.e. a circular economy) as the main strategies to achieve waste prevention. China put a Circular Economy Law into force in 2008.

Material scarcity:

Many innovative technologies in IT and clean energy use rare earths elements (REE) in nanotechnology applications where molecules cannot be recovered economically through recycling. Component reuse may then be the only or most feasible option. Rising energy and material prices enable economic actors to gain a competitive advantage by preserving the embodied resources through reuse.

Value preservation and stock optimisation thus become a second economic policy in addition to the industrial economy’s creation of value added through production flow optimisation. A circular economy which allows maintaining the performance and value of manufactured capital will become the most profitable option for many types of goods.

In a sustainable economy, a better use of existing wealth will become the preferred option for economic reasons; the environmental benefits are a result of, not the driver towards, higher competitiveness. Business models to exploit the potential of locally available resources, both human work and skills and such physical assets as buildings and equipment (manufactured capital) will boost local economic opportunities, many of which are already competitive with global manufacturing activities.

The trend to a circular economy is further strengthened by business models built on *retained ownership*, such as

- operational leasing by manufacturers, selling goods as services (e.g. Xerox selling customer satisfaction);
- public procurement based on buying services instead of hardware (e.g. NASA buying launch services from Space X instead of owning its own space shuttle; and
- fleet managers such as railways and airlines exploiting hardware to sell (mobility) services.

These business models of a functional service economy are in many fields becoming the preferred option; witness the rapid rise of operational leasing and Private Finance Initiatives (PFI) for capital goods and infrastructure, and sharing schemes for consumer goods, such as rental and car sharing business models (substituting car sales).

Selling the performance of goods instead of the goods themselves involves:³

- internalisation of the costs of waste and of risk: which in the traditional production-consumption-waste society are externalised to the state (waste) and the customer (risk),
- reduction of waste volumes as well as public expenses and an increase of disposable consumer incomes,
- maximisation of product durability a modular system design for goods based on component standardisation and ease of maintenance, and

- profit maximisation: creation of an in-house circular economy by manufacturers and fleet managers to maximise profits.

Economic actors selling performance instead of goods will promote sufficiency and prevention for selfish reasons, because it increases their economic profits.

Technological progress accelerates in a circular economy because manufacturing and reuse activities are symbiotic. Marginal progress will be faster and more efficiently integrated into existing goods through technological upgrading services and retrofits. Quantum leaps in technology, however, will continue to be launched in new goods and components, ensuring that society draws the highest profits from innovations. The circular economy is thus complementing manufacturing, not replacing it.

Today's economic policies, which are still based on the logic of the industrial revolution to increase throughput in order to increase GDP, give neither incentives nor rewards for the *prevention* of waste and emissions and *sufficiency* solutions. The Kyoto Protocol, for instance, gives rewards for the reduction of GHG emissions of major polluters of the industrial economy but not for the prevention of the same emissions in a circular economy.

Designing and implementing a tax system which supports and incentivises sustainable solutions aiming to increase efficiency, sufficiency and prevention may be the biggest challenge for policymakers this century.

Designing and implementing a tax system which supports and incentivises sustainable solutions aiming to increase efficiency, sufficiency and prevention may be the biggest challenge for the policymakers of this century. Incentives for prevention have been used in the field of health and safety but not in the field of resource efficiency and emissions into the environment.

The impact of not taxing human labour on resource efficiency

In industrialised countries, taxing the consumption of *non-renewable* resources and such *undesirable* results of the economic activity as emissions and waste, instead of labour, will give economic actors clear and powerful

³ Walter R. Stahel, *The Performance Economy*, London: Palgrave MacMillan, 2010.

incentives to design more sustainable business models. Looking at the different pillars of sustainability shows:

The resource /environment) angle

If the public moneys spent in the 2010 cash-for-clunkers initiatives in over 20 countries had been used to remanufacture and technologically upgrade, or replace, the used engines, a similar result for the CO₂ emissions would have been achieved with:

- billions of tons of new material resources not consumed, and related environmental impairment in the mining industry (the “rucksacks”) prevented,
- millions of tons of new energy resources and related embodied GHG emissions avoided (by reusing the embodied energy),
- millions of tons of waste (and related environmental impairment in recycling) prevented,
- billions of tons of water consumption in manufacturing avoided (by reusing the embodied water), and
- thousands of skilled jobs in local and regional workshops maintained.

Similar results have been shown in research on the remanufacturing and technological upgrading of the first generations of the high-speed trains, the refurbishment of major buildings and the remanufacturing of commercial aircraft.

The social angle

Employment is at the heart of the social pillar of sustainability. Human labour is the most versatile and adaptable of all resources, with a strong but perishable qualitative edge:

- It is the only resource capable of creativity and with the capacity to produce innovative solutions.
- Human skills deteriorate if unused – continuity of work and continued learning are necessary to maintain and upgrade skills. A person who has been unemployed for a few years risks becoming unemployable.

Governments should give priority to human labour in resource use because a barrel of oil or a ton of coal left

in the soil for another decade will not deteriorate, nor will it demand social welfare.

Furthermore, labour is a zero-carbon energy. Human CO₂ emissions are the same for working and unemployed people.

The government angle

Economic success does not depend on income taxes. Florida and Texas, the new powerhouses of the U.S. economy, do not tax labour income; other nations and states have economic problems despite heavily taxing human labour.

People at work are a desire for nation states. Governments invest on average ten years in education and vocational training to teach young people marketable skills, and unemployment-wasted human resources-represent a high cost to governments and a lost opportunity for the national economy.

Governments invest on average ten years in education and vocational training to teach young people marketable skills, and unemployment-wasted resources present another high cost in terms of welfare and a lost opportunity for the national economy.

Not taxing human labour would also greatly reduce incentives for black work in the shadow economy, accounting for a double-digit percentage of many national GNP.

The economic angle: skills, stock, utilisation value, productive work

The circular economy is a high-quality world: Stradivari instruments and expensive watches do not live forever by design, but through periodic remanufacturing; retrofitting infrastructure and equipment is best done by workers beyond retirement with the knowledge and know-how of past technologies and skills necessary to maintain performances and value of physical assets.

Equally important for the circular economy are stock statistics. Quantity and quality of the existing stock of manufactured capital are largely unknown, Input-Output models for stock inexistent. Basic statistical tools for stock would greatly improve the overall efficiency of the circular economy.

The utilisation value of the circular economy will replace exchange value as central notion of economic value. This will necessitate changes in legal structures, such as liability insurance which today is based on depreciated values, which are independent of the real of goods involved in claims. Replacing depreciated value by replacement value (that is the market value corresponding to the actual quality and use value of the goods) would correspond to the philosophy of a circular economy and promote reuse and repair activities. ⁴

Productive work in economic theory is limited to manufacturing and goods that can be resold. In this way, a surgeon operating on a patient's leg is classified as useful work; whereas a violinist virtuoso may be neither productive nor useful. In the new circular economy, value-preserving work in a low-carbon resource-miser context will become the truly productive work.

Conclusion

The industrial economy of the future will have to be more resource efficient, using considerably less non-renewable resources and producing less waste. A circular economy is a big step in this direction as it uses more labour and little material and energy inputs to achieve wealth.

The transition towards a circular economy has started. China has even made the circular economy the centre of its economic policy. But adapting framework conditions including taxation to sustainability, such as not taxing renewable resources, lags behind.

The financial services industry needs to accept the challenges of a change in focus to managing stocks instead of production flows, and exploit the chances offered by economic actors selling goods as services, internalising the costs of risk and of waste and retaining the ownership of goods and resources.

In the past, reuse and service-life extension were often strategies in situations of scarcity or poverty and had the image of inferior quality. Today, they are signs of good resource husbandry and smart management.

⁴ These ideas have been sketched out in Orio Giarini and Walter R. Stahel, *The Limits of Certainty: Facing Risks in the New Service Economy*, Dordrecht: Kluwer Academic Publishers, 1989.

The change to a circular economy will be accelerated by not taxing labour as a renewable resource, and increasing taxes on non-renewable resource instead!

If you have any questions or comments about this Thinkpiece, and/or would like to be added to a mailing list to receive new articles by email, please contact us: thinkpiece@cii.co.uk or by telephone: +44 (0)20 7417 4783.



Walter R. Stahel has been Vice-Secretary General and Head of Risk Management at The Geneva Association since 1986. He has been Visiting Professor in the Faculty of Engineering and Physical Sciences at the University of Surrey and guest lecturer at Tohoku University in Sendai, Japan, since 2005, and was Founder-Director of the Product Life Institute in Geneva. He has published several books and papers on labour economics most recently *The Performance Economy* (MacMillan: 2006 and 2010).

The Geneva Association is the leading international insurance think tank for strategically important insurance and risk management issues, and identifies fundamental trends and strategic issues facing the sector or where insurance plays a substantial role. Through the development of research programmes, regular publications and the organisation of international meetings, The Geneva Association serves as a catalyst for progress in the understanding of risk and insurance matters and acts as an information creator and disseminator. In parallel, it advances—in economic and cultural terms—the development and application of risk management and the understanding of uncertainty in the modern economy.

www.genevaassociation.org

The CII is the world's leading professional organisation for insurance and financial services, with over 100,000 members in 150 countries. We are committed to maintaining the highest standards of technical expertise and ethical conduct in the profession through research, education and accreditation. Our Charter remit is *to protect the public by guiding the profession*. For more information on the CII and its policy and public affairs function, including examples of the range of issues in financial services and insurance that we cover, please see: www.cii.co.uk/policy.

The CII Thinkpiece Series

The CII Thinkpiece series consists of short 1,500–2,500-word articles on subjects of interest to the insurance and financial services profession and stakeholders, and are written by a range of contributors. We publish them *not because we necessarily agree with the views* (or believe that they reflect in any way the policy of the CII or its members), but *to promote a free and open debate*.



Qualified CII members: Please note that reading CII Thinkpieces can earn CPD credits.

All articles are freely and openly available on our website: www.cii.co.uk/thinkpiece. If you wish to be added to a mailing list to receive new articles by email, please contact us at thinkpiece@cii.co.uk

Recent articles in the series:

No.62: The Role of Professionalism in Securing Consumer Trust and Confidence, by Adam Phillips (31 August 2011).

Why are regulators and firms suddenly taking staff professional standards so seriously? Will this make a difference for the end consumer? Adam Phillips, Chairman of the FSA's Financial Services Consumer Panel, offers his personal perspective on why professionalism plays a role in improving public trust and confidence.

No.61: Back to Basics: Rethinking Risk Management, by Simon Ashby (9 August).

The global financial crisis has sparked considerable debate and analysis of its causes and of the lessons to be learned. This paper seeks to make sense of the crisis in terms of its implications for the management of risk. It reflects on the future for the practice of risk management, and provides some recommendations for financial institutions, and their regulators. Many of the recommendations are built around the notion that managers and regulators should place more emphasis on the micro-level human/social aspects of the crisis.

No.60: The Forgotten Hero? The Role of Employer Group Risk Schemes in Closing Protection Gaps, by Ron Wheatcroft FCII and Keith Williams (5 August).

One of the most important players influencing an individual's personal finances is not the financial services industry or the government but the employers. Ron Wheatcroft FCII and Keith Williams of Swiss Re look at the UK group risk market, emerging trends and the threats and opportunities it faces.

No.59: A Ten-Point Plan for Improving Reputation and Customer Service, by Otto Thoresen (15 July).

Chief Executive of the ABI, Otto Thoresen sets out his initial thoughts on the challenge posed by the pressing issue of reputation and service to customers of the insurance industry. In this Thinkpiece, based on a speech delivered at the ABI Biennial Conference, in July, he calls on insurers to act now if the industry is to fulfil its potential and play a central role in the future of the UK economy.

No.56: Simples! Delivering Simplified Advice for the Mass Market: Is Product Regulation the Answer? by Chris Gilchrist (17 June).

On the eve of the Retail Distribution Review rollout, the issue of what to do with the mass market "simplified advice" proposition continues to exercise the industry. Is regulating sales process appropriate for this market? Is product intervention needed? Chris Gilchrist (Director of Churchill Investments and contributor to Taxbriefs) provides a view informed by regulatory history.

No.55: Breaking the Downward Spiral: Why Improving Financial Capability is Important to Our Industry, by Liz Coyle (23 May 2011).

One of the greatest challenges facing the retail financial services industry, especially the life, pensions and protection sector, is the public's limited financial capability. Liz Coyle offers a strictly personal view, taking a hard look at financial services distribution on the eve of both the launch of the Money Advice Service 'Financial Health Check' and the Retail Distribution Review. She argues that enhancing financial capability is the key to the very survival of this market.

No.54: Time is Money: The Role of Financial Services in Reducing Re-Offending, by Chris Bath and Kimmitt Edgar (28 April).

Managing post-conviction personal finances is the core to preventing resurgence into crime. Chris Bath of reformed offenders charity UNLOCK returns to our Thinkpiece series and shows that every stage in the criminal justice process contains personal finance elements that can potentially lurch people back into crime when they get out. He identifies specific steps that should be done by both the Government and the industry to stop this, thereby strengthening the pathways to rehabilitation and resettlement.

No.53: Banned! Underwriting Annuities by Gender: Where Do We Go From Here? by David Trenner (21 March).

The landscape for retirement is changing. The UK Government is in the process of implementing a number of reforms to pensions to try to incentivise long term savings. Changes are also afoot at the EU level and, on 1 March the European Court of Justice banned underwriting by gender. Trenner considers the potential impacts of this ruling on the UK annuities market and the consumer within the context of the other reforms that are taking place.

No.52: What Motivates Us to Save? Creating Effective Incentives for Public Engagement in Pensions, by Nick Hurman (16 March).

One of the great public policy issues is the question of how to get people to save for their retirement, especially when peoples' confidence in financial markets and services has long been eroded. In this article, strategy consultant Nick Hurman returns to our series having led AEGON's latest consumer research on attitudes and preferences when it comes to saving for retirement. His findings offer some timely directions for public policy.

No.51: A Region in Transition: A Political Risk Analysis of the Middle East and North Africa by Adrian Lewers (28 February).

With mass political protests sweeping the Middle East and North Africa, predictions on their political and economic implications are changing almost as quickly as the events themselves. Adrian Lewers of specialist insurer Beazley plc provides an analysis of developments from an insurance risk perspective.

No.50: Wanted: A Visionary Navigator and Innovative Thinker for Retail Financial Distribution by Lucian Camp (1 February).

The distribution of financial products has undergone significant changes in recent times as firms have begun to utilise new technologies to reach consumers. Lucian Camp notes the progress made by what he calls the "D-I-Y driven distribution revolution" but controversially asserts that financial planning is still failing to engage the mass market. Ultimately, he argues, the industry needs a Bill Gates like visionary.



CII